

**KNOWLEDGE, ATTITUDES AND PERCEPTIONS  
REGARDING HIV/AIDS AND SEXUAL BEHAVIOURS  
AMONG SENIOR SECONDARY SCHOOL LEARNERS IN  
KUMBA, CAMEROON**

by

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submitted in accordance with the requirements

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# *Dedication*

*This study is dedicated to the glory of God Almighty and to my late parents, Samuel Francis Tarkang and Anastasia Nkongho Tarkang (Nee Enow).*

## DECLARATION

I declare the **KNOWLEDGE, ATTITUDES AND PERCEPTIONS REGARDING HIV/AIDS AND SEXUAL BEHAVIOURS AMONG SENIOR SECONDARY SCHOOL LEARNERS IN KUMBA, CAMEROON**, is my own work and that all the sources that I have used or consulted have been indicated and acknowledge by means of complete reference

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**KNOWLEDGE, ATTITUDES AND PERCEPTIONS REGARDING HIV/AIDS AND  
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KUMBA, CAMEROON.**

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**ABSTRACT**

This study's purpose was to explore the knowledge, attitudes and perceptions regarding HIV/AIDS and condom use, and sexual behaviours among senior secondary school learners in Kumba, Cameroon using the Health Belief Model (HBM) as the theoretical framework. The ultimate goal was to determine how at risk learners were of contracting HIV/AIDS.

A quantitative, non-experimental descriptive, explorative and correlational research design was adapted; using self-designed questionnaires for data collection. Respondents were sampled through proportionally stratified simple random sampling resulting in 480 (240 male and 240 female) grade 10 to grade 12 learners from two participating high schools. Descriptive and inferential statistics were calculated using the SPSS version 12 software program.

Most learners were knowledgeable about HIV transmission; the prevention of HIV/AIDS; and sexual risk behaviours pertaining to HIV transmission. Learners also manifested positive attitudes towards PLWHA. Most learners did not perceive themselves to be at high risk of contracting HIV/AIDS. Up to 52,3% who were sexually active, only 30,0% used condoms consistently.

The respondents knew about condoms, but had poor attitudes towards condom use. Most respondents received information on HIV/AIDS, condoms and sexuality from magazines/newspapers and teachers.

The findings could assist policy makers, programme planners and educators in developing and implementing programmes to improve the health of adolescents. The perceived barriers to condom use and modifying factors should be addressed into consideration in designing any policy geared towards controlling risk exposure to HIV/AIDS among youths in Kumba, Cameroon.

**KEY WORDS:** AIDS, adolescents, attitudes, condoms, condom use, HIV, HIV knowledge/perceptions, sexuality education, Health Belief Model (HBM), sexual behaviours, senior secondary school learners, sources of HIV information.

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**LIST OF ABBREVIATIONS**

AIDS	Acquired Immune Deficiency Syndrome
APA	American Psychological Association
ARRM	Aids Risk Reduction Model
ART	Anti Retroviral Therapy
ARV	Anti Retroviral
CDC	Centre for Disease Control
CIA	Central Intelligence Agency
CSGD	Center for Social Group Development
CSW	Commercial Sex Worker
DHS	Demographic and Health Survey
DNA	Deoxyribonucleic acid
ECA	Economic Commission for Africa
EDS	Population and Health Survey
EHAIA	Ecumenical HIV/AIDS Initiative in Africa
FP	Family Planning
GOC	Government of Cameroon
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
IRIN	Integrated Regional Information Network
IVM	Integrated value mapping
JAMA	Journal of American Medical Association
KS	Kaposi Sarcoma
LACC	Local Aids Control Committee
LAPCA	Lesotho AIDS Programme Coordinating Authority
LUKMEF	Luther King Memorial Foundation
NACC	National AIDS Control Committee
NYCOM	National Youth Council of Malawi
PLWHA	People living with HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission of HIV/AIDS
PHC	Primary Health Care
PSI	Population Service International
PTG	Provincial Technical Group
ReCAPP	Resource Centre for Adolescent Pregnancy Prevention
SA	South Africa
RNA	Ribonucleic Acid

SCT	Social Cognitive Theory
SSA	Sub-Saharan Africa
STI	Sexually Transmissible Infection
SPSS	Statistical Package for Social Sciences
TB	Tuberculosis
TPB	Theory of Planned behaviour
TRA	Theory of Reasoned Action
UAC	Uganda AIDS Commission
UNAIDS	Joint United Nations Program on HIV/AIDS
UNGASS	United Nations General Assembly Special Session on HIV/AIDS
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Emergency Fund
UNDP	United Nations Development Programme
US	United States
USAID	United States Agency for International Development
US\$	United States Dollars
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation
XAF	Franc de la Communauté Financière Africaine

## CHAPTER 1

### INTRODUCTION AND OVERVIEW OF THE STUDY

#### 1.1 INTRODUCTION

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/AIDS the world over, yet HIV/AIDS continues to spread at an alarming rate. Education stands as an important tool in reaching out to vulnerable groups especially the sexually active and those inexperienced in the realm of sexual activity: secondary school pupils.

The Joint United Nations Programme on HIV/AIDS (UNAIDS 2004a: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 2002:6). 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/AIDS (UNAIDS 2004a:93). So their behaviours, be it sexual or otherwise, will determine the future of the HIV/AIDS epidemic. These behaviours will depend largely on their accurate knowledge, perceptions and attitudes regarding HIV/AIDS.

While remarkable efforts are being made to minimise the spread of HIV and its impact, the AIDS pandemic has continued unabated, and has claimed millions of lives the world over particularly in sub-Saharan Africa (SSA). The rising prevalence

rates and the rapid spread of HIV/AIDS suggest that the epidemic has not reached its equilibrium yet in most of SSA, hence the need for continued research and interventions into the ways of minimising its spread, and the negative social and economic impact. The increasing spread and devastating socio-economic impact of the epidemic have stimulated a shift of research priorities from a biomedical to the societal context of sexual behaviours and HIV/AIDS.

More than two decades into the HIV/AIDS epidemic, the vast majority of young people remain uninformed about sex and sexually transmitted infections (STIs). Although the majority had heard about AIDS, many do not know how HIV is spread and do not believe they are at risk (UNICEF/UNAIDS/WHO 2002:6).

Many approaches to 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, perceptions and attitudes regarding HIV/AIDS and sexual behaviours among senior secondary school learners in the city of Kumba, Cameroon.

## **1.2 BACKGROUND TO THE STUDY**

### **1.2.1 Country profile**

According to the Ecumenical HIV/AIDS Initiative in Africa (EHAIA 2005:1), the Republic of Cameroon is located in Western Central Africa. It lies between longitudes 8 and 16 degrees east of the Greenwich Meridian and between latitudes 2 and 13 degrees north of the Equator. The country is bounded to the northwest by the Federal Republic of Nigeria, to the northeast by Chad, to the east by the Central African Republic, to the south by the Republic of Gabon, the Republic of Congo and Equatorial Guinea (see figure 1.1). The Republic of Cameroon covers a total of 475 442 square kilometres and has two main climate types, which are the equatorial and tropical climates. The south is covered by dense equatorial rainforest. The west of

the country is dominated by a range of volcanic mountains, stretching northeast from Mount Cameroon, which is the highest point at 4 100 meters above the sea level.



<http://www.un.org/Depts/Cartographic/map/profile/cameroon.pdf> (accessed 15/04/09).

**Figure 1.1: Map and location of Cameroon**

There are 24 African languages with French and English as the two official languages. Traditional African religious beliefs influence both Muslims who constitute 20% (concentrated in the north) and Christians 40% (concentrated in the south) and

indigenous beliefs 40%. Cameroon has over 200 different ethnic groups (EHAIA 2005:3).

According to the Central Intelligence Agency, World Fact Book (CIA Cameroon 2008a), the country's population in the year 2008 stood at over 18 million. It is worth noting that this estimate explicitly takes into account the effect of excess mortality due to AIDS. This can result in lower life expectancy, higher infant mortality and death rates, lower population growth rates and changes in the distribution of population by age and sex than would otherwise be expected.

The entire Republic of Cameroon is divided into 10 provinces; the Centre, South, East, West, Littoral, Adamawa, North, Extreme North, North West and South West provinces. The North West and South West provinces are predominantly English-speaking provinces while the other eight provinces are predominantly French speaking.

According to Tanyi (2005:6 & 19), the South West Province, in which the present research was conducted, has the Country's third highest HIV/AIDS prevalence rate of 8.0% and it shares its borders with several other countries and is highly populated with foreigners.

The province is one of the two Anglophone provinces of Cameroon, and it is divided into six divisions (Fako, Kupe-Muanenguba, Lebialem, Manyu, Meme & Ndian). The city of Kumba, where the current study was carried out, is the headquarters of Meme Division and the breadbasket of the entire South West province (Tanyi 2005:6).

Kumba, a cosmopolitan urban city, has a population of about 144 500 inhabitants (Silobreaker 2009). Existing health facilities in Kumba include a district referral hospital, three state owned health centers, and several private medical facilities in addition to traditional medical practitioners and itinerant medicine sellers in various parts of the city.

## 1.2.2 Epidemiological profile

Since the discovery of the first HIV case in Cameroon in 1985, there has been a steady rise in the national prevalence rate (see table 1.1). The prevalence of HIV/AIDS in Cameroon rose alarmingly from 0.5% in 1987 to 2% in 1992, and 11.8% in 2002 (International Monetary Fund (IMF) 2003:5). This is a clear indication that methods used for HIV/AIDS prevention are lacking at the national level.

Table 1.1 gives the HIV prevalence rates between 1987 and 2000 in the sexually active population of Cameroon.

**Table 1.1: HIV prevalence rates between 1987 and 2000 in the sexually active population of Cameroon**

1987	1988	1992	1994	1995	1996	1998	2000
0.5%	1.04%	2.00%	3.00%	5.00%	5.50%	7.20%	11.0%

Source: NACC Cameroon 2000, in Kinge (2003:52).

According to the Cameroon National Aids Control Committee (NACC) in Kinge (2003:52), the actual statistics of HIV/AIDS cases are hard to determine and may be much higher due to several reasons including under reporting, under diagnosis, delayed reporting, HIV cases not coming to health centres or hospitals. Stigma and the biomedical model of voluntarism are the major attributes for the under reporting/diagnosing. According to the IMF (2003:5), the prevalence rate rose to 11.8% in 2002.

Table 1.2 gives the adult HIV/AIDS prevalence rates in Cameroon between 2003 and 2008.

**Table 1.2: Adult HIV/AIDS prevalence rates in Cameroon between 2003 and 2008**

Year	HIV/AIDS Adult Prevalence Rate
2003	11.8%
2004	6.9%
2005	6.9%
2006	6.9%
2007	6.9%
2008	6.9%

Source: CIA Cameroon 2008b:1

Table 1.2 indicates that the HIV/AIDS rate decreased from 11.8% in 2003 to 6.9% in 2004, and remained at 6.9% till 2008. The study that puts Cameroon's prevalence rate at nearly 12% in 2002 was carried out by monitoring pregnant women during

their pre-natal consultations in clinics and AIDS screening centres. The Demographic and Health Survey (DHS) III that put Cameroon's prevalence at 6.9% might be more scientific because it included men, women and children of both sexes involved in its study. According to the Integrated Regional Information Network (IRIN Cameroon 2004:2), the survey was carried out jointly by Cameroon's NACC, the Cameroon National Institute of Statistics, Centre Pasteur, UNICEF, and the Washington based consultancy ORC/MACRO International. The survey targeted 11 400 individuals throughout the country, with a 91% participation rate. But the then Minister of Public Health Urbain Oluanguena Awono warned that the new lower figures provide no grounds for complacency (IRIN Cameroon 2004:2).

Table 1.3: Number of people living with HIV/AIDS in Cameroon: 2003-2008

**Table 1.3: Number of people who were living with HIV/AIDS in Cameroon between 2003 and 2008**

Year	People living with HIV/AIDS
2003	920 000
2004	560 000
2005	560 000
2006	560 000
2007	560 000
2008	560 000

Source: CIA Cameroon 2008c:1

HIV/AIDS prevalence rates are high in most parts of Cameroon as depicted in table 1.4. Table 1.4 National HIV/AIDS prevalence in Cameroon according to provinces and gender in 2005.

**Table 1.4: National HIV/AIDS prevalence figures in 2005 in Cameroon**

Province	Male	Female	Average
North West	5.2	11.9	8.7
East	7.6	9.4	8.6
South West	5.1	11.0	8.0
Adamawa	4.1	9.8	6.9
South	4.5	8.4	6.5
Centre	2.2	6.8	4.7
West	5.2	4.3	4.7
Littoral	3.7	5.5	4.6
Extreme North	1.7	2.2	2.0
North	1.7	1.7	1.7

Source: Tanyi (2005:19); IRIN Plus News, Cameroon (2004).

Table 1.4 indicates that the South West Province in which the city of Kumba, the economic capital is situated, ranks third in the national prevalence after the North West and Eastern Provinces. The majority of those infected in these areas fall within the age group of 15-24 years (Tanyi 2005:19); including a large portion of secondary school learners. According to the UNAIDS, AIDS epidemic update, SSA regional update (2007b:18), in several African countries including Cameroon, HIV surveillance is too inadequate to allow accurate assessments of epidemic trends. As such, the HIV/AIDS prevalence in Cameroon still stands at 6.9% (CIA Cameroon 2008a); and the national HIV/AIDS prevalence according to provinces still stands as depicted in table 1.4.

The average age of senior secondary school learners in Cameroon was estimated at 17.5 years (Cameroon College of Arts and Science Kumba (CCAS) learners' enrolment Register 2007; Government Bilingual High School Kumba (GBHS) learners' enrolment Register 2006). Cameroon is known for having one of the best educational systems in Africa. The English sub-system of education follows the system of education that was operational in the English speaking part of the country before unification (during the trusteeship era under Britain). In the English speaking region, children are usually schooled for about two or three years in the kindergarten until the age of four or five when they start elementary or primary school. Primary school in Cameroon runs for six years from seven years, at the end of which pupils must sit and pass the First School Leaving Certificate. After the primary school, the pupils spend five years of secondary school education from ages 12-17, at the end of which the General Certificate of Education, Ordinary ("O") level is written. The General Certificate of Education Advanced Level (A/L) examination is written by learners after two years of high school (CAMSU 2005; Education in Cameroon 2009).

The rising prevalence rates are worrying because it suggests that HIV prevention campaigns are not being translated into safer sexual behaviours, and that there is a built up momentum of people living with HIV/AIDS. It also means that there is a high likelihood of encountering a sexual partner that is infected when levels of HIV prevalence are high, because any sexually active adult linked in a sexual network

with other men and women will be at high risk of infecting themselves. This is common with adolescents initiating sexual activity. As mentioned in section 1.2.3, heterosexual transmission accounts for about 90% of new infections in Cameroon hence young people are at risk of getting the disease as soon as they initiate sexual activity. The large numbers of young people entering their sexual and reproductive lives are a potential HIV/AIDS reservoir that should form a priority group for AIDS research and prevention activities because their behaviours will determine the future course of the HIV/AIDS epidemic. Hence the necessity of the current study, which comes to explore HIV/AIDS, related knowledge, perceptions and attitudes, and sexual behaviours of senior secondary school learners in Kumba, Cameroon.

### **1.2.3 Cameroon youths and HIV/AIDS**

The current population estimate stands at over 18 million (see section 1.2.1). Over 54% of this population lives in urban areas (United Nations Development program (UNDP) Cameroon 2008). A young population characterises Cameroon. Almost 42% of the population is less than 15 years of age (Cameroon 2009:1; the University of California, San Francisco (UCSF) 2009:1). UNFPA (2005:27) reports that juveniles in Cameroon aged 15-24 years form 21.5% of the total population and that the estimated HIV/AIDS prevalence rate in this group totalled 9.1% in 2005. Adolescents in Cameroon are thus at high risk of HIV infection. Bongmba (2007:117) reports that 600 people are infected each day in Cameroon with HIV, the majority of them being within the ages of 15-24 years. Data from UNICEF/UNAIDS/WHO Cameroon (2006:4) revealed that in 2000, HIV prevalence among ante natal-clinic (ANC) attendees was 10.8%. The median HIV prevalence among young women aged 15-24 years was 11.9%, and 20.2% of adolescent women aged 15-19 years had begun child bearing in the urban areas. According to UNAIDS Report on the Global AIDS Epidemic (2008:34), analysis of trends among 15-24 year old persons in high prevalence countries (that is in countries where the national prevalence exceeds 3%), hence, Cameroon, data were insufficient to allow accurate assessments of epidemic trends.

The concern in the current study is with the youths, especially those in the secondary schools, which include a large proportion of the 15-24 age group. At secondary schools, pupils are under huge peer pressure and as a formal collectivity, they are more “easily reached” collectively. There are many theories of group behaviours that are employed to study HIV/AIDS related issues concerning youths.

During the initial stages of the HIV/AIDS disease, studies were conducted on individuals and the main focus was on their sexual behaviours (Walker, Reid & Cornnel 2004:20). It was assumed that once people were aware of HIV and the mode of transmission, their behaviours would change. Pryor and Reeder (1993:195) pointed out that most information campaigns on HIV/AIDS are based on behaviourist and behavioural theories, like the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Social Learning/Cognitive Theory (SCT), Bruner’s Theory of Discovery Learning, the Theory of Classical Conditioning and the Health Belief Model (HBM). The premise of these theories is that actions are based on a person’s intentions and behaviours. These theories of group behaviour can be used to study learners as a group. The HBM as one such theory was used for the current study.

The NACC reports that in Cameroon about 90% of HIV transmission is mainly through heterosexual intercourse, with blood and mother-to-child transmission representing about 10% (Kinge 2003:52).

Data from the 1998 Demographic and Health survey in Cameroon show that many adolescents have their sexual debut by age 15 (Fotso, Ndonou, Libite, Tsafack, Wakou, Ghapoutsas, Kamga, Kemgo, Fankam, Kamdoum & Barrere 1999:90). The data also point that many youths have multiple sexual partners (Fotso et al 1999:179-180).

The United States Agency for International Development (USAID) (2008) reports a median age of sexual debut of 16.4 years, in its study in Cameroon; while Kongnyuy, Soskolne and Adler (2008:4) in their study on sexual behaviours among adolescents in Cameroon, report that 20.8% of the respondents had more than one life time

partner, and 17.2% had more than one sexual partner in the last twelve months prior to their study. It was also reported that young women in Urban Cameroon reported low ability to refuse sex in their relationships with men (Hattori & DeRose 2008:309).

Sexual transmission of HIV can be prevented by using condoms during sexual relationships, assuming that they are used correctly and consistently (Cates 2001:231; Holmes, Levine & Weaver 2004:455; Trussell & Vaughan 1999:72).

The sexual and reproductive health behaviours of a large number of youths in Cameroon as in other SSA countries continue to raise serious concerns in view of the implication for the HIV/AIDS epidemic. Rwenge (2000:124-5), in his study on Cameroon youths reports that more than 90% of his respondents mentions that consistent condom use could prevent AIDS, but that despite such knowledge only 25% of them were using condoms. The WHO (2005a:1) reports that in Cameroon, 47% females and 57% males of the same age group reported using condoms at the previous high risk sexual encounter. This shows that there is a gap between perceptions and reality. Condoms are readily available in Cameroon at very cheap rates, but there might be some constraints to their use by adolescents as reflected in their non-use of condoms. (See section 3.4.3.2.4).

Very little information has been documented on knowledge, attitudes and perceptions regarding HIV/AIDS and sexual behaviours among Cameroon college learners. The present study examines HIV/AIDS-related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school learners in Kumba, Cameroon.

#### **1.2.4 Health financing**

Cameroon is a signatory to a number of conventions on health issues including HIV/AIDS. While conventions are signed, the influences of the population in pressurising government and parliament to ratify and implement such conventions and treaties have a vital role to play in their effective implementation. The ability to get pre and post data about the topics covered by these treaties or conventions are needed to give a meaningful measure of the levels of implementation. This is only

possible if the public is informed and educated on such treaties and conventions. Tanyi (2005:16) reports that in Cameroon, 83% of persons interviewed had never heard anything about the United Nations Special General Assembly on HIV/AIDS (UNGASS). More disturbing is the fact that persons in key positions in the fight against HIV/AIDS make up part of this 83%. The other convention signed by Cameroon is the Abuja 15% declaration in which each member state agreed to commit 15% its national budget to health (Tanyi 2005:16).

In 2005, Cameroon committed just about 3.5% of its national budget to health contrary to the agreed 15%. Since 2000, health budget allocation has been on a steady decline as shown in table 1.5.

**Table 1.5: Cameroon health sector budget as percentage of national budget 2000-2005**

1999/2000	2000/2001	2001/2002	2002T	2003	2004	2005
3.4%	3.8%	4.6%	4.6%	4.02%	3.6%	3.5%

The health budget is calculated as a percentage of the national budget.

Sources:

- Parliamentary Bill N° 663/PJL/AN: 15–16
- Parliamentary Bill N° 682/PJL/AN: 19–20
- Parliamentary Bill N° 702/PJL/AN: 9–10
- Ordinance N° 2002/1 of 27/06/2002 and Bill N° 727/PJL/AN
- Bill N° 742/PJL/AN: 22–23
- Law N° 2004/026 of 30<sup>th</sup> December 2004:2-3, 26-28.

Table 1.6: Cameroon government's expenditure on HIV/AIDS from 2004 to 2007.

**Table 1.6: Cameroon government expenditure on HIV/AIDS from 2004 to 2007 (in \$ US)**

2004	2005	2006	2007
1334 544	4 411 183	6 002 497	9 617 262

Source: Cameroon, NACC, UNGASS Progress Report No. 3, (2008:12)

The HIV/AIDS budget is a fraction of the health budget. When calculated, it gives figures of less than 2% of the National Budget (Tanyi 2005:22). However, Cameroon's relation with external structures in the fight against HIV/AIDS is good. A

large part of the national AIDS funds comes from external donors and systems. The global fund, as well as other international non-governmental organisations (NGOs) is actively at work in the country. The activities of these international organisations are coordinated and supported by the Cameroon NACC (Tanyi 2005:16). The low budgetary allocation to the health sector would mean that the Cameroon government would face some challenges in meeting the sexual and reproductive health needs of the youth. The current study linked on to this aspect and investigated the reproductive health needs of adolescents in Cameroon, in order to make proposals to government.

#### **1.2.5 Organisation of health services and Cameroon government response to HIV/AIDS**

With the first identified case of AIDS in Cameroon in 1985, the Government of Cameroon (GOC) assumed an active role. The Cameroon's Ministry of Public Health (MOPH) with financial support and encouragement from major organisations based in Yaoundé established the NACC in 1986 to monitor the progress of the disease and coordinate the activities of various NGOs. However, the impact of these activities was somewhat limited. Since 1994, the little action that had taken place has been in the form of ineffective information, education and communication (IEC) activities (Handyside, Dennis & Sy 1998:ix).

Handyside et al (1998:viii) question the effectiveness of the Cameroon's national programme to fight HIV/AIDS. It mentions Cameroon's economic crisis and lack of committed personnel at the central level from 1995 to 1998 as major factors that contributed to the lack of success in counteracting the spread of HIV.

The USAID-funded AIDS control and prevention projects from between 1987 and 1996, provided assistance to the MOPH to implement components of the medium term plan (MTP) of the National AIDS Control Programme (NACP). The plan called for focus on three high-risk groups:

- commercial sex workers
- students
- the armed services.

Baseline and impact evaluation research indicate that the work done with commercial sex workers has had some effect in changing behaviours among this group and their clients. These commercial sex workers are by definition at high risk and acknowledging the risks they run, have started to use condoms more frequently. In addition, some have abandoned their commercial sex profession for income generating activities such as serving, small-scale restaurants and trading consumer products. Unfortunately recently unemployed female office workers and students have replaced these commercial sex workers. Little success was registered for students (Handyside et al 1998:x). The current study investigates condom use among senior secondary school learners in Cameroon. Factors that determine or motivate learners to use condoms are investigated.

The HIV prevalence rate in Cameroon between 1987 and 2000 is shown in table 1.1. In response to the increase in prevalence, Cameroon developed the 2000-2005 five-year national plan against AIDS, third draft, because the previous fight against HIV/AIDS in Cameroon had several barriers, including ignorance and indifference that led to a lack of general mobilisation of the population. The current study in this regard explored learners' knowledge, attitudes and perceptions regarding HIV/AIDS.

The results of the current study led to recommendations as contained in chapter 6 of this thesis for the government to take action. These relate to:

- Insufficient coordination programmes
- Absence of involving sectors outside the health sector. This study aims at investigating learners, who fall under the education sector, which is a sector outside the health sector.
- Scarcity of resources (National Committee for HIV/AIDS (NACC), Joint United Nations Program on HIV/AIDS (UNAIDS), German Organization for

Cooperation (GTZ), National Committee for Tuberculosis (TB) and the Ministry of Health Cameroon (MOPH) 2000:2).

The negative socio-economic impact of the pandemic has made the fight against HIV/AIDS a national priority. The stronger socio-political commitment to fight against HIV/AIDS translates into:

- HIV/AIDS is the priority number one of the national health development plan.
- Reorganisation of the NACC.
- Increased budget allocation for the fight against AIDS.
- Multi-sectorial and decentralisation approach fighting HIV/AIDS.
- Development of a national strategic plan.

(NACC, UNAIDS, GTZ, Committee for TB & MOPH Cameroon 2000:2).

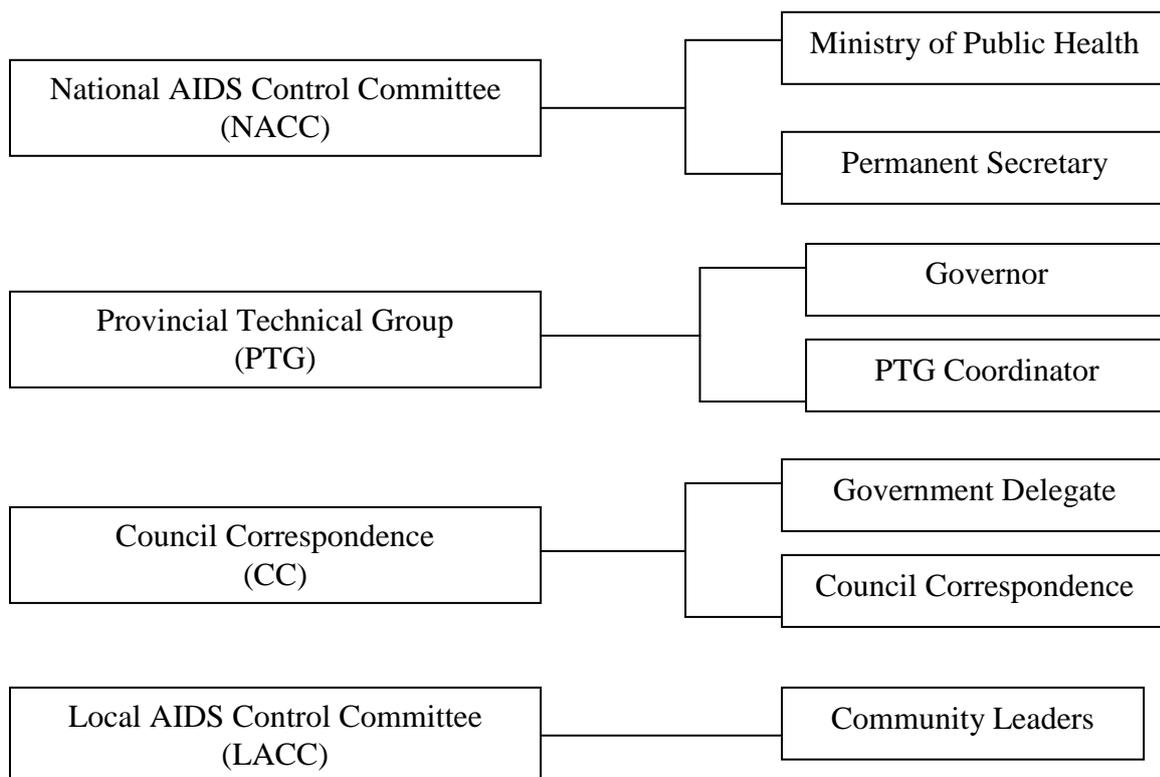
Priorities for the HIV/AIDS 2000-2005, five-year programme in Cameroon were thus:

- Prevention of HIV transmission through education and information with a focus on youths, women, and workers.
- Medical treatment and psychosocial support.
- Epidemiological surveillance (NACC, UNAIDS, GTZ, Committee for TB & MOPH Cameroon 2000:2).

At the level of prevention, the GOC has over the years adopted decentralisation (not autonomous) and a multi-sectorial approach in its fight against the HIV/AIDS pandemic. The NACC was thus decentralised into provincial structures called Provincial Technical Groups (PTGs) headed by the provincial governors and directly coordinated by the provincial coordinators. The PTG is assisted in its action by local council correspondents who work directly with the councils and oversee the work of the Local AIDS Control Committees (LACCs). These committees are community response groups put in place by NACC, made up of members of the communities. The idea creating LACC may look appealing as it implies a grassroots level of participation of the local communities in the fight against HIV/AIDS. In reality, the methodology of involving the community was so poorly conceived that the results are

mostly reflective thereof. LACCs are groups of persons called together and trained for one or two days and then given the mandate to enter the field in the fight against AIDS within their communities with the understanding that the government through the PTG will continuously provide the needed funds (Tanyi 2005:9). This has implications for the current study as two days' training for the LACC members might be inadequate to provide them with the required knowledge regarding HIV/AIDS that will enable them to monitor the epidemic in their various communities efficiently.

Figure 1.1 gives the HIV/AIDS policy structure in Cameroon.



**Figure 1.2: HIV/AIDS Policy Structure in Cameroon.**

Source: Tanyi (2005:12)

While this structure looks excellent on paper, its implementation on the ground has a number of setbacks, which include:

- Passive authorities.
- Non-transparency of management.
- Poor communication and participatory approach in programme elaboration.

- High levels of corruption.
- Non-existence of a national or private HIV resource centre.
- Low budget allocation to fight against HIV/AIDS (less than 2% of national budget) (see section 1.2.4).
- Embezzlement of AIDS funds.
- Poor monitoring and reporting system (Tanyi 2005:12-14).

If the LACCs' members lack accurate knowledge regarding HIV/AIDS, they will not be able to share accurate knowledge with adolescents, including secondary learners. The current study explored what knowledge secondary learners have regarding HIV/AIDS and the source of that knowledge. Because of inefficiency, the activities of LACCs have been suspended indefinitely.

Cameroon NACC (2006:1) reports that data from the Population and Health Survey (EDS III) show risky sexual behaviours among young people. Young people have multiple sexual partners and use condoms irregularly. Because of the failure of the 2000-2005 strategic plan, the GOC came out with a new plan for 2006-2010 with the focus on young people aged 15-24 as a vulnerable group (UNAIDS Cameroon 2006:10; Cameroon NACC 2006:2). The research reported in this thesis focused on these young people as a vulnerable group and explored their HIV/AIDS related knowledge, attitudes perceptions, as well as their sexual behaviours. The results will be used to implement strategies that could reduce the vulnerability of young people to HIV/AIDS in Cameroon.

The objectives for the 2006-2010 plans are:

- Reduction of the number of new infections in the general population.
- Extending access of prevention and treatment to people living with HIV/AIDS (PLWA) especially children.
- Reducing the global impact of HIV/AIDS on orphans and vulnerable children (NACC Cameroon 2006:2; UNAIDS Cameroon 2006:10).

Overall, the strategies adopted by the GOC to fight HIV/AIDS, can be summarised:

- Integration of family planning (FP) into provincial primary health care (PHC) programmes in 1989.

The multi-sectoral approach to fight the HIV/AIDS epidemic has as its objectives:

- Target behavioural change in youths through communication and promotion.
- Effective distribution of condoms and to a lesser extent of oral contraceptives targeted at youths.
- Determine the effectiveness of targeted social marketing in addressing the key reproductive health problems of young people.

The results of the current study will be used to evaluate the effectiveness of condom use.

### **1.2.6 Evaluation of the 2000-2005 programme against HIV/AIDS in Cameroon**

As indicated in section 1.2.5 of this thesis, the 2000-2005 programme was not successful, and reflected in the following 2005 epidemiological statistics:

- 6.9% of the population aged 15-49 is infected with HIV/AIDS.
- Only about 70% of youths aged 15-24 could identify at least one way to prevent HIV.
- 46.5% of youths aged 15-24 had used condoms during their last experiences of sexual intercourse.
- 122 670 children were orphaned by HIV/AIDS (NACC Cameroon 2006:5; UNAIDS Cameroon 2006:9).

## **1.3 STATEMENT OF PROBLEM**

Burns and Grove (2005:36, 70) define a research problem as an area of concern where there is a gap in the knowledge. LoBiondo-Wood and Haber (2002:52) concur that the problem statement of a study is the foundation of the research. The current study was led by a problem statement which guided and directed the exploration of

the subject area, especially where there is a gap in the knowledge regarding the research topic (Burns & Grove 2003:70). According to Polit and Beck (2004:85), the problem statement articulates the nature, context and significance of the study problem. The HIV prevalence rate of Cameroon youths is high (see section 1.2.3 of this thesis), and as purported by the UNAIDS/ECA (2000:39), Cameroon has neither HIV/AIDS policy in the education sector nor any HIV/AIDS specific legislation against discrimination on the grounds of HIV in Cameroon. With the assistance of international partners, many interventions to reduce the prevalence of HIV/AIDS in schools have been made, through the introduction in 2007, of the teaching of HIV/AIDS related issues in secondary schools. Unfortunately these teachings only take place during manifestations marking the World AIDS day celebrated every 1<sup>st</sup> of December. So far, only 127 schools distributed throughout 32 council areas have benefited from this (NACC Cameroon UNGASS Progress Report No 3, 2008:9). There still exists no legislation against discrimination on the grounds of HIV/AIDS in Cameroon (NACC Cameroon UNGASS Progress Report No 3, 2008:10).

The Minister of Public Health in Cameroon recognised the importance of promoting healthy life styles among youths, and in 2002 unveiled a three-year programme against HIV/AIDS. The programme was expected to pay special attention to helping youths who are the hardest hit in the country. "Our principal objective is to reverse the actual trend in the epidemic, reduce the prevalence rate to less than 10% and reduce by at least 25% HIV's incidence rate among the youth, men and women by the year 2005," the Minister of Health Awono said at the programme launching (IRIN/PLUS NEWS Cameroon 2002:1)

Cameroon is presently facing serious problems in the medical field due to acute shortage of qualified personnel. The WHO recommends a doctor to inhabitant ratio of 1:10 000. Cameroon's ratio is 1:40 000, with most of the doctors concentrated in urban areas. One of the main obstacles to the training of more qualified medical personnel in Cameroon is limited financial resources (Ndienla 2006).

Though there are many public and private health facilities in Kumba, they cannot meet the reproductive health needs of senior secondary school learners in Kumba

because they have serious shortages of qualified staff and equipment or drugs to run the facilities. This is corroborated by the fact that in Cameroon, the government reform was initiated in the late 1980s as part of their structural adjustment programme (SAP) administered by the World Bank and the International Monetary Fund (IMF). Measures affecting the health sector resulted in suspending recruitment, strict implementation of retirement at 50 or 55 years, limiting employment to 30 years and suspension of any financial promotion. In addition training for nurses and laboratory technicians was suspended for several years and schools closed (Bernhard & Gilles 2004:11). Cameroon's population is estimated to be over 18 million in 2008 (section 1.2.1). Cameroon had no recruitment of health personnel for over 15 years (Bernhard & Gilles 2004:7). As a consequence of this, jobs in the public sector were about 80% unfilled. Notwithstanding the efforts of many health workers to provide services in general, a laissez faire attitude prevails – with under the table payments, absenteeism and a lack of attention to quality (Bernhard & Gilles 2004:11).

In 2006, Cameroon counted just about 3 124 physicians, 26 042 nurses and midwives, 147 dentists and technicians, 700 pharmacists and technicians, 1 793 laboratory technicians and 16 other health workers to cater for over 16 million inhabitants (WHO 2006:2). In Cameroon, rural dwellers travel five times as far as urban dwellers to reach the nearest health facility, while 98,9% of people who travel over 6 kilometres to a health facility live in rural areas (Cameroon 2003).

As a consequence of the serious shortage of health workers, patent medicine stores (pharmacies) and itinerant medicine sellers who have little or no knowledge of HIV/AIDS serve the health needs of learners in the communities. An added problem is that most of these health facilities are not youth friendly. The GOC in July 2006 closed down 11 clinics in the Kumba metropolis, which were not operating within the context of the law (Sumelong, Ejang & Nnabi 2006:2). These might have a negative effect on the reproductive health needs and HIV/AIDS related knowledge, perceptions and attitudes, and sexual behaviours of secondary learners in Kumba.

Consequently if the current research could identify some misconceptions regarding HIV/AIDS in the city of Kumba, then measures could be instituted to address these misconceptions. This could help reduce the HIV/AIDS prevalence in Kumba and possibly throughout Cameroon as well as in many African countries facing similar problems.

As a consequence of all these background problems, the health services in the city of Kumba of the Republic of Cameroon do not know what secondary learners falling within the age group mostly infected by HIV/AIDS, know or what their perceptions and attitudes are with regard to HIV/AIDS and condom use; and their sexual behaviours.

#### **1.4 PURPOSE OF THE STUDY/OUTCOME VARIABLE**

According to Burns and Grove (2005:36, 71), and LoBiondo-Wood and Haber (2002:60) the research purpose is a concise, clear statement of the specific goal or aim of the study that is generated from the research problem. The purpose usually indicates the type of research (quantitative or qualitative) to be conducted and often includes the variables, population, and setting of the study. The goals of quantitative research include identifying and describing variables, examining relationships among variables, and determining the effectiveness of interventions in managing clinical problems (Burns & Grove 2005:71). In relation to the problem statement, the purpose of the current study was to explore the knowledge, attitudes and perceptions regarding HIV/AIDS and condoms; and sexual behaviours among senior secondary school learners in the city of Kumba, Cameroon, using a quantitative research design. Ultimately, the main aim of the study was to determine that state of the *outcome variable* (section 1.12.9) of how at risk learners at the secondary schools involved in the current study are (were) of contracting HIV/AIDS. This outcome variable involves several research questions (section 1.5), objectives (1.6) and hypotheses (section 1.11).

## 1.5 RESEARCH QUESTIONS

To aid in the collection of data, research questions enabled the researcher to understand learners' knowledge, perceptions and attitudes regarding HIV/AIDS, and sexual behaviours. Answers to some research questions are needed in this respect. Burns and Grove (2005:158) posit that a research question is a concise, interrogative statement that is worded in the present tense and includes one or more variables (or concepts). LoBiondo-Wood and Haber (2002:499) define a research question as "a key preliminary step wherein the foundation for a study is developed from the research problem, and results in the research hypothesis." Polit and Hungler (1999:61) state that in a quantitative study, research questions identify the key variables, the relationships among them and the population under study. De Vos (2001:116) posits that research questions are more relevant if the researcher works qualitatively, and hypotheses when the researcher works quantitatively. So the researcher working quantitatively will be compelled to transform his research questions into testable hypotheses

Questions that were asked in order to identify and address the needs of senior secondary school learners with regards to HIV/AIDS and sexual behaviours were formulated as follows:

- What knowledge, attitudes and perceptions do senior secondary school learners in the city of Kumba have with regard to HIV/AIDS?
- What knowledge, attitudes and perceptions do senior secondary school learners in the city of Kumba have with regard to condoms?
- From whom do senior secondary school learners in the city of Kumba learn about sexuality and HIV/AIDS?
- What strategies could enhance learners' utilisation of reproductive health services and condom access points in the city of Kumba?
- Why do senior secondary school learners in Kumba use or fail to use condoms consistently?
- What barriers do learners in the city of Kumba encounter in accessing condoms?

- How strongly do learners believe that they are susceptible to HIV/AIDS?
- How strongly do learners believe that HIV/AIDS is a serious condition, which must be avoided?
- What barriers do learners encounter in using condoms to prevent HIV/AIDS?
- How strongly do learners believe that effective use of condoms can prevent HIV/AIDS infection?
- What motivates learners to use condoms during sexual intercourse?
- How strongly do learners believe that they have the ability to successfully use condoms to prevent HIV/AIDS?

These questions resulted from the HBM (see sections 1.9 and 2.3.2 of this thesis). These research questions were answered within the context of the HBM's reconstruction of the individual's perceptions of susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy (ReCAPP 2005:2). The HBM is discussed in more detail in chapter 2 of this thesis.

## **1.6 RESEARCH OBJECTIVES**

According to Burns and Grove (2005:156), research objectives are clear, concise, declarative statements that are expressed in the present tense. For clarity, the objective usually focuses on one or more variables (or concepts) and indicates whether the variables are to be identified or described. Objectives can also focus on identifying relationships or associations among variables. Polit and Hungler (1999:49-50) concur that research objectives are the specific accomplishments the researcher hopes to achieve by conducting the study. Objectives are developed from the research problem and purpose, and they clarify the variables and population to be studied in quantitative research (Burns & Grove 2005:156).

The research objectives guiding the current quantitative study were to:

- Explore the knowledge regarding HIV/AIDS among senior secondary school learners in Kumba.

- Explore the sources of knowledge regarding HIV/AIDS of senior secondary school learners in the city of Kumba.
- Explore the sources of knowledge regarding sexuality of senior secondary school learners in the city of Kumba.
- Explore strategies that could enhance learners' utilisation of reproductive health services in the city of Kumba.
- Determine the attitudes regarding HIV/AIDS and PLWHA of senior secondary school learners in Kumba.
- Explore the perceptions regarding HIV/AIDS of senior secondary school learners in the city of Kumba.
- Explore the knowledge regarding condoms of senior secondary school learners in the city of Kumba.
- Explore the sources of knowledge regarding condoms of senior secondary school learners in the city of Kumba.
- Determine the attitudes regarding condoms of senior secondary school learners in the city of Kumba.
- Explore the perceptions regarding condoms of senior secondary school learners in the city of Kumba.
- Determine the relationship, if any between knowledge, attitudes and perceptions regarding HIV/AIDS and sexual behaviours among senior secondary school learners in Kumba.
- Explore strategies that could enhance learners' utilisation of condom access points in the city of Kumba.
- Determine reasons why senior secondary learners in Kumba use or fail to use condoms consistently.
- Identify possible barriers experienced by senior secondary school learners in accessing condoms in the city of Kumba.

## **1.7 SIGNIFICANCE OF STUDY**

Knowledge gained from the current study will be used to make recommendations regarding HIV/AIDS that could enable Cameroon's institutions to implement policies, strategies and programmes via the curriculum of schools that could help reduce the prevalence of HIV/AIDS among youths in the city of Kumba.

The findings of the current study also provide a basis for implementing responsible sexual behaviour programmes in schools and could serve to review the current health behaviour programmes offered in clinics and hospitals in the city of Kumba. This in turn could enable the development of a more reality-based integrated programme to meet the total health needs of secondary school learners and adolescents in the city of Kumba. There should be special emphasis on safe sexual practices especially consistent condom use, limiting number of partners or delayed sexual initiation and gratification. The results of the current study could lead to the development of programmes to revitalise sex education, sensitisation, redirection, strengthening and provision of sexual information to sustain the motivation of the secondary school health programmes in the city of Kumba. Policymakers in order to come up with policies that will encourage young people to practise safer sex may use knowledge gained from the current study.

The results may also help training institutions for health care providers to incorporate the findings in their training curriculum. This will ensure that all health care providers are aware of HIV/AIDS issues related to young people. Findings of the current study could be used as an essential step in the development and implementation of programmes that could be beneficial to organisations that are interested in promoting condom access to young people.

The findings might contribute to behavioural changes among young people by emphasising the positive reasons why young people should use condoms consistently.

## 1.8 METATHEORETICAL GROUNDING

Chinn and Kramer (1999:255) define metatheory as “theory about theory and the processes for the development of the theory.” The theory focuses on philosophical and methodological questions related to the development of theory. Ritzer (2002:1) concurs, “A *meta-theory is a broad perspective that overarches two or more theories.*”

Metascientific reflections on social enquiry resulted in two schools, known as the metatheories of science, namely positivism and anti-positivism. These schools differ in their ontological and epistemological positions, and as a result use different methodologies.

A paradigm is “a system of ideas embodying one’s beliefs on the nature of reality and how that reality can be known. A paradigm is not necessarily proven or provable, it is just believed, but must be logically coherent. Any process of formal inquiry is guided by a set of ‘basic beliefs’” (Bailey 1997:18).

Three meta-theoretical paradigms emerged from positivism and anti-positivism, which Babbie and Mouton (2001:20), and Mouton (2006:140) regard as the most influential, namely positivism, phenomenological/interpretivist and critical theory. More importantly they are linked to three methodological researches in the social sciences. Positivism has experimental, quantitative and hypothesis testing as methodology. Anti-positivism has two meta-theoretical paradigms: phenomenological/interpretivist, with qualitative or naturalistic inquiry; interpretative and interactional as methodology and critical theory/constructionist with textual analysis and discourse analysis as methodologies (Mouton 2006:141; Terre Blanche & Durrheim 2002:6). The meta-theoretical grounding in the current study, that is positivism and quantitative research, is discussed in more detail in section 2.2 of this thesis.

Positivism is an approach to science based on a belief that social and natural phenomena are similar, a belief in universal laws, and insistence on objectivity and

neutrality (Babbie & Mouton 2001:21). Thus quantitative or positivist research is rooted in a belief that there exists a reality out there (realist ontology), driven by natural laws (objectivist epistemology), that reality can be quantified and the appropriate way of going about finding knowledge (methodology) is by surveys, questionnaires, closed-ended structured interviews engaging empirical experimental methodology (Mouton 2001:21).

## **1.9 THEORETICAL FRAMEWORK OF THE STUDY**

A theory is a way of explaining some segment of the empirical world; it consists of a set of concepts that are defined and interrelated to present a view of a phenomenon (Burns & Grove 2005:9; LoBiondo-Wood & Haber 2002:109; Polit & Hungler 1999:716). According to Burns and Grove (2005:9), a theory is developed from a combination of personal experiences, findings and abstract thought processes. Findings from research may be used as a starting point, with the theory emerging as the theorist organises the findings to best explain the empirical world. In the positivist tradition, theory is what guides the establishment of a priori hypothesis and establishes the conditions under which the hypothesis will be tested.

The UCSF (2002:1) states that a theory describes what factors or relationships influence behaviour and/or environment and provides direction on how to impact on them. Schick (2000:9) posits that in science, a theory is a mathematical or logical explanation, or a testable model of the manner of interaction of a set of natural phenomena, capable of predicting future occurrences or observations of the same kind and capable of being tested through experiment or otherwise falsified through empirical observation.

Brink (1999:29), as well as LoBiondo-Wood and Haber (2002:110) state that a model is often described as a symbolic depiction of reality. It provides a schematic representation of some relationships among phenomena and uses symbols or diagrams to represent an idea. If the research is undertaken in a context of a theoretical framework, it will help to organise the study, examine a problem, gather

and analyse data. Burns and Grove (2005:128), as well as LoBiondo-Wood and Haber (2002:490) 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. Brink and Wood (1998:283); as well as Polit and Beck (2004:116), concur that a conceptual framework/model provides a broad understanding of the phenomenon of interest, the assumptions and the philosophical views of the model's designer. The phenomenon under the current study is the knowledge, attitudes and perceptions regarding HIV/AIDS and condom; and sexual behaviours among senior secondary school learners in Kumba, Cameroon. A number of conceptual models have been developed for research purposes. The HBM provided the framework for the current study. *"The HBM is developed to provide a framework to explain why some people take specific actions to avoid illness, while others fail to protect themselves"* (Dennill, King, Lock & Swanepoel 1999:156; Polit & Beck 2004:124).

Stanhope and Lancaster (2000:252) state: "The HBM is beneficial in assessing health protection or disease prevention behaviours. It is also useful in organising information about clients' views on the state of health and what factors may influence them to change their behaviours. The HBM when used appropriately provides organised assessment data about clients' abilities and motivation to change their health status. Health education programmes can be developed to better fit the needs of clients."

The HBM asserts that 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 would have serious effects on their lives if they should 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 (Dennill et al 1999:156):

- 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 learners' decisions as to whether or not to utilise condoms to prevent HIV/AIDS are discussed in more detail in chapter 2 of this thesis.

## **1.10 ASSUMPTIONS**

Burns and Grove (2005:39), LoBiondo-Wood and Haber (2002:489), and Polit and Hungler (1999:10-11, 695) state that assumptions are statements that are taken for granted or are considered true, even though they have not been scientifically tested. Burns and Grove (2005:39) add that in quantitative studies such as the current study, assumptions are embedded in the philosophical base of the framework, study design, and interpretation of findings

Kuhn in Mouton and Marais (1992:149); Mouton (1996:123-124); as well as Mouton and Marais (1990:146-147) identify three areas of commitments or assumptions for any research undertaken: theoretical-conceptual, methodological-technical and ontological. Accordingly, the assumptions for the current study were formulated with reference to Kuhn's area of commitment.

### **1.10.1 Theoretical-conceptual assumptions**

Theoretical-conceptual assumptions are also referred to as epistemological assumptions, and these like other assumptions underlying the current research

follow the positivist paradigm. Theoretical-conceptual assumptions represent commitments to the truth or accuracy of the theories and laws of the particular paradigm (Mouton 1996:123-124; Mouton & Marais 1990:147; Polit & Hungler 1999:10-11). In the current study the following quantitative positivist assumptions were considered:

- The six concepts of the HBM, namely perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and perceived self-efficacy are suitable to conceptualise the results of the current study.
- The concepts of the HBM form a scientific base that enables the researcher to determine the knowledge, perceptions and attitudes regarding HIV/AIDS, and condom use among secondary learners.
- The variables contained in the research topic and the HBM are compatible and can be operationalised, measured and correlated statistically providing empirically based scientific knowledge.

### **1.10.2 Assumptions regarding methodological-technical commitment**

Methodological-technical assumptions refer to the criteria regarded as scientific and to the methods and instrumentation by means of which a given view of what is scientifically valid may be realised (Mouton 1996:124; Mouton & Marais 1992:147; Polit & Hungler 1999:10-11). In the current study it is assumed that:

- A questionnaire with closed-ended questions and scales will be suitable to gather quantitative data from respondents.
- The quantitative research method would be appropriate to the study of knowledge, perceptions and attitudes regarding HIV/AIDS, and sexual behaviours among senior secondary school learners in Kumba.
- The language used in the questionnaire means relatively the same to all the respondents and it is well understood by the respondents.
- Statistics will provide an adequate scientific foundation to ensure reliability and validity of the research instrument.

- Nomothetic data analyses suffice in describing the variables contained in the research questions and topic.
- Respondents would be objective and truthful in the information they give in response to the questionnaire items.

### **1.10.3 Ontological assumptions**

The ontology deals with the social reality of a specific situation (De Vos 1998:242). In the current study ontological also mean empirical. Ontological commitments are thus assumptions concerning the essence of the research object and empirics (Mouton 1996:46,124; Mouton & Marais 1990:147; Polit & Hungler 1999:10-11).

In the current study, at the ontological level, it is assumed that:

- The concepts of the HBM describe aspects of the reality of knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours encountered in the lives of the respondents
- The social reality of the respondents within the context of the research topic and research questions is sufficiently specific and generally structured by the HBM.

### **1.11 HYPOTHESIS**

Babbie (2005:42) describes a hypothesis as: "A specified testable expectation about empirical reality that follows from a more general proposition; more generally an expectation about the nature of things derived from a theory. It is a statement of something that ought to be observed in the real world if the theory is correct." Burns and Grove (2005:159) concur that a hypothesis is a formal statement of the expected relationship between two or more variables in a specified population. The hypothesis translates the research problem and purpose into a clear explanation or prediction of the expected results or outcomes of the study. Brink and Wood (1998:48) add that

hypotheses are statements concerning predicted relationships between the variables under study that link a study's theoretical framework to experimental realities. Babbie (2005:44) asserts that hypotheses are connected using rules of logic. The logic can be inductive or deductive. A deductive hypothesis suggests assertions, which are related in a consistent way (Babbie 2005:44). Inductive reasoning involves the observation of a particular set of instances that belong to and can be identified as part of a larger set. This reasoning moves from the particular to the general and underlies qualitative approach to inquiry (LoBiondo-Wood & Haber 2002:110). On the other hand, deductive reasoning uses two or more variables or related statements that, when combined, form the basis for a concluding assertion of a relationship between the variables called relational statements. This reasoning moves from the general to the particular and is typically applied through quantitative inquiry approaches (LoBiondo-Wood & Haber 2002:110). Burns and Grove (2005:165) add that deductive thinkers examine more abstract statements from theories, models or previous research and then formulate hypotheses for the study; while inductive thinkers have a tendency to focus on relationships that are observed in clinical practice, and they synthesise these observations to formulate a general statement about the relationships observed. Initially the following three deductive hypotheses were developed for the current study:

#### **1.11.1 Hypothesis 1**

There is a positive relationship between risk perceptions of HIV/AIDS and modifying factors (demographic variables such as sex and gender; structural variables such as VCT and knowledge regarding HIV/AIDS).

#### **1.11.2 Hypothesis 2**

There is a positive relationship between risk perceptions of HIV/AIDS and the likelihood of taking actions.

### **1.11.3 Hypothesis 3**

There is a positive relationship between modifying factors and the likelihood of taking actions.

These hypotheses were derived from the HBM (see also section 4.3.3.4 of this thesis). For additional supporting deductive hypotheses relating to knowledge, attitudes and perceptions of HIV/AIDS and condoms, and the HBM, see section 4.3.3.5 of the thesis. These hypotheses all relate to the outcome variable of the current research namely, the level of risk of learners with regard to contracting HIV/AIDS.

## **1.12 DEFINITIONS OF KEY TERMS**

A concept is a term that abstractly describes and names the object, thereby giving it a separate identity or meaning (Burns & Grove 2005:122, 731; LoBiondo-Wood & Haber 2002:113).

A conceptual definition differs from the denotative (or dictionary) definition of the word, though it is more like the dictionary definition. The conceptual definition goes beyond the general language meaning found in the dictionary by defining the concept as it is rooted in the theoretical literature (Burns & Grove 2005:122; LoBiondo-Wood & Haber 2002:113). Burns and Grove (2005:122) add that defining concepts allows consistency in the way the terms are used in the discipline, in application of the theory, and the field of study. Operationalising a variable or concept involves developing conceptual and operational definitions (Burns & Grove 2005:171).

Operationalisation adds another dimension to the conceptual definition by delineating the procedures or operations required to measure the concept. It supplies the information needed to collect data on the problem being studied (Burns

& Grove 2005:171-172; LoBiondo-Wood & Haber 2002:113). The language of operational definition is closer to the ground than that of conceptual definition. Operational definitions are lower on the ladder of abstraction than conceptual definitions.

Both conceptual and operational definitions are given for key variables in the current study, while only conceptual definitions are given for some key words pertaining to the study. Therefore, in the current study the following terms were used as defined in section 1.12 of this thesis:

### **1.12.1 Acquired Immune Deficiency Syndrome (AIDS)**

AIDS is conceptually defined as a collection of diseases and symptoms that are contracted because HIV has weakened the immune system (Jackson 2002:xxi). People are said to have AIDS when their CD4 cell count is less than 200 per microlitre of blood (Baptista & Gomes 2000:22; Stine 2004:188; Uys 2000:20).

### **1.12.2 Adolescence**

Collins English Dictionary (1991:20) defines adolescence as “the period in human development that occurs between the beginning of puberty and adulthood.” Adolescence is a period of physical, social and psychological development in the age group of 10-19 years (WHO 1997 cited in Mngadi, Thembi, Ransjo-Arvidson & Ahlberg 2002:39). For the purpose of the current study, an adolescent is any learner within the age group of 15-24 years in the senior secondary school level in the city of Kumba. Youth is “the quality or condition of being young, immature, or inexperienced; the period between childhood and maturity; young people collectively (Collins English Dictionary 1991:1783). For the purpose of the current study, the terms “youth” and “adolescent” are used interchangeably.

### **1.12.3 Attitude**

Attitude is an enduring response towards persons, objects and ideas. Allport (in Sears, Peplau & Taylor 1991:546) portrays that attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related. Attitude is "someone's opinion or feelings about something, especially as shown by their behaviour" (Macmillan English Dictionary 2006:76). Therefore attitude refers to the way of thinking and behaving.

In the current study, attitudes refer to learners' opinions or feelings about HIV/AIDS and condoms, and towards people living with HIV/AIDS. A learner may react positively or negatively to the concepts of HIV/AIDS. Attitude being an enduring response can be assumed that it does not change over a period of time. Thus, when learners learn the right attitudes regarding HIV/AIDS and towards people living with HIV/AIDS, such attitudes can be maintained over a long time period.

### **1.12.4 Condom usage**

A condom is a thin rubber tube with which a man covers his penis during sex, in order to prevent a woman from becoming pregnant or to protect against STIs (including HIV/AIDS) during intercourse (Macmillan English Dictionary 2006:288). For the purpose of the current study, a condom will refer to the male condom only.

For the purpose of the current study, condom usage refers to the non-use, use and consistent condom use by learners during heterosexual intercourse.

### **1.12.5 Epidemic**

Conceptually an epidemic refers to a disease that affects a large number of people in a particular location within a relatively restricted time frame. This is contrasted to

endemic, a disease that afflicts a population in a given area for a very long time. The difference between the two terms reflects the relative degree of adaptation of a population to a disease, in that endemic disease is viewed as an entity with which a population lives and survives. An epidemic emerges suddenly, affects a large number of people, then tapers off and in many cases persists at a lower level and becomes endemic. Epidemic usually refers to a disease that is infectious such as HIV/AIDS (Hunter 2001:1). A pandemic is an infection spreading over a whole country or the world (Churchill 1992:197), such as HIV/AIDS.

#### **1.12.6 Human Immunodeficiency virus (HIV)**

This is a microorganism that is transferred through infected body fluids, like vaginal secretions, semen, blood and breast milk. Once in the blood it replicates itself and kills white blood cells, T cells and the CD4 cells of the body's immune system thereby weakening the immune system. As the virus increases in the body, the CD4 cells decrease and the immune system is further weakened so that the person is more prone to contract diseases (Baptista & Gomes 2000:22; Soul City: Institute for Health and Development Communication 2005:5; Uys 2000:20).

#### **1.12.7 Knowledge**

Knowledge is "the facts, feelings or experiences known by a person or group of people; awareness, consciousness, or familiarity gained by experience or learning; specific information about a subject" (Collins English Dictionary 1991:860). Knowledge can be gained through experience, the media and interaction with others, like friends, colleagues, health workers and parents. Knowledge can be factual or a myth, depending on the source of the information. There are five forms of knowledge: conceptual, declarative, episodic, procedural and descriptive knowledge (Byners 2001:50-51; Kunda 1999:16).

Kunda (1999:16) states that conceptual knowledge is used to represent an object or phenomenon. Byners (2001:50) defines conceptual knowledge as a "form of

comprehensive understanding of what the phenomenon is all about.” This implies that individuals possessing this knowledge would be able to rationalise the cause and effect of the processes in that phenomenon.

For the purpose of the current study, conceptual knowledge of HIV/AIDS pertains to the fundamentals of the disease including the actual process of the virus in the blood as it destroys the white blood cells, thereby weakening the immune system. Conceptual knowledge also includes knowing that the virus is incurable.

Declarative knowledge is the overall knowledge people possess based on the facts or data they have acquired on a particular phenomenon (Byners 2001:50). In the current study this implies that learners with this type of knowledge have the overall facts about HIV/AIDS, such as HIV/AIDS cannot be linked to witchcraft; HIV/AIDS is an incurable disease. Declarative knowledge therefore encompasses a person’s beliefs and attitudes.

Yegidis, Weinbach and Morrinson-Rodriguez (1999:9) define descriptive knowledge as the precise account of the problem and the information presented at this level should lead to the understanding of the situation at that point in time. In the current study learners with descriptive knowledge would know the government’s long-term plans to prevent new HIV/AIDS infection especially to the younger generation. They would also be aware that they are one of the main role players in accomplishing this task.

An episode is “an incident, event, or series of events” (Collins English Dictionary 1991:523). Therefore Byner (2001:51) defines episodic knowledge as referring to occurrences taking place over a period of time. In the current study, learners with episodic knowledge would be acquainted with the information on the history of HIV/AIDS and when the disease started. Therefore he or she could relate this to the escalating prevalence of the disease within a short space of time. This knowledge is also associated with awareness of the HIV/AIDS statistics and numbers of people infected, ages and years.

A procedure is “a way of acting or progressing in a course of action, especially an established method” (Collins English Dictionary 1991:1238). Byners (2001:50) states that procedural knowledge pertains to the capability of executing a task relevant to a phenomenon; hence one possesses the relevant skills needed to perform the procedure. In the current study, this implies that learners with procedural knowledge would be able to discuss HIV/AIDS and condom use with their partners and friends. A learner possessing this type of knowledge is not likely to fear discussing sex with his/her partner.

#### **1.12.8 Kumba**

A cosmopolitan city located in the South West Province of the Republic of Cameroon. The current study focuses on senior secondary school learners in this city.

#### **1.12.9 Outcome variable**

The outcome variable, otherwise known as the dependent variable is the variable assumed to depend or caused by another variable (called the independent variable) (Babbie 2005:18, 482; LoBiondo-Wood & Haber 1994:213, 503). It is the outcome variable that the researcher is interested in understanding, explaining or predicting (LoBiondo-Wood & Haber 1994:169).

In the current study, the outcome variable is to determine how at risk learners are to contracting HIV/AIDS. It is assumed that the risk of contracting HIV/AIDS will depend on the components of the HBM. The current study tries to explain learners’ perceived risk of contracting HIV/AIDS in relation to the components of the HBM.

### **1.12.10 Perceptions**

According to the Concise Oxford Dictionary (1999:1049), perceptions refer to a way of regarding, understanding or interpreting something. Perception is also defined as an organised process in which an individual interprets situations from an environment and draws subjective and personal inferences and conclusions from these in order to take certain actions or behaviours (George 2002:225; Quinn 2000:73).

In the current study perceptions refer to the ways learners in the city of Kumba regard, understand and interpret facts regarding HIV/AIDS and condoms. The ability to see, hear and understand things may improve one's powers of perception. How do learners in the city of Kumba analyse the HIV/AIDS epidemic? Without proper understanding, HIV/AIDS could be regarded as a problem among learners.

### **1.12.11 Sex/safe sex**

In the current study, sex refers to heterosexual intercourse: the activity in which the man puts his penis inside the woman's vagina (Macmillan English Dictionary 2006:1301).

Macmillan English Dictionary (2006:1251) defines safe sex as sexual activity in which people are careful to avoid getting diseases. For the purpose of the current study "safe sex" refers to adopted sexual behaviours recommended by health indicators to reduce the risk of HIV and STD transmission. It is based on the abstinence from sex, being faithful to one partner, delaying sexual debut and consistent use of condoms to avoid the exchange of body fluids during sexual intercourse.

### **1.12.12 Sexuality/sexuality education**

Sexuality is a “socialising process, formal or informal, which includes instruction and training in all aspects which may help to form normal and wholesome attitudes, values and ideals in relation to sex” (Kelly & Morgan-Kidd 2001:486). Collins English dictionary (1991:1418) concurs that sexuality is “the state or quality of being sexual; the possession of sexual potency.” Sexuality therefore encompasses all that differentiates a person’s gender into either male or female, and involves a person’s feelings of self-esteem and body image. Sexuality influences a person’s behaviours under different circumstances, as well as his/her ability to relate sexually, especially to people of the opposite sex.

Sexuality education should include the nature of love, personal relationship and family life (Jegade & Odumosu 2003:66). According to Ibeh and Ikechebulu (2002:105), sex education means education related to anatomy and physiology of reproductive systems, contraception and STDs. Learners customarily obtain sexuality education from different sources. In the current study, learners are asked about their various sources of sexuality education. This could have some influence on their behaviours under different circumstances as well as their ability to relate sexually, especially to people of the opposite sex.

### **1.12.13 Student/Learner**

Macmillan (2006:1426) defines a student as someone who goes to university, college or school. For the purpose of the current study, a student or senior secondary school student refers to any student in the senior secondary school level in Cameroon: from form five (grade level 10), to upper sixth (grade level 12). The term learners was however used throughout this thesis.

### **1.13 RESEARCH METHODOLOGY**

Following the introduction to the present chapter, the following is a brief overview, highlighting the major issues relating to the research method and design.

A positivistic approach was chosen for the current study. According to Polit and Hungler (1999:10), the traditional scientific approach to conducting research has its underpinnings in the philosophical paradigm known as positivism. This paradigm is rooted in the 19<sup>th</sup> century thought, guided by such philosophers as Comte, Mill, Newton and Locke.

The fundamental ontologic assumption of positivists is that there is a reality out there that can be studied and known. Adherents to this scientific approach assume that nature is basically ordered and regular and that an objective reality exists independently of human observation. According to LoBiondo-Wood and Haber (2002:131), the positivistic approach to research focuses on testing hypotheses that are derived from theories or conceptual frameworks. The goal is to support the research hypotheses, and therefore reject the null hypothesis with the data from the study (LoBiondo-Wood & Haber 2002:131). According to De Vos (2001:241), there are two well-known and recognised approaches to science, namely the qualitative paradigm and the quantitative paradigm. The quantitative paradigm is based on positivism, which takes scientific explanation to be nomothetic (based on universal laws). Its main aims are to objectively measure the social world, to test hypotheses and to predict and control human behaviours. In contrast, the qualitative paradigm stems from an antipositivist, interpretative approach, is idiographic, thus holistic in nature, and the main aim is to understand social life and the meaning that people attach to everyday life.

In true quantitative and positivist fashion, the researcher gathered data for the current study through a self-designed questionnaire. This enabled the researcher to explore the knowledge, attitudes and perceptions regarding HIV/AIDS, and the sexual behaviours of senior secondary school learners in the city of Kumba, Cameroon. A detailed explication of positivism is given in chapter 2 of this thesis.

### **1.13.1 Research design**

A research design is a blue print for conducting a study that maximises control over factors that could interfere with the validity of the findings (Babbie & Mouton 2002:72; Burns & Grove 2005:211; Polit & Hungler 1995:32). The research design could therefore be equated to the end result of a series of decisions made by the researcher concerning how the study will be implemented. The design is closely associated with the framework of the study and guides planning for implementation of the study (Burns & Grove 2005:211). Bless and Higson-Smith (2000:63); Burns and Grove (2003:195); LoBiondo-Wood and Haber (2002:188); as well as Polit and Hungler (1999:155) add that in quantitative research such as the current research, the design is the researcher's overall plan for obtaining answers to research questions or for testing research hypotheses.

For the current study, the design used to explore the knowledge, attitudes and perceptions regarding HIV/AIDS and the sexual behaviours of senior secondary school learners in Kumba, Cameroon, was the quantitative design, being of positivist, descriptive, explorative, and correlational in nature.

In order to meet the objective of describing the learner's knowledge, attitudes and perceptions regarding HIV/AIDS, and their sexual behaviours, the researcher used a self-designed questionnaire for the current study. Sternberg (2003:20) states that a questionnaire is suitable for "an individual's own account of cognitive processes." Knowledge, attitudes and perceptions regarding HIV/AIDS are all cognitive processes in the understanding of issues regarding HIV/AIDS. Brink (2001:153) states that the strength of a questionnaire is that it "can be distributed to a large sample thereby abundant information can be collected within a short space of time with lesser expense." This is corroborated by Burns and Grove (2005:398); LoBiondo-Wood and Haber (2002:304) as well as Polit & Hungler (1999:349).

The design was chosen as it facilitates the evaluation of the research instruments and techniques (Burns & Grove 2003:27-28; Lo-Biondo Wood & Haber 2002:222, 229-231; Polit & Hungler 1999:184; Wilson 1993:135, 335) and for reasons as explicated by the assumptions underlying the current study (also see section 1.10 of this thesis). The research design is described in more detail in chapter 4 of this thesis.

### **1.13.2 Research instrument and techniques**

According to Burns and Grove (2005:398), a questionnaire is a printed self-report form designed to elicit information that can be obtained through the written responses of the subjects.

The research techniques employed in the current study was questioning by means of a self-designed structured questionnaire comprising close-ended items and questions regarding biographical characteristics of respondents (Wilson 1993:223) and items and questions relating to the research topic. Babbie (2005:254) states that although the term questionnaire suggests a collection of questions, an examination of a typical questionnaire such as the one used for the current study, will probably reveal as many statements as questions. This is not without reason. The researcher in the current study is interested in determining the extent to which respondents hold a particular attitude or perspective, regarding HIV/AIDS. The respondents completed the questionnaires themselves. The research instrument and data collection procedure are described in more detail in chapter 4 of the thesis.

### **1.13.3 Population/sampling design**

A population is a well-defined set that has certain specified properties. The population can be composed of people, animals, objects or events that meet certain criteria for inclusion in a given universe (Burns & Grove 2005:40; LoBiondo-Wood &

Haber 2002:240). For the purpose of the current study, the population refers to all the senior secondary school learners in Cameroon.

The population criteria establish the target population; that is, the entire set of cases about which the researcher would like to make generalisations and who meet the sampling criteria (Burns & grove 2005:342; LoBiondo-Wood & Haber 2002:242). For the current study the target population refers to all the senior secondary school learners in the city of Kumba. Because of time, money and personnel, however it is often not feasible to pursue using a target population. An accessible population, that is the portion of the target population that meets the population criteria, to which the researcher has reasonable access, is used instead (Burns & Grove 2005:342; LoBiondo-Wood & Haber 2002:242, 247; Polit & Beck 2004:289-290). For the current study, the accessible population refers to senior secondary school learners registered at different grade levels in the two participating high schools in Kumba, who met the stated sample eligibility criteria.

Sampling involves selecting a group of people, events, behaviours or other elements with which to conduct a study. A sample is a subset of elements that make up the population. The sample is obtained from the accessible population, and findings are generalised first to the accessible population and then, more abstractly, to the target population (Burns & Grove 2005:341-342; LoBiondo-Wood & Haber 2002:242).

A proportional, stratified, simple random sample was the sampling method used for the respondents in the current study (Burns & Grove 2005:348; LoBiondo-Wood & Haber 2002:249-250). Probability sampling was used in the current study because it increased the likelihood that all elements in the population would have an equal chance of being included in the sample (Brink, Van der Walt & Van Reusberg 2006:126). To obtain the sample, the researcher used the school attendance registers of the learners as the sampling frame.

Brink (2001:134), as well as De Vause (1998:77) state that a list of all the subjects of the population under study ("the sample frame") is a prerequisite for probability sampling. So the sampling frame for the current study consisted of a consecutively

numbered name list of senior secondary school learners (respondents) from form five to upper sixth (grade level 10 to 12) from the two participating high schools in the city of Kumba (Babbie 2005:206; Burns & Grove 2005:346; Lobiondo-Wood & Haber 2002:247,249; Polit & Beck 2004:295,297).

The respondents were stratified at different grade levels, that is form five (grade level 10), lower sixth (grade level 11) and upper sixth (grade level 12). After the stratification, a proportional simple random sample was selected. All the numbers corresponding to the name list were placed in a container and eighty respondents from each grade level who met the stated sample eligibility criteria were selected. The sampling procedure is discussed in more detail in section 4.5.2.4 of this thesis.

The intention of the researcher was to use learners from all the high schools in Kumba but due to time, logistics and financial constraints, only learners from two high schools were included in the sample.

#### **1.13.4 Data collection method**

Data collection is the precise systematic gathering of information relevant to the research purpose or the specific objectives, questions or hypotheses of a study (Burns & Grove 2005:733). Data for the current study were collected by means of a self-designed questionnaire. The questionnaires were administered to a sample of senior secondary school learners (respondents) in two high schools in Kumba during a normal class period.

#### **1.13.5 Pre-testing of the questionnaire**

In order to detect any problems that may be encountered during the current study, the questionnaire was pre-tested.

The reasons for pre-testing are to clarify instructions, relevancy, usability and completion time, to refine and introduce modifications where necessary and to ascertain reliability and validity (Bless & Higson-Smith 2000:52; Burns & Grove 1999:40; De Vos 1998:395-396; Mouton 2001:103-104; Polit & Hungler 1999:320-321; Polit & Beck 2004:51,196,727).

During the pre-testing phase a proportional simple random sampling method was used to select a sample of 20 respondents who were senior secondary school learners from the two participating schools, but who did not participate in the actual study (Burns & Grove 1999:40; Polit & Beck 2004:354). The sampling procedure is discussed in more detail in section 4.5.2.4 of this thesis.

#### **1.13.6 Data analysis**

Data for the current study were analysed by means of descriptive statistics such as tables, graphs, measures of central tendency and standard deviations.

Statistical analyses used included the Chi square test, multiple regression analysis and Wilcoxon signed ranked test (Babbie 2005:435, 484; Burns & Grove 2005:484, 525-532; LoBiondo-Wood & Haber 1994:412, 415; LoBiondo-Wood & Haber 2002:332, 336, 342-343,348-354, 357-358; Polit & Hungler 1999:439, 469, 489, 502). The statistical package for social sciences (SPSS) version 12 was used to analyse the data. In the current study, a proportional, stratified, simple random sampling method was used.

#### **1.13.7 Validity and reliability**

Validity and reliability are important variables that determine a good quantitative research. This also forms part of the scientific integrity of the researcher. Reliability refers to the consistency, constancy or dependability, accuracy and precision with

which an instrument measures the attributes it is designed to measure (Burns & Grove 2005:749; LoBiondo-Wood & Haber 2002:499; Polit & Beck 2004:416; Polit & Hungler 1999:713). This may not be the intended phenomenon as the latter refers to validity. So there can be reliability without validity but not validity without reliability.

Validity refers to the relevance of the measuring instrument. A valid measuring instrument measures the concepts or constructs it claims to measure (Burns & Grove 2005:755; LoBiondo-Wood & Haber 2002:502; Polit & Beck 2004:422; Polit & Hungler 1999:717).

Reliability of the research instrument used for the current study was tested using the coefficient alpha (Cronbach's alpha) (Burns & Grove 1999:320-321; LoBiondo-Wood & Haber 2002:325-326; Polit & Beck 2004:489, 494-495; Polit & Hungler 1999:415). The following types of validity were also established: face validity, content validity, construct validity and criterion validity. These are discussed in detail in chapter 4 of this thesis.

#### **1.14 SCOPE AND LIMITATIONS OF THE STUDY**

According to Burns and Grove (2005:39), limitations are restrictions or problems in a study that may decrease the generalisability of the findings. The two types of limitations in quantitative research applicable to the current study are theoretical and methodological limitations (Burns & Grove 2005:39).

Limitations applicable to the current study pertain to the Hawthorne effect, population and sample, and issues relating to data collection and analysis. Burns and Grove (1999:465); Burns and Grove (2005:738); Polit and Beck (2004:180, 218-219, 719) as well as Polit and Hungler (1999:184-185,703) 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. They further state that this effect is difficult to control.

It was assumed in the current study that the respondents would be objective and truthful in the information they would give in response to the questionnaire items. This might not be so. For the mere fact that the respondents knew that they were under study, they might have given responses to questions 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 expected.

The sample was small and homogenous as it was limited by participants from only two high schools in the city of Kumba. Because of economic factors, some adolescents who cannot afford secondary education, and who are dropouts could therefore not be included in the study. The inclusion of more learners and high schools might have had some effect on the results of the current study. The inclusion of more high schools and learners will increase the sample size and provide a larger variety of respondents. This is discussed in chapter 6 of this thesis.

## **1.15 ETHICAL CONSIDERATIONS**

The conduct of research requires not only expertise and diligence but also honesty and integrity (Burns & Grove 2005:176). Babbie (2005:61); LoBiondo-Wood and Haber (2002:492); as well as Polit and Hungler (1999:701), define ethics as “a set of widely accepted moral principles that offers rules for, and behavioural expectations of the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and learners.” The following ethical issues were considered in the current study: rights of the respondents, rights of the institution and scientific honesty on the part of the researcher.

### **1.15.1 Ethical considerations relating to the respondents**

The following ethical considerations ensured that the respondents' rights were not violated (Burns & Grove 2005:181; LoBiondo-Wood & Haber 2002:273):

- The respondents' self-determination was ensured by providing verbal and written information about the study (Burns & Grove 2005:181; LoBiondo-Wood & Haber 2002:273; Polit & Hungler 1999:136).
- The respondents were free to withdraw from the study if and when they desired to do so (Babbie 2005:62; Polit & Hungler 1999:137).
- Ensuring anonymity and confidentiality of the information provided enhanced the respondents' right to privacy. This means that the respondents remained anonymous in the reports and publication of the study (Babbie 2005:64; Burns & Grove 2005:188; LoBiondo-Wood & Haber 2002:276). (See chapter 4 of this thesis for more detail).
- The respondents were given opportunities to give voluntary written consent to participate in the study (Babbie 2005:64; Burns & Grove 2005:193; LoBiondo-Wood & Haber 2002:273; Polit & Hungler 1999:140).

### **1.15.2 Ethical considerations relating to the institutions where the study was conducted**

Permission to conduct the study was sought and obtained from the principals of the two participating schools. The survey requires learners to complete the questionnaires only. No harm or discomfort was inflicted on any respondent or any non-respondent. The researcher's telephone numbers were provided in case any respondent wished to discuss anything with the researcher during or after completing the questionnaire (Babbie 2005:70; Burns & Grove 2005:199).

### **1.15.3 Scientific integrity of the researcher as ethical consideration**

The researcher will generate knowledge through honest conduct, reporting and publication of research results. The researcher is aware that scientific misconduct has to be identified and reported in order to maintain the quality of the research results and report (Burns & Grove 1999:178-180; Burns & Grove 2005:203-206; De Vos 2001:30). All the sources of literature reviewed in the current study, are acknowledged in the form of bibliography at the end of the report. The ethical considerations pertaining to the current study are explained in detail in chapter 4 of this thesis.

## **1.16 OUTLINE OF THE THESIS**

The thesis comprises 6 chapters:

Chapter 1: Introduction and overview of the study.

Chapter 2: Metatheoretical and theoretical grounding

2.1: Metatheoretical grounding: positivism and quantitative research

2.2: Theoretical and conceptual grounding: The Health Belief Model (HBM).

Chapter 3: Literature review (structured according to the HBM)

Chapter 4: Research design (based on positivism and quantitative research).

Chapter 5: Presentation and discussion of data

(structured according to the questionnaire and the HBM).

Chapter 6: Conclusions, limitations and recommendations.

## **1.17 SUMMARY**

The current chapter outlined the background to the study, the objectives and significance of the study.

The researcher defined key terms, discussed the assumptions and theoretical framework and briefly described the research design and methodology, the data-collection instrument and ethical considerations.

The following chapter details the meta-theoretical and theoretical grounding of the current study.

## CHAPTER 2

### METATHEORETICAL, PARADIGMATIC AND THEORETICAL GROUNDING

#### 2.1 INTRODUCTION

The researcher utilised the quantitative approach for the current study. The quantitative paradigm is based on positivism, which takes scientific explanation to be nomothetic. It aims to measure the social world objectively, to test hypothesis and to predict and control human behaviours (De Vos 2001:241). A quantitative study may therefore be defined as an enquiry into a social or human problem, based on testing a theory composed of variables measured with numbers and analysed with statistical procedures in order to determine whether the predictive generalisation of the theory holds true (Cresswell in De Vos 2004:79). Positivist research is premised on the view that the methods of physical sciences can be applied to questions in social sciences (Thomson 1981; Usher 1996). The researcher chose this approach because he wanted to measure certain variables and quantify them. The researcher also wanted to come closer to the possibility of generalising the research findings.

The HBM was identified as the framework for the current study as the variables knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours are reflected by the health belief system of the individual learner; and the community as a whole is accommodated by the HBM.

The HBM, though a humanistic model was developed from the logical positivist paradigm (Thomas 1995:246). It stands out among social-psychological models of health related behaviour, and is basically a “value expectancy” model developed to explain an individual’s health actions under conditions of uncertainty. The perceived value of an outcome and expectations that a given action will result in that outcome, are

considered to influence behaviour (Harrison, Mullen & Green 1992:107). This chapter provides a critical overview of positivism and quantitative research; and the HBM.

## **2.2 METATHEORETICAL GROUNDING: POSITIVISM AND QUANTITATIVE RESEARCH**

### **2.2.1 Defining terms**

#### **2.2.1.1 *Paradigm (meta-theoretical approach)***

A paradigm can be defined as an overarching philosophical or ideological stance, a system of beliefs about the nature of the world, and ultimately when applied in the research setting, the assumptive base from which we go about producing knowledge (Babbie 2005:486; De Vos 2001:12; LoBiondo-Wood & Haber 2002:127; Polit & Hungler 1999:710). Mouton and Marais (1990:12) refer to paradigms as collections of metatheoretical, theoretical and methodological beliefs, which have been selected from the intellectual climate and the market of intellectual resources of a particular discipline. The concept “paradigmatic research” refers to research which is conducted within the framework of a given research tradition or paradigm. Paradigms for human inquiry are often characterised in terms of the ways in which they respond to basic philosophical questions:

- Ontology: What is the nature of reality?
- Epistemology: What is the relationship between the inquirer and that being studied?
- Axiology: What is the role of values in the inquiry?
- Methodologic: How should the inquirer obtain knowledge?

Disciplined inquiry is conducted mainly within two broad paradigms, which have legitimacy for research: positivist paradigm and naturalistic paradigm (Polit & Hungler 1999:10-12). In the current study, a quantitative research paradigm is used.

### **2.2.1.2      *Meta-theory***

Chinn and Kramer (1999:255) define metatheory as “*theory about theory and the processes for the development of the theory.*” The theory focuses on philosophical and methodological questions related to the development of a theory.

Ritzer (2002:1) concurs: “A metatheory is a broad perspective that overarches two or more theories.” Metascientific reflections on social enquiry resulted in two schools, known as the meta-theories of science namely, *positivism and anti-positivism*. These schools differ in their ontological and epistemological positions, and as such use different methodologies (Polit & Hungler 1999:10-12). From these two schools emerged two *paradigms* which Babbie and Mouton (2001:20), and Mouton (2006:141) regard as the most influential, namely *quantitative and qualitative* paradigms. The current study makes use of the positivist metatheory. The epistemological, methodological and ontological commitments underlying the current study have been discussed in chapter 1 of this thesis (see sections 1.10.1; 1.10.2; & 1.10.3 respectively).

### **2.2.1.3      *Theory***

A theory is a way of explaining some segment of the empirical world. It consists of a set of concepts that are defined and interrelated to present a view of a phenomenon and can be used to describe, explain, predict, or control that phenomenon (Burns & Grove 2005:9, 754; LoBiondo-Wood & Haber 2002:109; Polit & Hungler 1999:24, 716). A theory is developed from a combination of personal experiences, research findings and abstract thought processes. Findings from research may be used as a starting point, with the theory emerging as the theorist organises the findings to best explain the empirical world (Burns & Grove 2005:9). In the positivist tradition, theory is what guides

the establishment of an a priori hypothesis and establishes the conditions under which the hypothesis will be tested.

#### **2.2.1.4 Model**

A conceptual model is “a set of highly abstract, related constructs that broadly explains phenomena of interest, express assumptions, and reflects a philosophical stance” (Burns & Grove 2005:128; LoBiondo-Wood & Haber 2002:490). A number of conceptual models have been developed, including Roy’s Adaptation Model (1984, 1988 & 1990) and Orem’s Self-care Model (2001). This is corroborated by LoBiondo-Wood and Haber (2002:496). A theory is narrower and more specific than a conceptual model and is directly testable. It is the statements of a theory or model that are tested through research, not the theory or said model (Burns & Grove 2005:133). “A framework is the abstract, logical structure of meanings that guides the development of the study and enables the researcher to link the findings to the existing body of knowledge” (Burns & Grove 2005:737). If the research is conducted within a context of a theoretical framework, the model will help to organise the study, examine the problem, gather and analyse data. A conceptual framework is mostly self-designed and is based on the literature review.

According to Burns and Grove (2005:141, 144), a framework that includes a conceptual model has the following elements:

- Constructs from the conceptual model
- Definition of constructs from the conceptual model
- Statements linking the constructs
- Concepts that represent portions of the selected constructs
- Conceptual definitions compatible with construct definitions
- Statements linking the concepts that express a tentative or substantive theory
- Selection of variables that represent portions of the concepts

- Operational definitions of the variables compatible with conceptual definitions
- Statement sets
- Conceptual map linking the constructs, concepts, and variables

According to Dennill et al (1999:156), “the HBM is developed to provide a framework to explain why some people take specific actions to avoid illness, while others fail to protect themselves.”

Many commentators, Lerner (1998), and Reese and Overton (1970) state that the important difference between formal theories and models is that the first is explanatory as well as descriptive, while the second (model) is only descriptive (although still predictive in a more limited sense) (Schick 2000:11).

The HBM was used as the model in the current study to describe the HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school students in the city of Kumba, Cameroon.

### **2.2.1.5 Hypothesis**

As stated in section 1.11 of this thesis, Babbie (2005:42) describes a hypothesis as: “A specified testable expectation about empirical reality that follows from a more general proposition; more generally an expectation about the nature of things derived from a theory. It is a statement of something that ought to be observed in the real world if the theory is correct.” Burns and Grove (2005:159) concur that a hypothesis is a formal statement of the expected relationship between two or more variables in a specified population. The hypothesis translates the research problem and purpose into a clear explanation or prediction of the expected result. Brink and Wood (1998:48) add that hypotheses are statements concerning predicted relationships between the variables under study that link a study’s theoretical framework to experimental realities. Babbie (2005:44) asserts that hypotheses are connected using rules of logic. The logic can be

inductive or deductive. A deductive hypothesis suggests assertions, which are related in a consistent way (Babbie 2005:44).

In the current study, the positivist metatheory is used to test hypothesis. Generic hypotheses based on the HBM are given sections 1.11.1; 1.11.2 and 1.11.3. These generic alternative hypotheses are related to the structure of the HBM. For null hypotheses relating to the current study, see section 4.3.3.5 of this thesis.

### **2.2.1.6      *Research***

Burns and Grove (2005:749) state: “*Research is a diligent, systematic inquiry or investigation to validate and refine existing knowledge and generate new knowledge.*”

LoBiondo-Wood and Haber (2002:499) add that research is the systematic, logical and empirical inquiry into the possible relationships among particular phenomena to produce verifiable knowledge.

Research should thus be understood as an assumption about the nature of the world and knowledge (ontology and epistemology), an orientation towards knowledge and sets of procedures, techniques as instruments for gaining knowledge. The researcher aims to become conversant with basic facts and to create a general picture of conditions.

According to Babbie and Mouton (2001:72) all empirical research conforms to a standard logic, which they call the ProDEC framework. “ProDEC refers to four elements that are standard in all forms of empirical research”:

- Research problem (Pro)
- Research design (D)
- Empirical evidence (E)
- Conclusion (C)

Research is regarded as a way of seeking information or knowledge about ourselves and the world around us. When a researcher aims at making discoveries about the world, he goes out, makes enquiries and obtains new knowledge, and uses the new knowledge to solve problems.

The current research utilised a quantitative, positivist research design, to investigate the HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school students in Kumba, Cameroon. The results of the current research will be used to implement strategies aimed at reducing the prevalence of HIV/AIDS among adolescents in Cameroon. Research developed from problems encountered in everyday life of a certain community with regard to HIV/AIDS prevalence among adolescents/students in Cameroon community. Within the structure of the HBM, one must perceive one's self as being susceptible to HIV/AIDS, and perceives the benefits of the action to prevent infection, before one can take preventive action. These perceptions depend on the exact knowledge of the preventive action, and also on the exact knowledge of the mode of transmission of HIV/AIDS. So to implement strategies that will reduce the prevalence of HIV/AIDS amongst students, it was imperative to investigate their HIV/AIDS related knowledge, attitudes and perceptions, and their sexual behaviours. It is in view of this that Leedy (1993:9) argues that the research process begins with a problem, and ends with that problem being solved. However, often the problem does not get solved by the researcher; although the research contributes towards the problem's solution.

## **2.2.2 Positivism**

### **2.2.2.1 Definition**

According to Birger and Jeppe (2007:1), positivism refers to a broad attitude about science and philosophy that in particular is ascribed to Auguste Comte (1798-1857) and

to 20<sup>th</sup> century logical positivism (that dominated about 1920-1960). Comte's central positivist claims were:

- That science is the highest form of knowledge and that philosophy therefore must be scientific
- That there is one scientific method common to all science
- Metaphysical claims are pseudoscientific.

What is today mostly termed “positivism” and often ascribed to Comte is thus far from what Comte actually wrote (Birger & Jeppe 2007:1). Polit and Hungler (1999:710) define positivism as “the traditional metatheory underlying the scientific approach which assumes that there is a fixed, orderly reality that can be objectively studied; often associated with quantitative research.” If a researcher holds a philosophical perspective that is positivistic, then the aim is to discover a single, objective reality. Posing and testing one or more testable hypotheses that reflect anticipated answers to questions about correlational relationships often could answer this reality. The researcher and components of the problem under investigation are perceived as independent and separate. The activity of investigating is perceived not to influence what the researcher is investigating; that is, one is considered to be “objective” (Shepard, Jensen, Schmoll, Hack & Gwyer 1993:89).

### **2.2.2.2      *Positivist view of the objective world***

One of the fundamental questions in philosophy is about the nature of the world. This is known as ontology or the nature of reality (Polit & Hungler 1999:10). There are three areas of research, namely: the objective world, the socially constructed world and the individually constructed world (Mouton 2006:140).

Realists take the view that there is a real objective “world, which exists independently of human belief, perception, culture and language we use to describe it” (Hart 1998:85). This world is observable and research can be used to verify using variable measures,

the existence of something. This thinking developed from the nineteenth century philosophical position known as positivism that later became known as logical positivism (Popper 1959).

The term “positivism” originally meant progressive in the belief that knowledge needed to be value free and not affected by the philosophical or cultural beliefs of the day (Framing Research 2006). Researchers who are interested in researching the objective world use what is traditionally known as scientific research. Scientific research is characterised by studies where data are gathered that critically test hypotheses. Scientific research attempts to systematise knowledge through generalisation principles. The data that are collected are usually in the form of numbers and statistics. This type of research is often referred to as quantitative research because the focus is upon quantities in relation to the subject of the study (Framing Research 2006).

Quantitative research traditionally takes a positivist approach. Positivism has its roots in research in the natural sciences - physics, chemistry and biology – and is seen to be objective. It takes the position that scientific knowledge is a direct reflection of a real and objective world. One of the ways of researching the objective world through gathering quantitative data is through a survey, using a fixed response format to generate knowledge. This type of objective knowledge is seen to be applicable to the whole population (Framing Research 2006).

That is why the participants in the current study are so carefully sampled. They have to be representative of the population under study. This type of positivist research is designed to find out truth in a real objective world. The key features of researching the objective world are displayed in table 2.1.

**Table 2.1: Key features of researching the objective world.**

<ul style="list-style-type: none"><li>• The process of research is usually deductive</li><li>• Research is based on what can be measured</li><li>• The research process is fixed at the start of the research in terms of the number of participants and the measures being used.</li><li>• A hypothesis is formulated based on previous research.</li><li>• A hypothetical – deductive method involves testing hypotheses through a survey.</li><li>• Predictable relationships (cause/effects) between objects and events are sought.</li><li>• Reliable quantitative data are collected.</li><li>• Data are collected from a representative sample of people</li><li>• Findings can be generalised.</li><li>• The researcher aims to be objective and neutral.</li><li>• Data are used to support or reject previous theory.</li></ul>
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Source: Hart (1998:83).

All the features exhibited in table 2.1 are applicable to the current study.

### **2.2.2.3      *Origin and historical development of positivism***

Positivist research is premised on the view that the methods of physical sciences can be applied to questions in social sciences (Thomson 1981; Usher 1996). Saint-Simon and his secretary, Comte, initiated such a view in the nineteenth century, giving rise to sociology as a discipline (Berger & Berger 1976; Berger & Luckmann 1979; Scruton 1982). Closely associated with this version of positivism is logical positivism, which emerged from the “Vienna circle” in the early twentieth century (Scruton 1982; Thomson 1981). It is based on the premise that only statements that are verified are meaningful (Bruner 1986; Scruton 1982; Thomson 1981).

There are two types of positivism:

- *Classical positivism*
- *Logical positivism*

### **2.2.2.3.1    *Classical positivism***

The origin of positivism indirectly stems from the work of Thomas Hobbes, a contemporary of Galileo. Hobbes argued that phenomena are observable facts or events and that everything occurring in nature can be predicted according to reproducible scientific laws. Later, Auguste Comte, the French Philosopher developed Comtean-type positivism, in which he applied the scientific method to human affairs (the human sciences or humanities). He argued for observable phenomena that are to be determined objectively, that is studied separately and distinctly from the internal reality of the researcher (Cohen 1987:31).

Positivism was cemented in sociology through Comte's idea of transforming society on the basis of science. Herbert Spencer's organic theory of society built on this. Spencer conceived of society as an organism and held that human society reflects the same evolutionary principles in its development as biological organism. The dominance of positivism in the social science came to peak in the post-war United States with the structural functionalist work of Talcott Parsons and Robert Merton, and then to Wane in the late twentieth century with the emergence of post structuralist and post modernist paradigm (Broom & Willis 2007:20).

These philosophical ideas have evolved considerably since Comte and Spencer and still form the basis for much health research today. Of course, there are now much more effective and systematic tools used to achieve the so called "truth" or produce "scientific fact". However, given the right instruments, and conditions, positivism still dominates research in the clinical and social sciences (Broom & Willis 2007:20).

### **2.2.2.3.2    *Logical positivism***

The main tenets of *logical positivism* pertain to the meaningfulness and verifiability of statements. These include that:

- A proposition is meaningful only if it is verifiable.
- A proposition is verifiable only if it can be proved or disproved or can be deduced from other propositions, which are verifiable.
- Statements that are not verifiable are cognitively meaningless although they may possess emotive meaning (Logical Positivism 2007:1). The founder of logical positivism was Ernest Mach.

Mach's epistemology was guided by:

- Parsimony. That is, logical positivism is strongly oriented towards integrating concepts or variables in the framework used in the study (Burns & Grove 2005:553).
- Reality. That is, logical positivism is based on concepts and variables in the empirical world, which is experienced through our senses, and is the concrete portion of our existence (Burns & Grove 2005:5).
- Methodology. That is, logical positivism is based on methods and procedures to develop the validity and reliability of instruments to measure research concepts and verifiable variables (Burns & Grove 2005:742; Logical Positivism 2007:1).

Around the turn of the century Mach was one of the most visible and best known scientists. Mach taught mathematics, physics and philosophy at the University of Prague and Vienna. He maintained that the better we know something, the better we can explain it (Logical Positivism 2007:1). Mach made the principle of parsimony a guiding principle of science. He concurred that science should strive for minimal theories with maximal explanatory powers. He said quantitative methods should be used to express our inner world.

The apostle of logical positivism was Moritz Schlick, who founded in 1924, the Vienna Circle (initially called the Ernst Mach Association), to promulgate logical positivism. Based on writings of Ernest Mach, logical positivism also became known as logical empiricism and underlies modern scientific enquiry (Logical Positivism 2007:2). Among

the members of the Vienna Circle were Rudolf Carnap, Hans Hahn, Otto Neurath, Herbert Feigl and Gottlob Frege. On June 22, 1936, Moritz Schlick, professor of Philosophy at the University of Vienna, died.

Another major theoretician of logical positivism was Rudolf Carnap (1891-1970), professor at Prague's Emperor Charles IV University, University of Chicago and at the University of California at Los Angeles. He is best known for his work on the mutual relationships between semantic, logic and epistemology (Logical Positivism 2007:3)

Yet another theoretician of logical positivism was Bertrand Russell (1872-1970). Bertrand was a mathematician, philosopher and Nobel Prize winner. Throughout his life, Russell showed rigor in his analyses, openness to ideas and aversion to dogma. Russell thought that it might be possible to decompose narratives into their component statements, verifiable by empirical observation, reason and logic (Logical Positivism 2007:3).

#### **2.2.2.4      *Major themes of logical positivism***

There are differences between classical positivism, introduced by the French philosopher Auguste Comte, and logical positivism which originated in the Vienna Circle, comprising a group of European scholars centred around Vienna during the 1920s and 1930s, such as M Schlick, R Carnap, H Feigl, P Frank, K Godel, H Hahn, O Neurath, and F Waismann.

In the classical sense, positivism refers to a philosophy that scientific inquiry should be empirical which led to antirealism and instrumentalism. In the Vienna Circle, besides the emphasis on empirical knowledge the theme of logical positivism is also centred on the verifiability principle of meaning and logic analysis (Philips 2000). In addition, Comte founded classical positivism with the goal of systematisation of sociology, but logical positivism covers a wide variety of philosophical topics such as philosophy of language, symbolic logic, philosophy of science and philosophy of mathematics. Further, classical positivism is basically a single movement whereas logical positivism is the result of

interactions among several movements such as analytical philosophy, logical atomism and semantics.

Table 2.2 highlights the differences between these two schools of thought.

**Table 2.2: Differences between classical positivism and logical positivism.**

	<b>Classical Positivism</b>	<b>Logical Positivism</b>
Emphasised source(s) of knowledge	Empirical	Empirical and logical
Focus Areas	Sociology	Philosophy of language Symbolic logic Philosophy of science Philosophy of mathematics
Development	Single Movement	Analytical philosophy Logical atomism Logical empiricism Semantics

Source: Ho Yu (2003:8)

Werkmeister (1937) identified seven major themes of logical positivism based upon articles and books written by members of the Vienna Circle. These include that:

- Knowledge is knowledge because of its form. Content is non-essential.
- A proposition is meaningful if only if it can be verified
- There is only empirical knowledge
- Metaphysics is meaningless
- All fields of enquiry are parts of a unitary science: physics
- The propositions of logic are tautologies
- Mathematics can be reduced to logic.

Although Werkmeister's outline captures the essence of logical positivism promoted by the Vienna Circle, later logical positivism expanded beyond this community, and many logical positivists do not hold some of the Vienna Circle's notions. Hacking (1983) developed a framework for logical positivism, which represents the common threads of most logical positivists. According to Hacking, there are six major themes of positivism (Ho Yu 2003:8). These include:

- Emphasis on verification. That is, truth is absolute (Burns & Grove 2005:23).
  - Pro-observation. That is, based on measurements (Burns & Grove 2005:23).
  - Anti-cause. That is, against determinism, which is the belief that phenomena are not random events but rather have antecedent causes (Polit & Hungler 1999:10).
  - Down playing explanation. That is, scientific explanation is nomothetic (based on universal laws).
  - Anti-theoretical entities. That is parsimony (integration of concepts within a framework) (Burns & Grove 2005:553).
  - Anti-metaphysics. That is against abstract, speculative reasoning.
- Logical positivism accepts all these notions and adds an emphasis on logical analysis. Today, when many authors discuss the relationship between positivism and research methodology, the context is situated in logical positivism rather than classical positivism.

For example, Bogdan and Taylor (1975) explicitly contrasted qualitative and quantitative methodologies in the frameworks of phenomenological and logical positivist philosophies respectively.

#### **2.2.2.5      *Positivism as it applies to the research purpose***

The purpose of research will be different depending on the philosophical perspective from which the researcher asks the questions. If the researcher comes from a positivistic tradition, he or she will adopt a descriptive, correlational (explanatory), explorative and predictive study; usually including the study variables, population and setting for the study (Burns & Grove 2005:36; Polit & Hungler 1999:17).

In positivist research, the researcher begins with a phenomenon that has been previously studied or defined (Polit & Hungler 1999:16). Thus in positivist research,

identification usually precedes the inquiry and description involves the prevalence, size, incidence and the measurable attributes of the phenomenon. In this respect, the purpose of the current study was to describe the knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours of senior secondary school students in Kumba, Cameroon. Positivist research is also explorative. Like descriptive research, explorative research begins with some phenomenon of interest, and investigates the full nature of the phenomenon, the manner in which it is manifested, and the other factors with which it is related (Polit & Hungler 1999:17). In this regard, the current study explored the knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours of senior secondary school students in Kumba, Cameroon. The goal of explanatory research is to understand the underpinnings of specific natural phenomena and to explain systematic relationships among phenomena (Polit & Hungler 1999:18). In positivist research, theories are used deductively as the basis for generating explanations that are then tested empirically. That is, based on some previously developed theory or body of evidence, the researcher makes specific explanations. In the current study various correlational relationships were sought, using the HBM.

#### **2.2.2.6      *Positivism as it applies to the research design***

The selection of the research design follows naturally from the philosophical perspective and the stated purpose of the study (Shepard et al 1993:92). With positivistic traditions, the choice of design is likely to be experimental, quasi-experimental descriptive or survey; and these designs are built around a priori hypotheses that can be confirmed or rejected. Data are usually numerical (quantitative) or categorical and data analysis is directed towards testing, verifying or predicting specific identifiable human behaviours or physical phenomena. The current study is built on a quantitative, positivist non-experimental design to investigate the HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school students in Kumba, Cameroon.

### **2.2.2.7      *Positivism with regard to the research method***

Measurement is the process of assigning “numbers” to objects (or events or situations) in accord with some rules (Burns & Grove 2005:41). In a positivist method, a component of measurement is instrumentation, which is the application of specific rules to the development of a measurement device or instrument. Following a positivist approach, an instrument is selected to examine a specific variable in a study. Selection of an instrument requires extensive examination of its reliability and validity. Reliability is concerned with how consistently the measurement technique measures a concept; while validity of an instrument is the extent to which the instrument actually reflects the abstract concept being examined (Burns & Grove 2005:41). The instrument used in the current study to collect quantifiable data from respondents was a self-designed questionnaire. For a detailed explication of the data collection instrument with regard to the current positivist research, see section 4.6.1 of this thesis; while for more on reliability and validity of the instrument, see sections 4.6.3.1 and 4.6.3.2 of this thesis respectively.

According to Burns and Grove (2005:42), in positivist research, data collection involves the generation of numerical data to address the research objectives, questions and hypotheses. To collect data, the researcher must obtain permission and consent from the setting or agency where the study is to be conducted and potential subjects. The subjects are asked to sign a consent form, which describes the current study, promises them confidentiality and indicates that the subjects can stop participation at any time. The current positivist research adhered to all these issues. (See sections 4.8.1.1, 4.8.1.3 & 4.8.2.1 of this thesis).

According to Polit and Hungler (1999:219), a major function of research design for most research questions addressed through positivist procedure is to maximise the amount of control that the researcher has over the research situation and variables. In the current positivist research the researcher took a number of steps to minimise situational

contamination, by making the conditions under which the data were collected as similar as possible for every participant in the study. The current study was conducted in a natural college setting, which was common to all the respondents (see section 4.5.2.6 of this thesis). In the current study, control was also achieved through randomisation in the selection of respondents, pretesting of the data collection instrument, and the assessment of the internal and external validities of the research design. These are explicated in sections 4.5.2.3, 4.6.1.5, 4.6.3.3.1 and 4.6.3.3.2 of this thesis respectively.

### **2.2.2.8      *Positivism as it applies to reliability and validity***

An underlying foundation for both the research design and method for the researcher who uses the positivist approach is upholding the concepts of reliability and internal and external validities (Shepard et al 1993:92). Campbell and Stanley (1966) laid the groundwork for much of the current thinking and behaviours regarding these concepts. Reliability is based on the assumption that there is a single reality and, if this reality is studied repeatedly, the same results will appear (Merriam 1988:170). For example, to ensure reliability of measurement, operational definitions (what to do and what to look for) are established by the researcher and used as prescribed guidelines for researcher and subject behaviours (Merriam 1988; Michels 1982:832). For operational definitions pertaining to the current study see section 1.12 of this thesis. For reliability of the research instrument, see sections 1.13.7 and 4.6.3.1 of this thesis. The concept of internal validity refers to causal relationships. For example, in environmental studies, does the independent (experimental, intervention) variable make a difference in the study such that a cause-and-effect relationship can be inferred? Control of outside influences is important so the researcher can infer, if possible, this causal relationship (Campbell & Stanley 1966). External validity is concerned with the generalisability of the study. For example, to what populations, settings, treatment variables and measurement variables the effect can be generalised (Campbell & Stanley 1966). A study must be externally valid before it can be considered to have generalisability

(Merriam 1988:174; Campbell & Stanley 1966). For issues concerning validity in the current research, refer to sections 1.13.7 and 4.6.3.2 of this thesis.

#### **2.2.2.9      *Positivism as it relates to research data***

The data gathered and analysed from the positivistic perspective are typically quantitative, implying that it is either numerical data, or nominal data in the form of single words or phrases, which are then quantified (Shepard et al 1993:94).

Because there are many different types of analyses to choose from the challenge for the researcher is to select a form of analysis that is most appropriate for both the type of data collected (nominal, ordinal, interval, ratio) and the projected relationships among the data as determined by a priori hypotheses. The outcomes of this data analysis are reported as numerical significance or lack of significance (Shepard et al 1993:94). If hypotheses are stated, they are accepted as being true or they are not accepted. If the purpose of the research is descriptive, the findings are conveyed by descriptive and correlational statistics (Burns & Grove 2005; LoBiondo-Wood & Haber 2002; Polit & Hungler 1999). For data collection and data analysis in the current study see sections 4.6 and 4.7 of this thesis respectively.

#### **2.2.2.10      *Positivism as it relates to theory in research***

Theory appears at the entrance and exit of all quantitative research processes. It is what guides all research endeavours. For definition of theory, see section 2.2.1.2 of this thesis. In the positivist tradition, theory is what guides the establishment of priori hypotheses and establishes the conditions under which the hypotheses will be tested (Tammivaara & Shepard 1990:580).

In the current study, the hypotheses were formulated based on the HBM, which is the theoretical framework used for the current study; forming part of the title of the current study. (See sections 1.11 & 4.3.3 of this thesis).

### **2.2.2.11      *Features of a positivist paradigm***

According to Broom and Willis (2007:22), positivism has the following five main features:

#### **2.2.2.11.1 Determinism**

Determinism is the belief that phenomena are not haphazard or random, but rather have antecedent causes; an assumption in the positivist paradigm (Burns & Grove 2005:127; Polit & Hungler 1999:10, 700). The roots of the notion of determinism surely lie in a very common philosophical idea, the idea that everything can, in principle, be explained, or that everything that is, has a sufficient reason for being and being as it is, and not otherwise (Polit & Hungler 1999:10).

Determinism thus opposes the doctrine of free will – that all man’s volitions are invariably determined by pre-existing circumstances. This has implications for the current study in the sense that students’ sexual behaviours, and their ability to take preventive measures against HIV/AIDS is determined by pre-existing natural laws and not by their risk perceptions of and susceptibility to HIV/AIDS. This type of argument could lead in the humanities to fallacies such as that “knowledge” would automatically lead to appropriate actions and behaviours. Consequently positivism in the present day format, relates to probability rather than to determinism. However the notion of determinism still applies to quantitative research and more specifically to the natural sciences

### **2.2.2.11.2 Probability**

In quantitative positivist research, the researcher can never prove the scientific hypothesis but can show support for it by rejecting the null hypothesis, that is, by showing that the null hypothesis has a high probability of being incorrect. The probability of an event is the event's long-run relative frequency in repeated trials under similar conditions (Burns & Grove 2005:127; LoBiondo-Wood & Haber 2002:350). LoBiondo-Wood and Haber (2002:127) stress that it is the notion of repeated trials that allows researchers to use probability to test hypotheses.

During the current study all the stated hypotheses (both generic & specific) are tentative statements, which means that they provide for probability and are not presented as immutable truths.

### **2.2.2.11.3 Objectivity**

Objectivity refers to the degree to which two independent researchers can arrive at "scores" or make similar observations regarding the concepts of interest, that is, make judgments regarding respondents' attributes or behaviours that are not biased by personal feelings or beliefs (Babbie 2005:40; Bless & Higson-Smith 2000:4; De Vos 2001:350; Polit & Hungler 1999:311, 709). Objectivity also refers to the proper distance between the researcher and the respondents that minimises bias and is achieved through such procedures as instrumentation and randomisation. Objectivity is considered a desirable attribute within the positivist paradigm (De Vos 2001:350; Polit & Hungler 1999:311). In the current study objectivity was maintained by the fact that the researcher maintained neutrality in the processes of sampling of respondents and collection and analysis of data collected. (See sections 4.5.2.3, 4.6 & 4.7 of this thesis respectively).

#### **2.2.2.11.4 Quantification**

Data that will be subjected to statistical analysis must be gathered in such a way that they can be quantified. For statistical analysis in a positivist paradigm, all variables must be quantitatively measured (Polit & Hungler 1999:311). For the current study, quantitative data regarding students' knowledge, attitudes and perceptions regarding HIV/AIDS and condoms; and their sexual behaviours, were collected through the use of a self-designed questionnaire, and analysed statistically, in order to test the hypotheses generated for the study.

#### **2.2.2.11.5 Reliability**

Reliability is the consistency, constancy, or dependability; accuracy and precision with which an instrument measures the target attributes (Burns & Grove 2005:374; LoBiondo-Wood & Haber 2002:319-327; Polit & Hungler 1999:713). This means that administering the same instrument by various researchers will provide the same results under comparable conditions (De Vos, Strydom, Fouche & Delport 2005:163). For more on reliability of the data collection instrument and the research design, see section 4.6.3.1 of this thesis.

#### **2.2.2.11.6 Generalisability**

Generalisability refers to the degree to which the research procedures justify the inference that the findings represent something beyond the specific observations on which they are based; in particular, the inference that the research findings can be generalised from the sample to the entire population (Burns & Grove 2005:342, 737; LoBiondo-Wood & Haber 2002:372, 493; Polit & Hungler 1999:13, 703). In the current study, a random probability sampling technique was used to select the sample (see sections 1.13.3 & 4.5.2.3 of this thesis). This enabled the results of the current study to

be generalised to the target population of senior secondary school learners at the two participating schools in Kumba.

### **2.2.2.12      *The central tenets of positivism***

#### **2.2.2.12.1 Objectivity**

The central tenets of positivism as they appeared in twentieth century philosophy of science firstly include the belief that the scientific study of society should be confined to collecting information about phenomena, which can be objectively observed and classified.

The reliance on objectivity is one of the central tenets of positivism. This is to assume the physical world exists independently of human interests. Bernstein (1983:8) thus defines objectivity as “the basic conviction that there is or must be some permanence, a historical matrix or framework to which we can ultimately appeal in determining the nature of rationality, knowledge, truth reality, goodness, or rightness.”

Research from this view is seen to be objective because personal views are not considered to be impinging on the research undertaking. As such, objectivity in positivist research makes claims to a lack of bias and to the value of neutrality, where facts are generated and laws are determined or applied (Lindlof 1995; Usher 1996).

It is through notions of objectivity that claims of “truthfulness” in positivist research are made (Bernstein 1983:8). To undertake objective research in the positivist tradition deliberately places distance between the researcher and the objects being researched. This is in order to eliminate or at least minimise the influence of the researcher on what is being researched. Positivist research facilitates the generation of generalisation from which it is asserted, so that predictions can be made (May 1997). In the current study the use of confidentiality and anonymity ensure objectivity.

Durkheim agrees that sociologists should confine themselves to studying social facts; he claims, “consider social facts as things.” In other words, the facts of the social world for example, institutions, beliefs and customs – they should all be considered as things in the same way as the objects and the events of the natural world (Free Online Research Papers 2009). Thus positivism is the application of natural sciences dictates of measurement, verifiability, value freeness and the like to aspects of human experiences such as knowledge, perceptions, attitudes and behaviours.

#### 2.2.2.12.2 Statistical data

Another aspect of positivism concerns the use of statistical data, as many positivists believed it is possible to classify the social world in an objective way. It is then possible to count sets of observable social facts and so produce statistics. This method of looking for and establishing correlations between social facts is another aspect of early positivism (Free Online Research Papers 2009).

#### 2.2.2.12.3 Causality

The search for a causal connection is a central tenet of positivism; this is when there is a strong correlation between two or more social phenomena. A positivist might then believe that one of these phenomena is causing the other to take place. In order to overcome the problem of spurious correlation, Durkheim devised a technique known as multi-variate analysis (Free Online Research Papers 2009). This involves trying to isolate the effect of a particular independent variable upon the dependent variable(s). The dependent variable is the “thing” that is caused. The independent variable is the factor that causes the dependent variable; for example: gender. In the current study, a series of correlational relationships were sought, such as gender and condom use, perceptions of HIV/AIDS and condom use.

#### 2.2.2.12.4 Value freedom

The positivist approach also highlights the concept of value-freed research. This is the view that sociology and other sciences can and should conduct research according to the dictates of science; excluding any influence of the researcher's own values. This in turn will make the research more reliable (Free Online Research Papers 2009).

#### 2.2.2.12.5 Experimental and hypothesis testing

Currently, theory and research in public health education are based virtually exclusively on the tenets of logical positivism. In one widely used textbook, Glanz, Lewis and Rimer (1990:23) state: "In health education and health behaviour, the dominant perspective that supports the largest body of theory and research is that of logical positivism." Experiment and hypothesis testing are both attributes of positivism.

For the purpose of the current study, positivism is the application of the natural sciences' dictates of measurement, verifiability and value freeness to aspects of human experiences such as knowledge, perceptions, attitudes and behaviours.

#### 2.2.2.12.6 Generalisation

Generalisation is the degree to which the results of the study can be applied from a sample to a larger population (Polit, Beck & Hungler 2001:462). Generalisation is more feasible if the probability sampling method is used since the subjects in the population then have an equal chance of being selected to participate in the study. This requirement was met during the current study. So the result of the current study could be generalised to the target population of learners at the two participating secondary schools in Kumba.

The American Psychological Association (APA) specifies guidelines for producing research articles consistent with positivist metatheory and a quantitative paradigm (Rogers 2000:75). These include:

- The use of objective third person point of view.
- Emphasis on precision, with mathematics as a model.
- Avoidance of metaphors and other expressive uses of language.
- Support claims with experimental, empirical evidence.

The current research adheres to these guidelines. Quantitative positivist research favours rigorous, precise measures and tests hypotheses by analysing numbers (Neuman 2000:66).

These central tenets highlighted above and others are summarised in table 2.3.

**Table 2.3: Central tenets of positivism.**

<ul style="list-style-type: none"> <li>• Objectivity</li> <li>• Statistical data</li> <li>• Causal connection</li> <li>• Value freedom</li> <li>• Experimental</li> <li>• Hypotheses testing</li> <li>• Reliability</li> <li>• Generalisability</li> </ul>	<ul style="list-style-type: none"> <li>• Probability</li> <li>• Quantification</li> <li>• Correlational</li> <li>• Verification</li> <li>• Prediction</li> <li>• Randomisation</li> <li>• Generalisation</li> </ul>
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Source: Broom & Willis (2007:22); Glanz, Lewis & Rimer (1990:23); Shepard et al (1993:92)

### **2.2.2.13 Two functions of a positivist metatheory**

At the core of positivism is the verification principle. According to the verification principle, one can distinguish valid knowledge from mere personal opinion if and only if there is a means to confirm such knowledge (that is to verify the truth of any given statement) (Buchanan 1998:441).

To test their validity, statements need to be re-cast as correlational hypotheses of the “if-then” form: If X occurs, the Y will result. For example, to test whether attitudes are related to behaviours we need to reframe the statement as a hypothesis like this: ‘there is a positive correlation between attitudes and behaviours. We can then test whether attitudes are in fact related to behaviours’ (Buchanan 1998:441).

The current research does not involve verification in the sense that control groups were not used. Verification resides in the statistics involving the whole sample. According to Burns and Grove (2005:447, 752) a statistic is a numerical value obtained from a sample that is used to estimate the parameters of a population. A parameter is a true (but unknown) numerical characteristic of a population (Burns & Grove 2005:447, 745; LoBiondo-Wood & Haber 2002:497). For the current study, a proportional stratified simple random sampling technique was used to select a sample representative of the target population, and who met with the stipulated eligibility criteria (see sections 4.5.2.3 & 4.5.2.1 of this thesis).

According to Burns and Grove (2005:41), measurement is the process of assigning “numbers to objects (or events or situations) in accordance with some rules.” A component of measurement is instrumentation, which is the application of specific rules to the development of a measurement device or instrument (Burns & Grove 2005:41; LoBiondo-Wood & Haber 2002:494). With regard to the current study, data collection involved the generation of numerical data to address the research objectives, questions and hypotheses (Burns & Grove 2005:42). To collect data, the researcher obtained informed consent and permission from the schools where the study was conducted and from the potential subjects (respondents). For more on these see sections 4.8.2.1 and 4.8.1.1 of this thesis respectively.

During the data collection, the study variables were measured through the use of a self-designed questionnaire (see section 4.6.1 of this thesis). Data analysis is conducted to reduce, organise and give meaning to the data (Burns & Grove 2005:43). With regard to the current study, data analysis involved the use of the following:

- Descriptive and explorative procedures to describe study variables and the sample.
- Statistical techniques to test proposed relationships and the like. (See section 4.7 of this thesis).

In the positivist perspective, theories must therefore be in the form of statements about relationships among different variables from which hypotheses can be deduced. A hypothesis predicts the effect of changes in the independent variables upon the dependent variables of interest. Thus the first and most important function of positivism is prediction (Buchanan 1998:441).

#### *2.2.2.13.1 Prediction*

Positivist research uses theory to predict the outcomes of the research in terms of hypotheses. The hypotheses used in the current study are derived from “filling in” of the HBM with KAP (knowledge, attitudes and perceptions) of HIV/AIDS and condoms.

Researchers may predict that increases in perceived susceptibility to an illness will lead to changes in health behaviours, such as adopting protective behaviours. Conducting a survey constitutes the most rigorous and ultimate standard through which the validity of theory is established. It is the ideal to which all positivist research strives. In the current research, verification was done via applicable statistical calculations that enabled the researcher to arrive at possible associations and correlations.

When the function of positivism is to make predictions, then the purpose of the research is to develop and to test theories of the form of “a set of interrelated constructs (concepts), definitions and propositions that present a systematic view of phenomena by specifying relations among variables.” For instance, to increase condom use, health

educators now know they need to design activities that will instil a sense of susceptibility to infection in their target audience (Buchanan 1998:442).

#### *2.2.2.13.2 Explanation*

The second function of positivism is explanation (Buchanan 1998:442). Theory is explained and tested via the positivist epistemology and quantitative measures. It is the ability to make positive predictions that enables one to explain the relationship among variables. For example, health educators may predict that an educational intervention will lead to an increase in protective behaviours, such as condom use to protect against HIV infection. However, when the results show little change in behaviours, one may use the positivist paradigm to explain that the lack of perceived susceptibility among youth explains the low level of resultant behaviour change (Buchanan 1998:442). In the current study, the positivistic epistemology was used to explain the outcome of the research findings with regard to knowledge, attitudes and perceptions of HIV/AIDS, condom use and sexual behaviours.

In summary, because of the standard set by the verification principle, positivist theory must take on a highly specific form. The goal for researchers is to develop theories from which testable hypotheses can be deduced. Unless a theory yields verifiable hypotheses, positivist principles hold that researchers cannot provide the kind of demonstrative evidence that separates potentially erroneous beliefs from scientifically validated facts. Hence, formulating theories, from which testable hypotheses can be deduced, is the standard setting of the field's research agenda (Buchanan 1998:442).

#### **2.2.2.14 *Positivism in health research***

There are many methods for advancing our knowledge of health and illness within a positivist framework. Trial designs and particularly randomised controlled trials are the most commonly used designs in medical research, although medical researchers are

increasingly incorporating social science methods in their studies (including qualitative research as opposed to positivistic/quantitative research). Retrospective cohort and cross sectional designs are also based on positivist assumptions and are used to map out such things as aetiology- (the characteristics of disease), prognosis (the predicted course of a disease) and prevalence of disease (the extent of spread of a disease within a population) as well as other factors that may influence health behaviours (Broom & Willis 2007:21).

These types of approaches have emerged from and contribute to the reproduction of the positivist paradigm, focusing on establishing objective scientific facts about disease and the body, through the scientific method. Assumptions about the objectivity, neutrality and generalisability of data place most biochemical research methods squarely within the realms of a positivist paradigm.

Some methods utilising a positivist metatheory include:

- Epidemiological/analytical design strategies (for example, randomised controlled trials, before and after studies, cohort incidence studies and cross-sectional studies).
- Survey research.
- Secondary document analysis (for instance, content analysis with quantification).
- Structured interviewing.
- Systematic reviews (Broom & Willis 2007:21).

However, the positivist nature resides not in these methods as such but in the way the data collected are treated as numerical data.

### **2.2.2.15      *Advantages of positivist metatheory***

There are considerable advantages to using methods that are based on a positivist paradigm. For example, randomisation is an effective means of reducing bias in the assessment of how effective an intervention is in its guarantees, assuming it is carried out properly. As mentioned in sections 2.2.2.11 and 2.2.2.12 of this thesis, objectivity in quantitative research also refers to proper distance between the researcher and subjects that minimise bias and is achieved through such procedures as instrumentation and randomisation (De Vos 2001:350). Thus the objective researcher is seen as scientifically distant, as someone who is not influenced by, and does not influence the study. This was ensured in the current study because it used a randomised sample, which ensured generalisability; and bias was eliminated through confidentiality and anonymity of the respondents and through the principle of fair treatment and justice. (See sections 4.8.1.3, 4.8.1.4 & 4.8.1.2 of this thesis respectively).

The current study used a self-designed questionnaire to investigate knowledge, attitudes and perceptions of HIV/AIDS and condoms; and sexual behaviours among senior secondary school students in the city of Kumba, Cameroon.

### **2.2.2.16      *The link between logical positivism and quantitative methods***

There are several links between quantitative research and logical positivism in history. The most basic and most obvious is the quantification and verification of variables in the field of the humanities and social sciences. For instance, Stevens, the originator of the representation theory of measurement adopted the ideas of logical positivism and operationalism (Michell 1997). Cronbach and Meehl (1955), who developed construct validity, also accepted operationalism within the positivist framework. One of the most obvious links between positivism and quantitative methods could be found in Karl Pearson who was the inventor of the correlation coefficient, and a follower of Comte's positivism (Pierce 1954). According to Pearl (2000), Pearson denied any need for an

independent concept of causation beyond correlations. Table 2.4 portrays the basic beliefs of the various research paradigms.

**Table 2.4: Basic beliefs of research meta-theories**

<b>Beliefs</b>	<b>Naturalistic</b>	<b>Positivism</b>
Epistemology	“Truth” determined by the individual or cultural group. Subjectivism valued.	Truth sought via replicable observation. Objectivism valued.
Ontology	Multiple realities exist, influenced by culture and environment.	One reality exists “out there; driven by natural laws.
Context	Emphasised; value placed on rich details of context in which phenomenon occurs. Time and place are important.	Minimised; valued placed on generalisability across contexts
Inquiry aims	Description (narrative) understanding, transformation, reconstruction.	Description (statistical) explanation; prediction and control
Values	Included, add to understanding a phenomenon	Excluded, detract from inquiry aim
Voice of Researcher	Active participant	Neutral observer
Methodology	Dialogue, transformative	Survey, controlled

Source: LoBiondo-Wood & Haber (2002:128); Polit & Hungler (1999:11).

## **2.2.3 Quantitative research**

### **2.2.3.1 What quantitative research entails**

Positivism relates directly to quantitative research and quantitative research as such is not as insistent on experimentation. Nonetheless verification and randomisation are equally important and numbers, statistics and generalisability are of the essence. Quantitative research methods are built on a logical positivist, epistemological stance (De Vos 2001:241; Howe 1985:10; Mouton 2006:141). The key premise of this modernist epistemology is that there is a reality out there that can be discovered through the use of empirical, scientific methods that are quantitative in nature (see section 2.2.2.1). According to this view, knowledge should be an accurate representation of objective reality (Babbie & Baxter 2004; Du Plooy 2001). From this

perspective, research is only valid if it adheres to the rules of precise measurements and the articulation of specific hypotheses.

Therefore quantitative methods attempt to explain social changes through the use of objective measures and statistical analyses. In the current study the social facts include knowledge, attitudes and perceptions of HIV/AIDS, condom use and sexual behaviours.

Quantitative research is based on positivism, which takes scientific explanation to be nomothetic (De Vos 2001:241). Nomothetic analysis is an approach to explanation in which the researcher seeks to identify a few causal factors that generally impact on a class of conditions or events (Babbie 2005:486). Thus positivism takes scientific explanations to be based on theories or models. It aims to control human behaviours. According to Burns and Grove (2003:26), quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world. This research method is used to describe variables and determine the correlation between variables. LoBiondo-Wood and Haber (2002:498) add that quantitative research uses hypotheses to test the research process. Polit and Hungler (1999:712) concur that quantitative research involves measurement and quantification of study variables. Cresswell (1988:1) defines quantitative research as an inquiry into a human problem based on testing a theory composed of variables measured with numbers.

In the current study human behaviours such as knowledge, attitudes and perceptions of HIV/AIDS and sexual behaviours were investigated using the HBM. Statistical analyses were used to explain these behaviours.

According to Burns and Grove (2003:30), “quantitative research uses formal instruments such as questionnaires to generate numerical data and uses statistics to interpret, organise and present the collected data.” Formal instruments are highly structured instruments containing selected statements on selected variables relating to the phenomenon under investigation.

In the current study, the research design was quantitative as the researcher used a self-designed questionnaire containing pre-weighted and coded items, which allowed data to be statistically calculated, to collect data from the respondents. This method allowed the researcher to ask all the respondents the same questions with predetermined responses, which allowed objective data to be collected throughout the study. The researcher also used frequency tables and figures to analyse and interpret the findings.

Quantitative research involves the construction of numerical information on a large group of people, through means such as census and survey; and that quantitative research methods are associated with positivist philosophies (Free Online Research Papers 2009). So positivism underpins quantitative research methods.

The current study uses a large sample size of 480 respondents to collect numerical information on knowledge, attitudes and perceptions of HIV/AIDS and condoms; and sexual behaviours through the means of non-experimental research.

According to Golafshani (2003:597), researchers who use logical positivism or quantitative research employ experimental methods and quantitative measures to test hypothetical generalisations and they also emphasise the measurement and analysis of correlational relationships between variables. In the current study, correlations were used to verify relationships of variables and a quantitative positivist research method was used to predict the outcomes of the research in terms of hypotheses which are derived from “filling in” of the HBM with knowledge, attitudes and perceptions of HIV/AIDS and condoms.

### **2.2.3.2      *Characteristics of quantitative research***

The current study complied with the characteristics of quantitative research (Brink & Wood 1998:305; Burns & Grove 2005:24; Polit & Hungler 1999:24), which include:

- There is a single reality that can be defined by careful measurement. This reality is partially delineated by the items contained in the questionnaire. It is usually concise; the research focuses on a relatively small number of specific concepts, which in the current study are knowledge, attitudes and perceptions of HIV/AIDS, condom use and sexual behaviours among senior secondary students in Kumba, Cameroon.
- It describes and examines relationships, determining correlations among variables where possible. In the current study, relationships between variables, such as knowledge, attitudes and perceptions of HIV/AIDS and sexual behaviours; gender and perceptions of HIV/AIDS were sought.
- Quantitative research uses structured procedures and formal instruments. A self-designed questionnaire was used to collect data during the current study.
- Quantitative methods emphasise objectivity in the collection and analysis of the data. In the current study, objectivity was achieved through the use of questionnaires, and approved statistical methods and procedures for data analysis.
- The sample should be representative of a large population. In the current study, a large sample was used, selected by using a random probability technique.
- It provides an accurate account of characteristics of particular individuals, situations, or groups. In the current study, the first part of the data collection instrument, the questionnaire, pertained to the biographical data of the respondents.
- Reliability and validity of the data collection instrument are crucial. For reliability and validity of the current study's instrument, see sections 4.6.3.1 and 4.6.3.2 of this thesis respectively.
- The three constructs of a good quantitative research– reliability, validity and generalisability, underpin the main goal of quantitative research- replicability. Replicability is the idea that an independent researcher would obtain the same results by replicating the research (Framing Research 2006).

Table 2.5 summarises the differences between quantitative and qualitative research.

**Table 2.5: Differences between quantitative and qualitative research characteristics**

<b>Characteristic</b>	<b>Quantitative Research</b>	<b>Qualitative Research</b>
Philosophical origin	Logical positivism	Humanistic, interpretive, phenomenology
Focus	Concise, objective, reductionist	Broad, subjective, holistic
Reasoning	Logistic, deductive	Dialectic, inductive
Basis of knowing	Cause-and-effect relationships, correlations	Meaning, discovery, understanding
Theoretical	Tests theory	Develops theory
Research involvement	Control	Shared interpretation
Methods of measurement	Structured interviews, questionnaires	Unstructured interviews and observations
Data	Numbers	Words
Analysis	Statistical analysis	Individual interpretation
Findings	Generalisation, accepts or rejects theoretical propositions	Uniqueness, dynamic, understanding of phenomena, and new theory

Source: Burns & Grove (2005:24)

## **2.3 THEORETICAL AND CONCEPTUAL GROUNDING: THE HEALTH BELIEF MODEL (HBM)**

### **2.3.1 Introduction**

As HIV transmission is propelled by behavioural factors, theories about how individuals change their behaviours have provided the foundation for most HIV prevention efforts worldwide. These theories have been created using cognitive attitudinal and affective-motivational constructs. In this regard the field of social psychology in particular has made great strides in examining the possible psychological prerequisites in health promotion (Abraham, Sheeran & Orbell 1998).

Health theories importantly focus on psychosocial factors such as knowledge, attitudes, beliefs, intentions, and personality traits that influence behaviours. In health research, it is recognised that these factors could influence the behaviours of individuals and therefore are crucial in health promotion practices (Groenewold, Bruijn & Bils-Borrow 2006:2).

Throughout the plethora of HIV related articles that have emerged over the past decade, a surprisingly large section of these articles focus on social cognitive models, comprising a broad category within social psychology that differs from Bandura's specific social learning/cognitive theory. Social cognitive models are models used in the social sciences to recognise and understand phenomena in the social sciences. Cognitive models emphasised that behaviour is a function of the subjective value of an outcome and the subjective probability or expectation that a particular action will achieve that outcome (ARHN report 1998:24). These models generally do not consider the interaction of social, cultural and environmental issues as independent of individual factors (King 1999:6). Although each model is built on different assumptions, they all state that behavioural changes occur by altering potential risk-producing situations and social relationships, risk perceptions, attitudes, self-efficacy beliefs, intentions and outcome expectations (Kalichman 1997 in King 1999:6). According to Quinn (2000:6), the term cognitive refers to "the internal mental processes of human beings, and encompasses the domains of memory, perception and thinking." Quinn (2000:73) defines 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." Numerous studies have shown that social cognitive models are the most effective and valuable theoretical tools in predicting HIV-preventive behaviours and can provide "theoretical guidance on psychological changes likely to result in HIV-preventive behaviour change" (Abraham et al 1998:297).

The HBM, the theory of reasoned action, the theory of planned behaviour and the social learning/cognitive theory are among the most commonly utilised theories with regards to HIV-related risk behaviours (Abraham et al 1998; Airhihenbuwa & Obregon 2000; Eaton, Flisher & Aaro 2003; Montano, Kasprzyk, Von Haeflen & Fishbein 2001).

### **2.3.2 The Health Belief Model (HBM)**

Brink (1999:29) affirms: “A model is often described as a symbolic depiction of reality. It provides a schematic representation of some relationships among phenomena and uses symbols and diagrams to represent an idea.” A model helps to organise the study, examine a problem, gather and analyse data.

The HBM provided the framework for the current study. The HBM is an archetypal (standard) pattern used to evaluate or influence an individual’s behavioural changes in regard to a particular health condition. So being an archetypal pattern, it is therefore a model and not a formal theory. The HBM is among the 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 situation. Lewin (cited in Maiman & Becker 1974) hypothesised that behaviours depend primarily upon two variables:

- The value placed by an individual on a particular outcome, (prevention of HIV/AIDS).
- The individual’s estimate of the likelihood that a given action will result in that outcome (condom use to prevent HIV/AIDS).

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 upon the idea that it is the world as it is perceived that will determine an individual’s actions and not the actual physical environment. (This theory is derived from phenomenology, a branch of philosophy).

The conceptual framework explains aspects to be studied, and organises the key factors and the interrelatedness of the variables or constructs. The variables among these aspects can also be presumed. It further derives boundaries or parameters of a problem, purpose and variables (Miles & Huberman 1994:18).

Burns and Grove (1999:133) define conceptual models as follows: “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.”

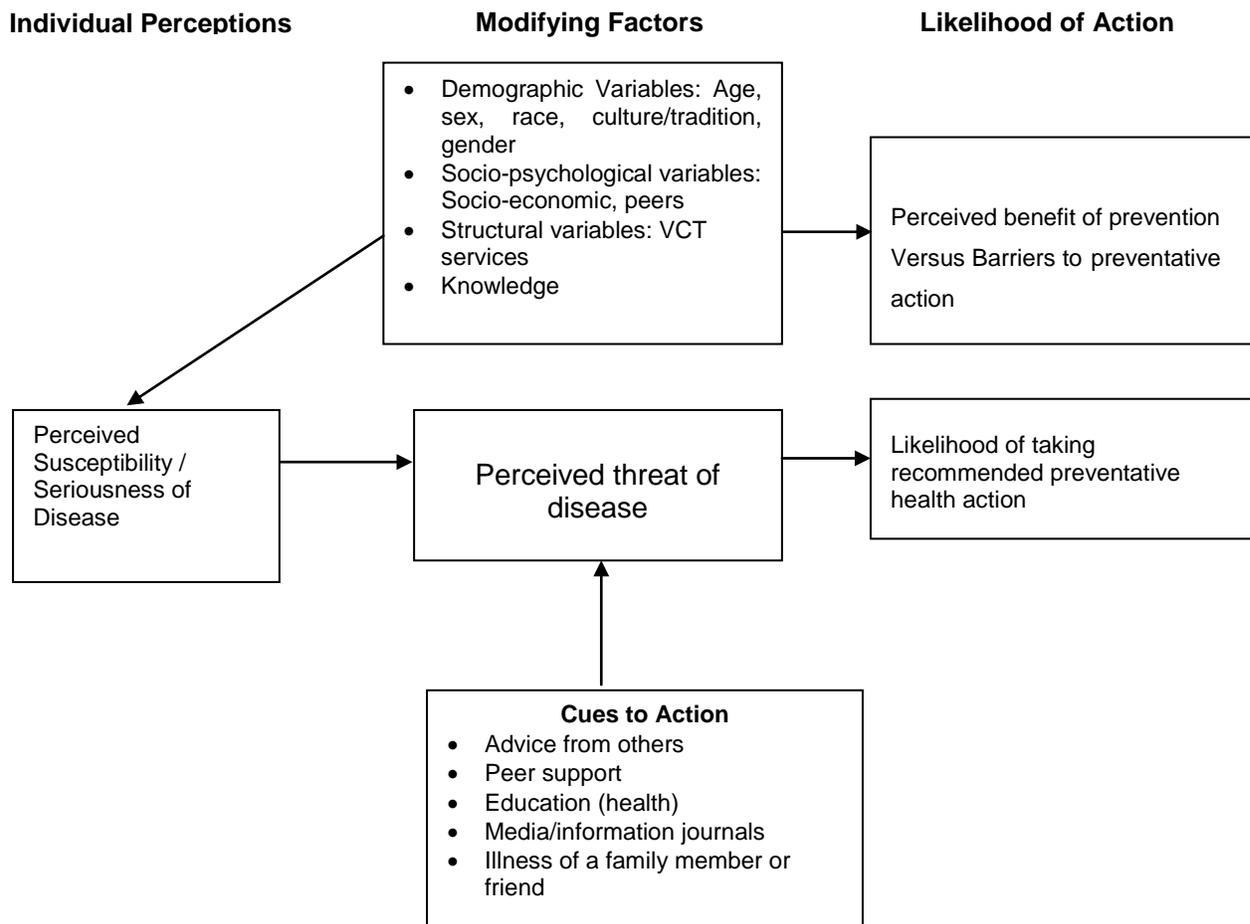
Polit and Hungler (1999:107) describe the conceptual framework as conceptual schema or models. These deal with abstractions that are assembled by virtue of their relevance to a common theme under study. A conceptual framework uses building blocks just like theories. It provides loosely structured conceptual perspectives regarding the inter-relatedness of the phenomena, unlike theories. Thus it represents a less formal and developed mechanism for organising phenomena than theories. Conceptual frameworks are not directly testable by researchers as theories are. Constructs (concepts) are represented by the use of minimal words, and the symbolic representation helps to express abstract ideas in a more understandable or precise way than the original conceptualisation.

Burns and Grove (2005:136-139) explain conceptual frameworks as mapping the concepts and statements, to ascertain their interrelatedness. So the HBM is a conceptual model and not a formal theory. The HBM has the premise that individuals will take action to prevent, control or treat a health problem if they perceive the problem to be severe in its nature and/or in its consequences; if they perceive that the action will benefit them and produce desirable outcomes and if they perceive few barriers to taking that action (Stout 1997:174).

So, the HBM explains that the likelihood that an individual will engage in a particular undesirable health behaviour is related to one's belief about the seriousness or severity of the potential illness.

Polit and Hungler (1999:128) concur that the HBM integrates psychological theories of goal setting, decision-making and social learning. It postulates that health-seeking behaviour is influenced by a person's perception of the threat posed by a health problem and the value associated with the actions aimed at reducing the threat.

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). It has been used with great success for almost half a century to promote greater condom use, seat belt use, medical compliance and health screening use (ReCAPP 2007:1) as portrayed in figure 2.1.



**Figure 2.1: Conceptual Model of the HBM**

Source: Glanz, Rimer and Lewis (2002:52); Coofair (1991:72 in Dennil et al 1999:157)

### **2.3.2.1      *History and orientation***

The HBM was one of the first models of health-promoting behaviours and it remains one of the most widely recognised conceptual frameworks of health behaviours. The HBM explains health behaviours from a social psychology perspective using theories of value–expectancy and decision-making (Becker 1974; Kronenfield & Glik 1991; Maiman & Becker 1974; Mikhail 2001:162).

The HBM was first developed during the early 1950s in the United States (US) of America by psychologists Godfrey Hochbaum, Irwin Rosenstock and Stephen Regels working in the US public health service (Cumming, Jette & Rosenstock 1978). 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 mobile units conveniently located in various neighbourhoods. When few adults used the free services, programme organisers began investigating why more adults did not do so. Hochbaum, however, began to study what motivated the few who did come out. He quickly learned that their perceived risk of disease and perceived benefits of the action were crucial factors in their motivation (ReCAPP 2007:1)

### **2.3.2.2      *Meta-theoretical assumptions of the Health Belief Model (HBM)***

The HBM is a humanistic theory; this belief is based on each of the model's meta-theoretical assumptions:

- Epistemology: The theory comprises multiple truths because it applies to different situations and individuals in various ways. The knowledge gained is interpretive in nature.

- Ontology: The theory relies heavily on free will because each individual determines the actions involved. This is an active theory.
- Axiology: The theory is value-laden because beliefs and values play a huge role in the ideology of this model (HONORS 2001:2).

Though the HBM is a humanistic (qualitative) “theory”, it was used as the theoretical framework for the current quantitative study because as Thomas (1995:246) states: “the HBM was developed from the logical positivist paradigm of science; it stands out among the social-psychological models of health related behaviours, and is basically a “value expectancy” model developed to explain an individual’s health actions under conditions of uncertainty.” In the case of the current study, the HBM was used to investigate the HIV/AIDS-related knowledge, attitudes and perceptions, and the sexual behaviours among senior secondary school students.

### **2.3.2.3      *Assumptions of the HBM***

The developers of the HBM stated 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 that a negative health condition can be avoided (Campus 2005:1). It is necessary to help individuals realise that they have the potential to avoid a condition and this can only happen when one has true knowledge of the problem. It is only when one realises this, that one would be able to take a preventative action.
- The HBM also 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 (Campus 2005:1). The person needs to see the benefits that one will get from practicing the behaviour. If a person fails to see any benefit, it would be difficult for one to take the

necessary action, or to maintain it. Students in the current study must perceive the benefits of male condoms, before they can initiate and maintain their use in order to prevent HIV/AIDS.

- The HBM also assumes that a person takes a health related action if the person believes that one can successfully take the recommended action (Campus 2005:1). It requires the 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).

#### **2.3.2.4      *Components of the HBM***

As stated in section 1.9 of this thesis, the HBM has three major components:

- The individual's perceptions about health.
- The modifying factors which include demographic, socio-psychological and structural variables.
- The benefits of taking preventive measures (Dennill et al 1999:156; Onega 2000:271).

##### **2.3.2.4.1      *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 the illness*” (Onega 2000:271-275). In the current study, individual perceptions concern adolescents' (students') beliefs about their susceptibility to HIV/AIDS and their perceived severity of HIV/AIDS.

#### 2.3.2.4.2 *Modifying factors*

McCormack (1999:358) and Onega (2000:271) state that, modifying factors, like demographic, socio-psychological and structural variables may affect an individual's perceptions and thus indirectly influence health-related behaviours. Socio-demographic factors, like educational status, could affect a person's perceptions of susceptibility to and severity of suffering ill effects resulting from HIV/AIDS infection, and one's perceived benefits to be expected from using male condoms effectively as well as barriers to accessing and using condoms an/or condom access points.

In the current study, correlations between the demographic factors such as age, marital status and level of education, and HIV/AIDS related knowledge, attitudes and perceptions and condom use, were investigated.

According to Onega (2000:271), other modifying factors include socio-psychological variables as well as structural variables (see figure 2.1), which could modify an individual's decision to use male condoms during sexual intercourse.

#### 2.3.2.4.3 *Variables affecting the likelihood of initiating and maintaining action*

In the current study these variables refer to a student's perceived benefits of practising safer sex (using male condoms effectively) minus the perceived barriers to taking action (accessibility, affordability and acceptability of condoms); this equals the likelihood of taking actions to change behaviours (see figure 2.1) (Onega 2000:253).

#### **2.3.2.5 *Concepts of the HBM***

The HBM is a value expectancy theory, with two values, according to Onega (2000:271):

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

In the current study, the desire would be to avoid HIV/AIDS infection, and the specific available health action would be effective and consistent use of male condoms during sexual intercourse, and the undesirable consequences would be HIV/AIDS infection.

Chinn and Kramer (1995:74, 78) define a concept as a “complex mental formulation of experience” and state that concepts are extracted from life experiences, clinical practice or research.

According to Clarke, Lovegrove, Williams and Macpherson (2000:273); Glanz et al (2002:118); ReCAPP (2005:2), the HBM is based on the following concepts: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self efficacy.

#### *2.3.2.5.1 Perceived susceptibility*

The first concept of the HBM is perceived susceptibility. This defines an individual's beliefs about the chances of contracting a health condition (Frewen, Schomer & Dunne 1994:39; Groenewold et al 2006:3-4; ReCAPP 2007:3-4). A person's perception that a health problem is personally relevant will contribute to 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.

Meekers, Klein and Foyet (2001:8) investigated the patterns of HIV risk behaviour and condom use among youths in Yaoundé and Douala, Cameroon, aged 15-24. The results showed that despite high awareness of HIV and the protection condoms provide,

only 14% female respondents and 20% male counter parts were consistently using condoms.

In another study by Rwenge (2000:124-5) on sexual behaviour among young people in Bamenda, Cameroon, it was reported that the majority of the respondents (more than 90%) mentioned that consistent condom use can prevent HIV/AIDS, but despite such knowledge, only 25% of them were using condoms.

Peltzer (2001:55) investigated the knowledge and practices regarding the correct use of condoms among 206 university students in the Republic of South Africa. The results showed that female students perceived themselves to be at risk of pregnancy and HIV, and 49% were using female condoms. The results of these studies indicate that perceived susceptibility to HIV/AIDS might positively influence students' use of condoms.

The current study investigated senior secondary school students' susceptibility to HIV/AIDS, in Cameroon, and whether those who perceived themselves to be susceptible to HIV/AIDS, adopted preventative actions (condom use) against HIV/AIDS infection.

#### 2.3.2.5.2 *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 (Groenewold et al 2006:3-4; ReCAPP 2007:3-4).

When one recognises one's susceptibility to a certain problem or condition, it does not necessarily motivate one to take the necessary preventive actions unless one realises that getting the condition would have serious physical and social implications. ReCAPP (2005:2) posits that it is when one realises the magnitude of the negative consequences of a condition, that one could take the necessary actions to avoid these negative consequences.

With regard to the current study, students must perceive HIV/AIDS as a serious infection that has severe consequences and implications on their physical and social lives, before they would adopt preventative actions (such as consistent condom use) against HIV/AIDS infection.

#### 2.3.2.5.3 *Perceived benefits*

Perceived benefits refer to one's beliefs in the efficacy of the advised action to reduce the risk or seriousness of impact (ReCAPP 2007:3). 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 (ReCAPP 2005:2). The HBM proposes that the belief about the effectiveness of condom use in preventing HIV/AIDS should correlate positively with their consistent use (Hiltabiddle 1996:63). The partner's willingness to use condoms and parental support for condom use are significant psycho-social factors in consistent condom use. In the current 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/AIDS. Condom use by students was investigated in the current study.

#### 2.3.2.5.4 *Perceived barriers*

Perceived barriers refer to one's belief in the tangible and psychological costs of the advised behaviours (Groenewold et al 2006:4; ReCAPP 2007:4). 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. Agha, Karlyn and Meekers (2001:149) 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 (1999:128) also concur that perceived barriers include costs, duration, complexity of the desired 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 condom use to prevent HIV/AIDS were identified in the current study.

#### 2.3.2.5.5 *Cues to action*

The HBM's cues to action are events or experiences, personal (physical symptoms of a health condition), interpersonal or environmental (media publicity) that motivate a person to take action (Groenewold et al 2006:4; ReCAPP 2007:4). Cues to action are when an individual feels the desire to take the necessary action after believing that one has the capacity to do so. The required action will benefit one by knowing how to deal with the expected barriers.

It requires motivation on the part of the person to have the desire to comply with the prescribed action or treatment, to have concerns about health matters, to be willing to seek and accept health care and to engage in positive health activities (Polit & Hungler 1999:129). With regard to the current study, personal and environmental events motivating a person to use condoms to prevent HIV/AIDS were identified.

#### 2.3.2.5.6 *Self efficacy*

The sixth concept of the HBM is self-efficacy. This 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 (Peltzer 2001:39). Self-efficacy is one's ability to successfully take action (ReCAPP 2007:4). One 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 (ReCAPP 2005:2). In the current study, self-efficacy refers to the confidence in one's ability to use condoms (Groenewold et al 2006:4). The current study attempts to establish whether senior secondary school students in Kumba are using condoms efficiently.

The six concepts 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/AIDS 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 attitudes towards the action. In the current study, this refers to the perceived net benefit of condom use to prevent HIV/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 organise and execute 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). With regard to the current study perceived self-efficacy refers to confidence in one’s ability to successfully use condoms (see table 2.6).

### 2.3.2.6 Scope and application

Table 2.6 gives a summary of the six concepts of the HBM and their definitions.

**Table 2.6: Six concepts of the HBM, their definitions and application regarding the current research**

Concepts	Definition	Application	Application and Implication regarding the current research
Perceived susceptibility.	A person’s beliefs about the chances of contracting a health condition.	<ul style="list-style-type: none"> <li>• Define population at risk and their risk levels.</li> <li>• Personalise risk based on a person’s trait or behaviours.</li> <li>• Heighten perceived susceptibility if low.</li> </ul>	Perceived chance of becoming infected with HIV/AIDS.
Perceived severity.	One’s beliefs of how serious a condition and its consequences are.	Specify and describe consequences of the risk and the condition.	Perceived seriousness of becoming infected with HIV/AIDS.
Perceived Benefits.	One’s beliefs in the efficacy of the advised action to reduce risk or seriousness of impact.	<ul style="list-style-type: none"> <li>• Define action to take: how, where and when.</li> <li>• Clarify the positive effects to be expected.</li> <li>• Describes evidence of effectiveness.</li> </ul>	Perceived benefits of condom use.
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 condom use.
Cues to action.	Evidence or experiences either personal (physical symptoms of a health condition), interpersonal or environmental (media publicity) that motivate a person to action.	<ul style="list-style-type: none"> <li>• Provide how-to information.</li> <li>• Promote awareness.</li> <li>• Promote reminders.</li> </ul>	Personal and environmental events motivating a person to use condoms.
Self efficacy.	Confidence in one’s ability to successfully take action.	<ul style="list-style-type: none"> <li>• Provide training, guidance and positive reinforcement.</li> </ul>	Confidence in one’s ability to successfully use condoms.

Source: Groenewold et al (2006:3-4); ReCAPP (2007:3-4).

Table 2.7 exhibits examples of what the six key concepts of the HBM look like when applied to two sexual health actions.

**Table 2.7: Examples of what the six key concepts of the HBM look like when applied to two sexual health actions**

<b>Concept</b>	<b>Condom use. Education Example</b>	<b>STI Screening or HIV Testing</b>
Perceived Susceptibility	Youth believe they can get STIs or HIV or create a pregnancy.	Youth believe they might have been exposed to STIs or HIV.
Perceived severity	Youth believe that the consequences of getting STIs or HIV or creating a pregnancy are significant enough to try to avoid.	Youth believe the consequences of having STIs or HIV without knowledge or treatments are significant enough to try to avoid.
Perceived benefits	Youths believe that the consequences of getting STIs or HIV or creating a pregnancy are significant enough to try to avoid.	Youths believe that the recommended action, getting tested for STIs and HIV would benefit them possibly by allowing them to get early treatment or preventing them from infecting others.
Perceived Barriers	Youth identify their personal barriers to using condoms (condoms limit the feeling or they are too embarrassed to talk to their partners about it) and explore ways to eliminate or reduce these barriers (teach them to put lubricant inside the condom to increase sensation for male and have them practice condom communication skills to decrease their embarrassment levels).	Youth identify their personal barriers to getting tested (getting to the clinic or being seen at the clinic by someone they know) and explore ways to eliminate or reduce these barriers (brainstorm transportation and disguise options).
Cues to Action	Youth receive reminder cues for action in the form of incentives such as pencils with the printed message (“no glove, no love”) or reminder message (such as messages in the school newsletter).	Youth receive reminder cues for action in the form of incentives (such as a key chain says, “Got sex? Get tested”) Or reminder messages (such as posters that say 25% of sexually active teens contract an STI. Are you one of them)? (Find out now).
Self Efficacy	Youth receive training in using a condom correctly.	Youth receive guidance (such as information on where to get tested) or training (such as practice in making an appointment).

Source: ReCAPP (2007:4-5)

The HBM has been applied to a broad range of health behaviours and populations including health education topics such as sexuality education. Since the HBM is based on motivating people to take action, (like using condoms) it is applicable to sexuality education programmes that focus on:

- Primary prevention, for example, programmes that aim to prevent pregnancy, STDs and HIV/AIDS by increasing condom use, and
- Secondary prevention for example, programmes that aim to increase early detection of STIs or HIV to reduce their spread via unprotected intercourse and to ensure the early treatment of the conditions (ReCAPP 2007:1).

Applying the HBM to abstinence education is possible but is not necessarily a good fit. Youth abstain from sex for many reasons, religious, logistic reasons, not always primarily to avoid a perceived threat or a negative health outcome. Using the HBM's threat logic model to promote abstinence could be unduly "sex negative" (ReCAPP 2007:1).

Therefore HBM is used for the current study to explore HIV/AIDS related knowledge, attitudes and perceptions and the sexual behaviours (vis-à-vis condom use) among senior secondary students in Kumba, Cameroon.

### **2.3.2.7      *Utilisation of the HBM***

The HBM has been used to explore a variety of health behaviours in diverse populations. For instance, researchers have applied the HBM to studies that attempt to explain and predict individual participation in smoking (Balbach, Smith & Malone 2006).

The HBM has also been used by different researchers to predict condom use among students (Hounton, Carabineer & Henderson 2005; Lollis, Johnson & Antoni 1997; Meekers & Klein 2002b). These studies support the utility of the HBM for the current study:

- Norman and Brain (2000) used the HBM to predict breast-self-examination in women.

- Gillibrand and Stevenson (2006) used the HBM to investigate diabetes in young people.
- The HBM was used by Koch, Roberts and Cannon (2005) to investigate tattooing among college students. Inungu, Beach and Skeel (2003) used it to investigate drug use.
- Al-Ali and Haddad (2004) used the HBM in explaining exercise participation among Jordanian myocardial Infarction patients.
- Buckingham (1997) used the HBM with sick children. Petosa and Kirby (1991) used the HBM to predict after sex intentions among adolescents.
- Chen and Land (1986) used the HBM to investigate preventive dental behaviours.
- The HBM has also been used to design individually focused drug education and prevention programmes (Albert & Simpson 1985; Iverson 1978; Kaufert, Rabin, Syrotuik, Boyco & Shane 1986).
- Kleinot and Rogers (1982) successfully applied the HBM to an alcohol education programme for college students. They found that college student drinkers' intentions to moderate their drinking habits were positively affected by the information about alcohol.
- Portnoy (1980) developed a for-credit alcohol education course for college students incorporating factors of the HBM. The results of the multivariate analysis of variance (ANOVA) demonstrated the overall effectiveness of the programme. Portnoy concluded that the programme was effective for college students who were not problem drinkers because it increased their knowledge about alcohol, reinforced desirable attitudes and beliefs and reduced beer consumption.

### **2.3.3 Theoretical models of health behaviour change**

Health theories importantly focus on psychosocial factors that influence behaviours such as knowledge, attitudes, beliefs, intentions and personality traits. In health

research, it is recognised that these factors could influence the behaviours of individuals and therefore are crucial in health promotion practices (Groenewold et al 2006:2).

Numerous studies have shown that social cognitive models are the most effective and valuable theoretical tools in predicting HIV-preventive behaviours and can provide theoretical guidance on psychological changes likely to result in HIV-preventive behaviour change (Abraham et al 1998:297). (See section 2.3.1 of this thesis).

The HBM, the theory of reasoned action, the theory of planned behaviour and the social learning/cognitive theory are among the most commonly utilised theories with regards to HIV-related risk behaviours (Abraham et al 1998; Airhihenbuwa & Obregon 2000; Eaton et al; Montano et al 2001).

### **2.3.3.1      *Social learning/cognitive theory (SCT)***

Bandura (1977) proposed this model to explain human behaviours. This theory as developed by Bandura, views behaviour as a result of cognition, behaviour, environmental factors and psychology (Airhihenbuwa & Obregon 2000:5). Such a model advocates the effectiveness of instilling beliefs in individuals so that they may believe that they have the ability to change their minds and handle the situation effectively (Viljoen 2001). The theory holds that the environment can also shape a person.

According to Bandura (1986), self-efficacy is a major determinant of a person's effort to change behaviour. As mentioned in section 2.3.2.5.6, perceived self-efficacy refers to people's judgment of their abilities to organise and execute specific behaviours that are required to deal with various future situations. A person can increase self-efficacy through personal persuasion such as receiving suggestions from others.

The premise of the SCT states that new behaviours are learned either by modelling the behaviours of others or by direct experience (Bandura 1999; King 1999:7).

The central tenets of the SCT are:

- Self-efficacy, the belief in the ability to implement the necessary behaviour (“I know I can insist on condom use with my partner”).
- Outcome expectancies– beliefs about outcomes, such as the belief that using condoms correctly will prevent HIV infection.

Programmes built on SCT integrate information and attitudinal change to enhance motivation and reinforcement of risk education skills and self-efficacy (King 1999:7).

### **2.3.3.2      *Theory of reasoned action (TRA)***

The theory of reasoned action (TRA), advanced in the mid 1960s by Fishbein and Ajzen is based on the assumptions that human beings are usually quite rational and make systematic use of the information available to them (Airhihenbuwa & Oregon 2000). People consider the implication of their actions within a given context at a given time before they decide to engage in a given behaviour, or not to do so, and that most actions of social relevance are under volitional control (King 1999:7). The TRA is conceptually similar to the HBM but adds the construct of behavioural intention as a determinant of health behaviours.

Both theories focus on perceived susceptibility, perceived benefits and constraints to changing behaviours. The TRA focuses on the role of personal intentions in determining whether a behaviour will occur.

According to the model, an individual’s behaviour is a function of the intention to perform that behaviour (Du Plessis, Meyer-Weitz & Steyn 1993:12). Therefore an

individual's intention to perform a behaviour is the direct, immediate determinant of the act (Ajzen 1988). A person's intention is a function of two basic determinants:

- Attitudes (towards the behaviour).
- Subjective norms/social influence (such as the individual's perceptions of what one thinks significant others want the individual to do).

Attitudes are derived from the individual's beliefs about the likely consequences of the action in light of the individual's evaluations of these consequences (Abraham et al 1998; Sheeran & Orbell 1998). The subjective norm component is the direct acknowledgement of social influence on intentions. This influence includes the degree to which specific others are expected to approve or disapprove the required action (Abraham et al 1998). Therefore, it can be said that behaviour is seen as the weighted sum of attitudinal or normative effects (Ajzen 1988; Taylor 1984).

For example, for a person to start using condoms, one's attitude might be 'having sex with a condom is just as good as having sex without condom' and subjective norms (or the normative belief) could be 'most of my peers are using condoms; they would expect me to do so as well'. Interventions, using this theory to guide activities, focus on attitudes about risk-reduction, responses to social norms and intentions to change risky behaviours.

### **2.3.3.3 Theory of planned behaviour (TPB)**

Ajzen's Theory of Planned Behaviour (TPB) is a successor to the TRA. It too sees behavioural intention as a central component, yet this time isolates an additional independent determinant of intention. The three determinants of intention are:

- attitudes towards the behaviour
- subjective norms

- the degree of perceived behavioural control (Theory of Planned Behaviour 2009).

According to Abraham et al (1998:297), and Sheeran and Orbell (1998:231) perceived behavioural control is closely related to the term “self-efficacy”. It refers to the level of confidence the individual has that one will behave according to one’s intentions. As with TRA, the TPB hypothesises that the intention to act is higher if the individual has a positive attitude about the behaviour as well as believing that significant others will approve of the decision to act. A person with high self-efficacy will set high goals, exert greater effort, persevere longer despite obstacles or errors and be less prone to anxiety and self-doubt when performing the required action. It is assumed that all of these determinants of intention are influenced by underlying beliefs (Montano et al 2001:145).

For example, an attitude is determined by the individual’s belief that the proposed behaviour will result in particular consequences (while being counter-balanced by the evaluation of these consequences). Subjective norms are determined by the individual’s belief that specific individuals think one should or should not behave, in light of the individual’s motivation to conform. Perceived behavioural control is also influenced by the beliefs that when it is favourable to behave in a specific manner, certain situational factors will be present (Montano et al 2001:145).

#### **2.3.3.4      *Stages of change model***

This model, developed early during the 1990s specifically for smoking cessation by Prochaska, DiClemente and colleagues, posits six stages through which individuals or groups pass when changing behaviours: pre-contemplation, contemplation, preparation, action, maintenance and relapse. With respect to condom use the stages could be described as:

- Has not considered using condoms (pre-contemplation)
- Recognises the need to use condoms (contemplation)

- Thinking about using condoms in the next month (preparation)
- Using condoms consistently for less than six months (action)
- Using condoms consistently for six months or more (maintenance)
- Slipping up with respect to condom use (relapse) (King 1999:7).

In order for an intervention to be successful, it must target the appropriate stage of the individual or group, such as awareness rising between stage one and stage two. Groups and individuals pass through all stages, but do not necessarily move in a linear fashion (Prochaska & Di Clemente 1992:28). As with previous theories, the stages of change models emphasise the importance of cognitive processes and use Bandura's concept of self-efficacy. Movement between stages depends on cognitive behavioural processes.

#### **2.3.3.5      *AIDS risk reduction model (ARRM)***

The ARRM developed in 1990 (Catania, Kegeles & Coates, in King 1999:10) uses constructs from the HBM and SCT, to describe the processes individuals (or groups) pass through while changing behaviours regarding HIV risk. The model identifies three stages involved in reducing risk for HIV transmission, including:

- Behaviour labelling
- Commitment to change
- Taking action

In the first stage, knowledge about transmission, perceived HIV susceptibility as well as aversive emotions influence how people perceive AIDS. The commitment stage is shared by four factors:

- Perceptions of enjoyment
- Self-efficacy
- Social norms
- Aversive emotions

Again in the last stage, aversive emotions, sexual communication, help-seeking behaviours and social factors affect people's decision-making processes (Catania et al 1990:60).

Programmes that use the ARRM focus on:

- A client's risk assessment.
- Influencing the decision to reduce risk through perceptions of enjoyment or self-efficacy.
- Client's support to enact the change (access to condoms, social support) (King 1999:8).

## **2.4 CONCLUSION.**

This chapter discussed the metatheoretical grounding (positivism and quantitative research) and the theoretical and conceptual grounding (the HBM) of the current study. The rationale for using a quantitative positivist design; and also the rationale for using the HBM as the theoretical framework for the current study were discussed. Discussions of other models of health behaviour change were also provided, as well as an explication of the HBM.

The next chapter discusses the literature review undertaken for the current study, structured according to the HBM.

**CHAPTER 3**  
**LITERATURE REVIEW**  
**(STRUCTURED ACCORDING TO THE HEALTH BELIEF MODEL)**

**3.1 INTRODUCTION**

This chapter focuses on the literature review undertaken to explore HIV/AIDS-related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school learners in the city of Kumba of the Republic of Cameroon. Burns and Grove (2005:93), LoBiondo-Wood and Haber (2002:79), as well as Mouton (2006:87) state that quantitative researchers cannot conduct their study in an intellectual vacuum, but the study is undertaken within the context of an existing literature base. Neuman (2000:445) 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.

According to Burns and Grove (2005:93), “*the literature’ consists of all written sources relevant to the research topic.*” Burns and Grove (2005:93) as well as LoBiondo-Wood and Haber (2002:78), state that a literature review is an organised written presentation of what has been published on a research topic by scholars. The review is not a list describing or summarising one published study after another, but rather a critical analysis of the available literature on the research topic (Burns & Grove 2005:93; Polit & Hungler 1999:79). Becker (1986) in Burns and Grove (2005:93) states that researchers depend on the results of their predecessors when conducting research; research is impossible when previous methods and results are not considered.

### 3.2 PURPOSE OF THE LITERATURE REVIEW

The purpose of the literature review is to:

- Familiarise the researcher with the topic of research
- Compare findings with previous results on the same topic
- Conceive research questions and objectives (LoBiondo-Wood & Haber 2002:79; Polit & Hungler 1999:79-80).
- Burns and Grove (2001:118-125) further suggest that reviewing relevant literature aids the researcher to:
  - Develop creative ideas whilst going through other researchers' work as recorded in the available literature
  - Cluster and compare ideas from several sources
  - Determine the current knowledge about the topic through obtaining meaning from other sources and connecting them to the proposed study.

For the purpose of the current study, the literature reviewed was based on the research problem and research questions on HIV/AIDS related knowledge, attitudes and perceptions, and on sexual behaviours relating to HIV/AIDS in general. The literature review is discussed with reference to the three components of the HBM, as highlighted in section 1.9 of this thesis and in figure 1.2, namely:

- Individual perceptions
- Modifying factors
- Variables affecting the likelihood of action. (See chapter 2).

### **3.3 HUMAN IMMUNODEFICIENCY VIRUS (HIV)/ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)**

#### **3.3.1 Definitions**

Two main definitions set the stage for the current research although these concepts were not directly investigated during the current study. These concepts include HIV and the syndrome it causes, namely AIDS.

##### **3.3.1.1 *Human immunodeficiency virus (HIV)***

HIV is a micro-organism that is transferred through infected body fluids, like vaginal secretions, semen, blood and breast milk. The human immune system is a complex group of defence cells that help repel disease-causing organisms. These immune mechanisms also help eliminate abnormal cells of the body through the T and B lymphocytes (T and B cells), which are able to bind to antigens (foreign substances or micro-organisms) and help remove them from the body. Each lymphocyte bears receptors that bind to a specific antigen. The ability to respond to virtually any antigen comes from the fact that the body contains a variety of lymphocyte populations each of which is capable of recognising a unique antigen. When the body is infected with HIV, the virus destroys a certain type of T-cell. HIV/AIDS focuses on the human immune system by infiltrating the defences of the body.

When the T-cell is attacked, its ability to protect the body is impaired (Morris & Cilliers 2005:79). The virus enters the cell through an attachment to the CD4 receptor via its glycoproteins. It then encodes the enzyme through a process known as reverse transcriptase, thus forming a Deoxyribonucleic Acid (DNA) copy from the viral Ribonucleic Acid (RNA) (Morris & Cilliers 2005:79). The infected lymphocyte is transformed into production agents of HIV. The most important cell involved in the immune attrition is the CD4 T-lymphocyte since it plays a central coordination role in the immune response (Isselbacher, Braunwald, Wilson, Martin, Fauci & Kasper 1999:1853;

Van Dyk 1999:4-16). The progress of HIV in the body is measured through the CD4 count.

### **3.3.1.2      *Acquired immune deficiency syndrome (AIDS)***

A syndrome is a collection of diseases that are contracted because HIV has weakened the immune system. People are said to have AIDS when their CD4 cell count is less than 200 per micro litre of blood (Stine 2004:188). Once in the blood, the HI-Virus replicates itself and kills white blood cells, T cells and the CD4 cells of body's immune system, thereby weakening the immune system. As the virus increases in the body, the CD4 cells decrease and the immune system is further weakened, so that a person is more prone to contract diseases (Soul City: Institute for Health & Development Communication 2005:5). An infected individual is susceptible to a variety of infectious organisms, including those called opportunistic pathogens, which may live benignly in the human body and cause disease only when the immune system is suppressed. When a person is infected with HIV, the CD4 cells communicate to the body that infection has taken place, thus initiating a counter reaction by the immune system.

The CD4 count is used as a reflection of the damage caused to the immune system as well as immune system restoration in patients on antiretroviral therapy. It is the best predictor of the risk of opportunistic infections in HIV-infected people, such as drug resistant pneumonia, Karposi sarcoma (KS), meningitis, tuberculosis, thrush, shingles and other bacterial infections. The CD4 cell count has been shown to be an independent risk factor for progression to AIDS and death (Van Dyk 2004:423). The normal CD4 count in adults ranges from 600 to 2 000 cells per cubic millilitre of blood (Lab Tests Online 2005; United States Department of Veterans Affairs 2007). A CD4 count below 500 is usually an indication of immune suppression and vulnerability to opportunistic infections. People generally tend to become symptomatic when the CD4 is below 400 cells per millilitre cube. This indicates the initial phase of the symptomatic stage of AIDS and as a result, thrush, shingles and tuberculosis, coupled with weight

loss, diarrhoea, fever and fatigue are all common and act as markers for the onset of AIDS. According to the WHO (2005b) patients with a CD4 of less than 200 cells per millilitre of blood are classified as having AIDS, and need ART.

AIDS by its very nature has posed huge challenges to the social, political and economic frameworks of many countries. The disease is caused by the inevitable destruction of the body's defence system by HIV, eventually culminating in death. The devastation brought about by the disease is exacerbated by its non-discriminatory and incurable nature. Its principal mode of transmission, sexual intercourse, threatens the basis by which societies regenerate themselves. HIV/AIDS among young people threatens the future social and economic development of countries. The current study explores the knowledge of the mode of transmission of HIV/AIDS among senior secondary school learners in Kumba, Cameroon.

### **3.3.2 Historical background**

Baptista and Gomes (2000:14-15); Gong and Rudnick (1987:1); as well as Whiteside and Sunter (2000:1) posit that AIDS, which is caused by HIV, was first reported in late spring of 1981 at the University of California School of Medicine Los Angeles, USA. The discovery was made among five young male homosexuals. The report was made by the Centre for Disease Control and Prevention (CDC) of Atlanta in the USA, an agency engaged in the control and investigation of new and already known diseases which affect the population. At that time a number of cases of deaths by pneumocystosis (a type of pneumonia) started being registered amongst young male homosexuals in the city of Los Angeles. Soon after this report, the occurrence of a tumour, the Kaposi sarcoma, until then considered as rare, was registered amongst young male homosexuals, some of whom were victims of pneumocystosis. This was therefore the occurrence of something new, a serious deficiency of the defence mechanisms in this group of male homosexuals which manifested itself through the appearance of infections and rare tumours in people who were otherwise apparently healthy. In 1982,

the CDC “baptised” the new disease, calling it AIDS. Since then there has been a pandemic spread of HIV/AIDS among people of all ages, races, sexual orientations and continents.

The UNAIDS and the WHO, since the discovery of HIV/AIDS, have reported huge increases in the prevalence rates of the virus and syndrome, particularly among young adolescents. In this regard please see the background to the current study as explicated in section 1.2.3 and section 3.3.6 of this thesis.

### **3.3.3 Global perspective**

Karim and Karim (2005:31) state that AIDS is a leading cause of death worldwide and is a threat to life in this century. No virus spreads so vigorously and widely as HIV. Unlike other diseases, the concern is not only about the infected persons, but also about the chain of people infected by the individual and those that will probably still be infected. The disease started only with five cases reported in 1981, but by June 1982, 365 people were already reportedly infected with the virus (Alcamo 2003:26). By 1988, as many as 138 countries had reported the disease, and by November 1991, an estimated 6-8 million people had already been infected (Alcamo 2003:26). In 1997 alone, 2.3 million people died of AIDS. 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/AIDS of whom 34.7 million were adults and 1.4 million were children under 15 years of age. A total of 3 million people had died due to AIDS and 21.8 million deaths had occurred since the beginning of the epidemic (UNAIDS 2000a:3).

At the end of 2001, an estimated 40 million people globally were living with HIV/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/AIDS in 2001 were aged 15-24 years (UNAIDS 2001a:2).

The UNAIDS/WHO report for 2002 estimated that 42 million people worldwide had the virus of whom 5 million were newly infected in that year. The total number of people who died rose to 3.1 million compared to 3 million in 2000 (UNAIDS 2002a:2).

UNAIDS (2005a:3) reports that as of December 2003 an estimated 37.5 million people were living with HIV/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 a total of 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).

To further illustrate the spread of HIV, table 3.1 gives the global HIV prevalence and incidence by region in 2004.

**Table 3.1: HIV prevalence and incidence by region in 2004**

Region	Total number (%) living with HIV/AIDS end of 2004	Newly infected in 2004	Adult prevalence rate
Global total	39.4 million (100%)	4.9 million	1.1%
Sub-Saharan Africa	25.4million (64%)	3.1 million	7.4%
South/South –East Asia	7.1 million (18%)	890 000	0.6%
Latin America	1.7 million (4%)	240 000	0.6%
Eastern Europe /Central Asia	1.4 million (4%)	210 000	0.8%
East Asia	1.1 million (3%)	290 000	0.1%
North America	1.0 million (3%)	44 000	0.6%
Western /Central Europe	610 000(2%)	21 000	0.3%
North Africa/middle East	540 000(1%)	92 000	0.3%
Caribbean	440 000(1%)	53 000	2.3%
Oceanic	35 000(<1%)	5 000	0.2%

Source: UNAIDS (2004b:2)

In addition to the contents of table 3.1, table 3.2 gives the global HIV/AIDS statistics and features by December 2005.

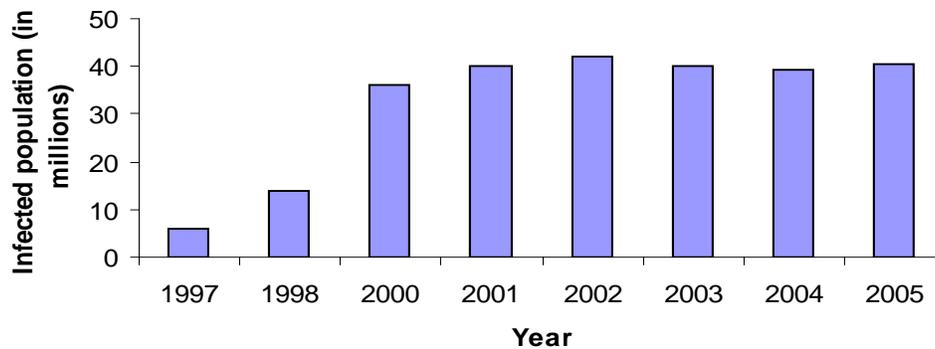
**Table3.2: HIV/AIDS statistics and features by December 2005**

<b>Number of people living with HIV/AIDS in 2005</b>	
Total	40.3 million (36.7-45.3 million)*
Adults	38.0 million (34.5-42.6 million)
Women	17.5 million (16.2-19.3 million)
Children under 15years	2.3 million (2.1-2.8million)
<b>People newly infected with HIV/AIDS in 2005</b>	
Total	4.9 million (4.3-6.6 million)
Adults	4.2 million (3.6-5.8 million)
Children under 15 years	700,000(630 000-820 000)
<b>Aids deaths in 2005</b>	
Total	3.1 million (2.8-3.6 million)
Adults	2.6 million (2.3-2.9 million)
Children under 15 years	570,000(510 000-670 000)

Source: UNAIDS (2005a:1)

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

Figure 3.1 summarises the global infections of HIV/AIDS from 1997 to 2005



**Global HIV/AIDS Infection from 1997-2005**

**Figure 3.1 Global infections of HIV/AIDS from 1997 to 2005**

From figure 3.1, it is clear that infection rates continue to rise from year to year. This implies that the measures to halt the disease seem to be unsuccessful. In the 1990s, various forums were established to fight the disease and people were seriously warned against it. Nevertheless the virus spread vigorously.

Table 3.3 portrays the regional HIV/AIDS statistics in December 2007.

**Table 3.3: Regional HIV/AIDS statistics in 2007**

<b>Region</b>	<b>Adults and children living with HIV/AIDS</b>	<b>Adults and children newly infected with HIV/AIDS</b>	<b>Adult prevalence (%)</b>	<b>Adult and children deaths due to AIDS</b>
Sub-Saharan Africa	22.5 million (20.9 – 24.3 million)	1.7 million (1.4 – 2.4 million)	5.0% (4.6 – 5.5%)	1.6 million (1.5 – 2.0 million)
Middle East and North Africa	380.000 (270.000-500.000)	35 000 (16 000-65 000)	0.3% (0.2-0.4%)	25.000 (20 000-34 000)
South and South East Asia	4 million (3.3-5.5 million)	340 000 (180 000-740 000)	0.3% (0.2-0.4%)	270.000 (230 000-380 000)
East Asia	800.000 (620.000-960.000)	92.000 (21 000-220 000)	0.1% (< 0.2%)	32.000 (28 000-49 000)
Oceanic	75000 (53000-120.000)	14000 (11 000-26 000)	0.4% (0.3%-07%)	1200 (<500-2700)
Latin America	1.6 million (1.4-1.9 million)	100 000 (47 000 – 220 000)	0.5% (0.4-0.6%)	58 000 (49 000-91 000)
Caribbean	230.000 (210.000-270.000)	17000 (15 000-23 000)	1.0% (0.9-1.2%)	11000 (9 800 – 18 000)
Eastern Europe and Central Asia	1.6 million (1.2 – 2.1 million)	150.000 (70 000 – 290 000)	0.9% (0.7-2.1%)	55 000 (42 000 – 88 000)
Western and Central Europe	760.000 (600.000-1.1 million)	31 000 (19000 – 86000)	0.3% (0.2 – 0.4%)	12 000 (<15 000)
North America	1.3 million (480.000–1.9million)	46 000 (38 000 – 68 000)	0.6% (0.5 – 0.9%)	21 000 (18 000 – 31 000)
<b>Total</b>	<b>33.2 million (30.6 – 36.1 million)</b>	<b>2.5 million (1.8 – 4.1 million)</b>	<b>0.8% (0.7 – 0.9%)</b>	<b>2.1 million (1.9 – 2.4 million)</b>

Source: UNAIDS (2007a:7)

Table 3.4 portrays a summary of the global AIDS epidemic by December 2007

**Table 3.4: Global summary of the aids epidemic by December 2007**

<b>Number of people living with HIV in 2007</b>	
Total	33.2 million (30.6-36.1 million)
Adults	30.8 million (28.2 – 33.6 million)
Women	15.4 million (13.9 – 16.6 million)
Children under 15 years	2.5 million (2.2 – 2.6 million)
<b>People newly infected with HIV in 2007</b>	
Total	2.5 million (1.8 – 4.1 million)
Adults	2.1 million (1.4 – 3.6 million)
Children under 15 years	420 000 (350 000 – 540 000)
<b>AIDS deaths in 2007</b>	
Total	2.1 million (1.9 – 2.4 million)
Adults	1.7 million (1.6 – 2.1 million)
Children under 15 years	330 000 (310 000 – 380 000)
The ranges around the estimates in this table define the boundaries within which the actual numbers lie, based on the best available information.	

Source: UNAIDS (2007a:1)

As exhibited in tables 3.3 and 3.4, by December 2007, there were a total of 33.2 million people living with HIV/AIDS. In 2007, advances in the methodology of estimations of HIV epidemics, applied to an expanded range of country data, have resulted in substantial changes in estimates of numbers of persons living with HIV worldwide. However, it must be noted that the qualitative interpretation of the severity and implications of the pandemic has altered little.

According to the UNAIDS AIDS epidemic update (2007a:4), everyday over 6 800 persons become infected with HIV and over 5 700 persons die from AIDS, mostly because of inadequate access to HIV prevention and treatment services. Thus the HIV pandemic remains the most serious of infectious disease challenges to public health. The current study explored knowledge of prevention of HIV/AIDS that senior secondary school learners in the city of Kumba had, and their resultant sexual behaviours.

### 3.3.4 HIV/AIDS in Africa south of the Sahara (SSA)

Africa is badly hit by the HIV/AIDS pandemic. It is estimated that although Africa has only 11% the world's population, 90-95% of all HIV/AIDS-affected people in the world live in Africa (Jackson 2002:12; UNAIDS 2004b:1). Nowhere has HIV/AIDS been as devastating as in Africa where families and villages have succumbed to the epidemic. Two decades after the first case of HIV/AIDS was identified, Africa records the greatest number of HIV infections and deaths in the world. SSA houses just over 10% of the world's population, but is home to more than 70% of all people living with HIV/AIDS (UNAIDS 2005a:17).

At the end of 2001, 28.1 million adults and children were living with HIV/AIDS in SSA, accounting for 70% of the global total. There were 2.3 million AIDS-related deaths in the region in 2001, representing 77% of the global deaths that year. During 2001, 3.4 million people in the region became infected with HIV, comprising approximately 68% of new global infections. At the end of 2001, the region's adult HIV/AIDS prevalence rate was 8.4%. Of the region's HIV- positive adults, 55% were women (UCSF 2001:1).

Table 3.5 exhibits information on HIV/AIDS for the years 2003 and 2005 in SSA.

**Table 3.5 HIV/AIDS statistics and features in 2003 and 2005 in sub-Sahara Africa**

Year	Adults and children living with HIV	Number of women living with HIV	Adults and children newly infected with HIV	Adults' prevalence (%)	Adults' and children's deaths due to AIDS
<b>2005</b>	25.8 million (23.8-28.9 million)	13. Million (12.5-15.1 million)	3.2 million (2.8-3.9 million)	7.2 million (6.6-8.0 million)	2.4 million (2.1-2.7 million).
<b>2003</b>	24.9 million(23.0-27.9 million)	13.1 million (12.1-14.6 million)	3.0 million (2.7-3.7million)	7.3 million (6.7-8.1 million)	2.1million (1.9-2.4million).

Source: UNAIDS (2005a:17)

The overall rate of infection for adults in SSA stood at 7.2% in 2005, compared to a global rate of 1.1% (UNAIDS 2005a:3). In 2005, 57% adults who were living with HIV/AIDS in SSA were women (UNAIDS 2005a:4). Deaths due to AIDS in SSA amounted to 2.4 million of which 1.1 million were women. Deaths among children under age 15 touched on 500 000 (UNAIDS 2005a:17). The UNAIDS (2008:21) states that there were 12.0 million HIV/AIDS orphans living in SSA; 75% of all adult women living with HIV/AIDS were from SSA (UNAIDS 2004a:93).

According to the regional HIV statistics shown in table 3.3, SSA continues to be the region most affected by the AIDS pandemic. More than two out of three (68%) adults and nearly 90% of children infected with HIV in 2007 lived in this region, and 76% AIDS deaths in 2007 occurred there, indicating the unmet need for preventive measures and ART in Africa. SSA therefore remains the most seriously affected region, with AIDS remaining the leading cause of death (UNAIDS 2007a:4). The current study explored the preventive measures against HIV/AIDS used by senior secondary school learners in Kumba, Cameroon.

### **3.3.5 Cameroon**

The HIV/AIDS epidemiological profile in Cameroon has been discussed in Chapter 1. (See section 1.2.2 of this thesis).

### **3.3.6 Status of HIV/AIDS among young people**

#### **3.3.6.1 *Globally***

Young people are at the centre of the global HIV/AIDS pandemic. They are also the world's greatest hope in the struggle against this fatal disease. Today's youth have

inherited a lethal legacy that is killing them and their friends, their brothers and sisters, parents, teachers and role models (UNICEF/UNAIDS/WHO 2002:6).

Akon and Monday (2002:1) cited Onyejiaku (1991) as describing the adolescent period as a unique period in the life of an individual, a period of marvellous new birth as well as a period of storm and stress. The best time comes as a result of friendship ties that are formed between boys and girls and that are often centred on sex. The adolescent period is a time of growth spurts, caused by increased hormonal activities; a period of self-awareness and development. The adolescent period is therefore a period of great exploratory activities especially sexual activities. This naturally has implications for the spread of HIV among these members of the society.

UNAIDS (1999a:4) estimates that 7 000 young people worldwide contract HIV everyday. Of the people living with HIV/AIDS in 1999, at least one-third were young people aged 10-24 years. About 50-60% of these youths contracted HIV during infancy whilst the rest contracted it during adolescence. UNICEF (2000:11-12) reports that during 2000, 8 000 youths younger than 25 years of age, were infected daily with HIV, and that a further 10.3% of youths between the ages of 15-24 and another 1.4 million children under the age of 15 years were living with HIV/AIDS. Approximately 13.2 million children were orphaned due to AIDS. This is a major concern to development efforts. An estimated 11.8 million young people aged 15-24 were living with HIV/AIDS in 2002 globally, yet only a fraction of them knew they had been infected (UNICEF/UNAIDS/WHO 2002:6).

The increase in daily infection rates from one year to another is an indication that youths have increased vulnerability and susceptibility to HIV/AIDS. Hence the need to investigate the HIV/AIDS related knowledge, attitudes and perceptions and the sexual behaviours of youths.

According to UNAIDS 2008 Report on the Global AIDS epidemic (2008:33, 96), young people aged 15-24 account for 45% of all new HIV infections, and many young people still lack accurate information on how to avoid exposure to the virus. The current study

explored the HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school learners in Kumba, Cameroon. UNAIDS (2008:96) further states that prevention programmes will not be optimally effective unless they are supported by effective initiatives to address the social factors that increase risk and vulnerability, including gender inequality, HIV stigma, discrimination, and social marginalisation of the populations most at risk of HIV exposure. All these issues were explored in the current study (see sections 3.4.2.1.2 on gender and 3.4.2.2.3 on stigmatisation and discrimination)

### **3.3.6.2 Cameroon youths**

HIV and AIDS issues, as relating to Cameroon’s youths, have been discussed in chapter one. (See section 1.2.3 of this thesis).

### **3.3.7 Cameroon’s response to the HIV/AIDS epidemic**

For a detail discussion on the Cameroon Government’s response to the HIV/AIDS pandemic in Cameroon, see section 1.2.5 of this thesis. This response is summarised in table 3.6.

**Table 3.6: Dates and major events of Cameroon’s national response to HIV/AIDS**

<b>Designation</b>	<b>Year</b>
1 year short term plan	1987
First medium term plan	1988-1992
Second medium term plan	1993-1995
Comprehensive policy development on HIV/AIDS	1999-2000
First five year development plan	2000-2005
Second five year development plan	2006-2010

Source: EHAIA (2005:10)

As explained in section 1.2.5 of this thesis, Cameroon’s government’s response to the HIV/AIDS pandemic had been inadequate since the onset of the pandemic. Taking into

consideration the culture of silence and denial of the diseases associated with HIV/AIDS; this could justify why Cameroon has become one of the worst hit countries in the central African sub region.

Despite the aim of plans to consolidate and expand interventions on HIV/AIDS and the monitoring of behaviour changes and the progress of the epidemic through epidemiological prevalence studies, the NACP faced many shortcomings, including:

- Insufficient coordination mechanisms between stakeholders and programme partners
- Inadequate resources allocated to the programme
- Lack of involvement of the government sectors, other than health sectors, to combat HIV/AIDS
- Increased HIV/AIDS prevalence especially among those aged 20-39 (EHAIA 2005:10)

### **3.3.8 Global and regional commitment to the fight against HIV/AIDS**

In recognition of the gravity of the global, and particularly the African HIV/AIDS epidemic, there are a number of regional and global declarations and commitments to taking greater and more effective actions against HIV/AIDS.

At the United Nations' Millennium Summit in September 2000, heads of states and governments undertook to halt and to begin reversing the spread of HIV/AIDS by 2015 (<http://www.developmentgoals.org/aboutthegoals.htm>). This commitment was endorsed on the African continent during April 2001, when the heads of state and the then Organization of African Unity (OAU) signed the Abuja Declaration on HIV/AIDS, Tuberculosis and other related infectious diseases. In the declaration, HIV/AIDS was declared a serious problem on the continent and countries pledged their total commitment to the fight against HIV/AIDS with specific pledges including setting a

target of allocating at least 15% of their annual budgets to the improvement of the health sectors (Abuja Declaration 2001, OAU/SPS/ABUJA/3:5).

These commitments reached their global zenith in June 2001, when the member states of the United Nations met in a Special Session of the General Assembly on HIV/AIDS (referred to by its acronym of UNGASS). Then 142 countries adopted a declaration of commitment intended to “secure a global commitment to enhancing co-ordination and intensification of national, regional and international efforts to combat HIV/AIDS in a comprehensive manner” (UNGASS 2001, Para 1).

The UNGASS declaration reflects several new understandings about the epidemic, namely:

- Firstly it is realised that an effective response is a comprehensive one, and that effective prevention relies fundamentally on the availability of treatment and care.
- Secondly, the declaration recognises the need for targeted interventions aimed at all high-risk groups, especially young people and women. The current study explored the HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours among senior secondary school learners in Kumba, Cameroon, with the view of making recommendations to government to curb the prevalence of HIV/AIDS among youths.
- Thirdly, the declaration recognises that the effectiveness of HIV/AIDS prevention and treatment programmes also relies on addressing underlying causes of the epidemic, especially gender inequality as well as poverty, lack of information and vulnerability from human rights violations.
- Fourthly, it reflects the growing recognition that community mobilisation is the core strategy on which successful campaigns against HIV/AIDS have been built, with PLWHA forming a crucial component. This kind of mobilisation is dependent on eliminating the stigma attached to HIV/AIDS, developing partnerships between social and government actors, and ensuring the involvement of communities and individuals infected and affected by HIV/AIDS (UNGASS Declaration 2001).

In 2006, an international conference on HIV/AIDS was held in Toronto, with a call for prevention, care and treatment as the main actions against HIV/AIDS (AIDS 2006:1), reiterating some of the 2001 UNGASS commitments. The XVII international AIDS conference held in Mexico City from 3-8 August 2008, opened with the following statement by the AIDS 2008 international co-chair, Dr Pedro Cahn: “AIDS 2008 is taking place at a unique moment in the epidemic, when there is widespread consensus on the urgency of ensuring universal access to HIV prevention, treatment, care and support by 2010” (AIDS 2008a). This also reiterates some of the 2001 UNGASS commitments.

### **3.4 LITERATURE REVIEW AS IT RELATES TO THE HEALTH BELIEF MODEL’S CONSTRUCTS AND ASSUMPTIONS**

#### **3.4.1 Individual perceptions regarding HIV/AIDS**

As indicated in sections 2.3.2.4.1; 2.3.2.5.1; and 2.3.2.5.2 of this thesis, individual perceptions regarding HIV/AIDS involve:

- Perceived susceptibility, which refers to an individual’s estimated probability of encountering a specific health problem; with regard to the current study, HIV/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; with regard to the current study, HIV/AIDS.
- Perceived threat, implying the combined impact of perceived susceptibility and perceived seriousness. The impact of HIV/AIDS on the health of individuals should be perceived as serious threats to individuals and their respective families.

According to the Concise Oxford Dictionary (1999:1049), “perception” refers to a way of considering, understanding or interpreting something. With regard to the current study, perception refers to the way learners in the city of Kumba understood and interpreted facts relating to HIV/AIDS.

The global HIV/AIDS situation for adolescents is extremely serious, and the need for stronger 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 and personalised HIV information and prevention services and a host of other socio-economic reasons (UNFPA 2003:7). As mentioned in section 3.3.6.1 of this thesis, an estimated 11.8 million young people aged 15-24 are living with HIV/AIDS (UNICEF/UNAIDS/WHO 2002:6). It is estimated that about half of all people who have had HIV were infected when they were between the ages of 15 and 24, and nearly one-third of those currently living with HIV/AIDS are between 15 and 24 (UNFPA 2003:7). If the current trends continue, it is expected that the number of young people infected with HIV/AIDS could increase to 21.5 million by 2010 (UNFPA 2003:7).

The adoption of preventive behaviours would be the only protection against HIV transmission, if a major medical break-through stays a long way off. 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. The socio-psychological literature on health-related behaviours emphasises the perception of being at risk of infection as one of the necessary conditions for behavioural change. Moreover, the degree of perceived risk seems to affect individuals’ actual control in adopting preventive measures (Bernardi 2002). For instance in the literature focusing on the context with high 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/AIDS (Wolff & Blanc 2000).

Sensitivity to risk depends on factors other than knowledge of infection mechanisms; it also depends on behaviours, such as individual awareness of the illness (its prevalence, the severity of its symptoms, its lethality) and the perception of the general health status (Renne 1997).

Accurate knowledge about the mode of HIV transmission is the gateway to behavioural change. Pettifor, Rees, Steffenson, Hlongwa-Madikizela, Macphail, Vermaak and Kleinschmidt (2004:54) state that in order for young people to take precautions to protect themselves against HIV infection, they first have to regard themselves as potentially at risk of becoming infected. In a study conducted among young people aged 15-24 in South Africa, 36.0% of them reported that they believed they were not at risk at all of contracting HIV, 35.0% reported being at small risk, and 12.0% at moderate risk while 14.0% reported being at high risk. These findings are significant in the light of the fact that 67.0% of the young people reported having had sexual intercourse (Pettifor et al 2004:54).

In another study conducted in Malawi in 1994, focus group discussions with primary and secondary school pupils showed that about 79.0% young people generally perceived themselves to be at high risk of contracting HIV (Munthali, Chimbiri & Zulu 2004:29). A study conducted three years later in Malawi in 1997, revealed that only 45.0% of young people felt they were at risk of contracting HIV. However, 61.0% of the males and 57.0% of the females were reportedly sexually active (Munthali et al 2004:15 & 29). This shows that there might be no increased HIV risk perceptions among young people who engage in sexual behaviours that could substantially increase their risk of HIV infection.

Voluntary counselling and testing (VCT) is also an important strategy for HIV prevention because people who tested negative will be like to adopt practices that will prevent them from getting infected. Many young people expressed their desire to be tested for HIV (Boswell & Baggaley 2002:1). A study conducted in South Africa revealed that 60.0% of young people were interested in knowing their HIV status but only 11.0% reported knowing their status despite the fact that VCT services were readily accessible (Pettifor

et al 2004:56). Studies on young females aged 15-24 in Malawi revealed that 72.0% of them knew where to go for VCT but only 9.0% had actually gone for testing (UNICEF/UNAIDS/WHO 2002:47). This shows that risk perception for HIV among young people is still low compared to their sexual practices.

Rosenstock (1990) who developed the HBM suggests that preventive action is more likely among those who feel vulnerable to a disease. This suggests that people have to perceive themselves at risk of infection in order to take preventive actions to safer sexual behaviours such as fidelity and condom use.

Studies in South Africa and other SSA countries show that young people often perceive their risks of HIV/AIDS to be low even if they engage in HIV/AIDS risky behaviours, live in areas with high HIV prevalence rates, or are knowledgeable about HIV/AIDS (Macintyre, Rutenberg, Brown & Karim 2004; Macphail & Campbell 2001; Pettifor et al 2004; Sarker, Milkowski, Slinger, Gondos, Sanou, Kouyate & Snow 2005; Tillotson & Maharaj 2001). One explanation for low perceived HIV/AIDS risk is that youths may exhibit optimistic bias, tending to underestimate risks in general due to feelings of invulnerability (Macintyre et al 2004; Moore & Rosenthal 1991). Additionally, HIV/AIDS is a highly stigmatised disease (Kalichman, Simbayi, Jooste, Cherry & Cain 2005; Maughan-Brown 2006). Acknowledging one's own risk implies putting oneself at risk of being stigmatised. Thus youths may avoid self-disclosure, this by downplaying their own personal risk, which leads to further low risk perceptions (Macintyre et al 2004). Personality experience and familiarity with HIV/AIDS may be associated with more awareness of infection pathways, less stigma towards the disease, and higher perceived risks of infection.

Eaton, Flisher and Aaro (2003) note that individuals who deny the presence of HIV/AIDS in their community have a perceived invulnerability to the disease. In Cameroon, as in many SSA countries, the primary mode of transmission of HIV/AIDS is heterosexual intercourse (Cameroon NACC 2006:2), and most Cameroon youth know that HIV/AIDS can be transmitted this way (Meekers & Calves 1999:51; Rwenge

2000:124-5; Van Rossem & Meekers 2000:383). Individuals who have had sex should have a higher perceived HIV/AIDS risk than virgins; and individuals who have high-risk sex (no or infrequent condom use, or multiple partners) should have higher perceived risks than individuals who engage in low-risk sex. The evidence supporting the link between risk behaviours and perceived risk is mixed. Some studies in SSA have found correlations between perceived HIV/AIDS and risk behaviours (Barden-O'Fallon, De Graft-Johnson, Bisika, Sulzbach, Benson & Tsui 2004; Maharaj 2006; Shobo 2007; Ukwuani, Tsui & Suchindran 2003,) while others have not (Adetunji & Meekers 2001).

The current study also investigated the individual perceptions of Cameroonian learners of HIV/AIDS with the aim of formulating strategies that could be used in the curriculum of secondary schools with a view to increasing perceptions to HIV/AIDS, and hence reducing the prevalence of risky behaviours among the youths.

The majority of learners in urban Cameroon perceived HIV/AIDS to be a grave illness that was sexually transmitted and which resulted in death (Nijkam Savage 2005:58). Nevertheless HIV/AIDS was also easy to prevent according to both males and females (Nijkam Savage 2005:58). Although condoms were perceived generally as an important means of preventing STIs, especially HIV/AIDS, learners were not using them consistently (Nijkam Savage 2005:57). This shows that beliefs and convictions about the severity of HIV/AIDS do not always lead to behaviour changes, especially sexual behavioural changes.

Despite increasing awareness of the severity of HIV, youths in Cameroon are still engaging in risky sexual behaviours such as multiple sexual partners, and non-use of condoms (Rwenge 2000:125; Meekers, Klein & Foyet 2001:8). Risk perception of HIV/AIDS should accompany risky sexual behaviour change. But this is not the case. So the current study also explored the relationship between perceptions of HIV/AIDS and sexual behaviours of senior secondary school learners in the city of Kumba. According to Bernardi (2002:6), there are three potential influential determinants of risk perceptions for HIV/AIDS, namely:

- Knowledge of the mechanism of HIV transmission: risk depends on the capability to assess the relationship between behaviours and the modes of transmission of the virus. Individuals may have correct or incorrect understanding of what the actual HIV infection agents are. When an individual is aware that one or more documented modes of HIV transmission can lead to infection, this awareness is referred to as correct knowledge (sexual intercourse, infected blood and injection needles during usage). Conversely an individual's incorrect knowledge endorses false beliefs about transmission mechanisms (beliefs that HIV is transmitted by mosquito bites, kisses and touching an ill person) (Bernardi 2002:7). For more information on knowledge as a factor in combating HIV/AIDS, also see section 3.4.2.3.5 of this thesis.
- Behavioural control and actual behaviours: Individual risk perception depends on the individual's perceived capability to take preventive measures against the infection including embarking upon the actual associated behaviours. Self-risk assessment is the product of one's knowledge (whether correct or incorrect) and the 'riskiness' of one's behaviours. Depending on one or the other of these two factors, perceived risk may or may not be accurate compared to actual risk (Bernardi 2002:7). In order to understand respondents' perceptions of risk (as well as the predictive value of risk perception in the adoption of preventive behaviours), information is required about the preventive measures they themselves perceive to be effective. This aspect is discussed in detail in sections 3.4.2.3.2, 3.4.2.3.3, 3.4.2.3.4, and 3.4.2.3.7.2 of this thesis.
- Social networks: Individual perception depends on the perception held by other members of an individual's personal network. Individual risk perception, as well as individual knowledge, is likely to be subject to social environmental influences, as long as social interaction allows information exchange, facilitates common evaluation and definition of the information's meaning and validity (Bernardi

2002:8). For more on this, see sections 3.4.2.2.1 and 3.4.2.2.2 of this thesis on peers' influence and family communication respectively.

### **3.4.2 Modifying factors that could influence knowledge, perceptions and attitudes regarding HIV/AIDS and sexual behaviours**

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.

#### **3.4.2.1 *Demographic variables***

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

##### **3.4.2.1.1 *Age***

Young people especially youths between the ages of 15 and 24 are most vulnerable to HIV/AIDS infection. In 2003, approximately 50% new HIV infections worldwide were among individuals in this age group, which accounted for about 6 000 new infections daily, and there were 12.4 million teens and young adults living with HIV/AIDS (Sutherland 2006). Behavioural, physiological and sociocultural factors make young people more vulnerable to HIV infection than adults (The Alan Guttmacher Institute 2004:4). Adolescence is a time when young people naturally explore and take risks in many aspects of their lives, including sexual relationships. Those who are sexually active may change partners frequently, and have more than one partner at the same

time or may engage in unprotected sex. All of these behaviours increase young people's risk of contracting HIV. In addition young people who are HIV positive probably became infected quite recently and are therefore likely to be highly infectious as a result of increased viral loads; posing very high risks to their sexual partners (Anderson 1991:41).

Compounding young people's greater vulnerability to HIV from behavioural factors is the fact that in SSA, as well as elsewhere in the developing world, young people's reproductive health needs receive little attention (Kiragu 2001:7). And even where reproductive health care for adolescents is available, many young people do not know where to obtain this or are unable to pay for it. Thus, most young people have to overcome significant obstacles to obtain the information and care they need to have safe sexual relationships. The current study also explored the reproductive health needs of respondents (see section J in both the male and female questionnaires) and also the sexual behaviours (see section I in both the male and the female questionnaires) of these respondents (learners) in the city of Kumba that predisposes them to HIV/AIDS infection (see Annexure H & I of this thesis).

#### 3.4.2.1.2 *Gender*

Gender refers to the economic, social and cultural attributes and opportunities associated with being female or male. As such it encompasses a set of qualities and behaviours expected by society from females and males.

UNAIDS (2004a:40) posits that the epidemic in SSA affects more women than men, as women are 30% more likely to be infected than men. The ratio in Africa is highest among young women aged 15-24 where women were found to be 3.4 times more likely to be infected than men. These differences in infection rates are due to a combination of factors. Women and girls are commonly discriminated against in terms of access to education, employment and land inheritance; with increasing levels of poverty in

Cameroon women have found themselves in casual relationships with men for financial gains. Women therefore find it difficult to demand safe sex, as they become subordinates or dependent of mainly older men; women are also biologically prone to infection, and HIV is more easily transmitted from men to women than the reverse (UNAIDS 1997b:3). Apart from possible biological factors, there are other reasons for the disproportionate risk of young women acquiring HIV infection early such as early sexual debuts of girls. The context of gender inequalities places women at a greater risk of being infected by HIV/AIDS. Women and girls lack power over their bodies; and their sexual lives, social and economic inequalities increase their vulnerability for contracting and living with HIV/AIDS. Pelsler (2002:34) purported that the vulnerability of girls and women to HIV include social norms that deny them sexual health, as well as cultural practices that prevent them from controlling their bodies or deciding upon the terms on which they have sex. Women are still brought up to be subservient to men, especially in sexual relationships. The current study also investigated the sexual and reproductive health needs of both male and female learners in Kumba, Cameroon. In many parts of SSA, including Cameroon, even when a woman wants to protect herself she is often confronted by an entrenched culture of male dominance that renders her powerless.

*“Men often beat their female partners when the latter refuses intercourse or requests the use of a condom. Real men do not use condoms, so women who want their partners to use condoms, often have to fight deeply ingrained taboos even when women know their partners are at high risk of HIV”* (Pelsler 2002:35).

Generally, women lack complete control over their lives and are taught from early childhood to be obedient and submissive to males, particularly males who command power such as a father, uncle, husband, elder brother, or guardian. In sexual relations, a woman is expected to please her male partner, even at the expense of her own pleasure and well-being. Dominance of male interests and lack of self-assertiveness on the part of men put them at higher risk of contracting HIV or STIs. Apart from the psychological aspect of gender inequalities, anatomically and physiologically, women

also have larger areas of mucous membranes exposed to the virus and they may also be exposed for longer periods of time than men (Nova Scotia 2003:5; Yamuna 2006:5).

The concentration of HIV/AIDS in the developing world and in the marginalised communities of the first world mirrors the conditions of global inequality. HIV flourishes in conditions of poverty, conflict and inequality and in states with weak resources and capacities. With these broad political and economic inequalities, the intersection of HIV/AIDS and gender inequalities, are relatively well documented. Statistics show that women and girls are increasingly bearing the brunt of the infection (Albertyn 2000:3).

According to the UN 23<sup>rd</sup> General Assembly Report, women continue to be victims of various forms of violence. Inadequate understanding of the root causes of all forms of violence against women and girls hinder efforts to eliminate violence against females. Socio-cultural attitudes, which are discriminatory and economic inequalities, reinforce women's subordinate position in society. This scenario exacerbates women and girls' vulnerability towards many forms of violence occurring in the family, including battering, sexual abuse of the female children, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women (UN 2000:13).

Gender inequalities are major driving forces behind the spread of HIV. Inequalities in relationships often make people unable to act on what they know. Some researchers and policy makers have identified gender inequality as the number one obstacle preventing women from protecting themselves against HIV infections. Gender-based inequalities often overlap with other social, cultural, economical and political inequalities between men and women. In Southern Africa in particular, women face a greater risk of HIV infection than men, because their diminished socio-economic status compromises their ability to choose safer and healthier life styles (Pelser 2002:34). As previously indicated in this section, 57% of adults who were living with HIV/AIDS in SSA in 2005

were women (UNAIDS 2005a:4). During 2008, women reportedly constituted 61% of people living with HIV/AIDS in SSA (The World Bank Group 2008). The latest official demographic estimate for the South-West region of Cameroon shows a 1.01male/1.00female in the general population (EXXUN Cameroon 2009; CIA World Factbook Cameroon 2009). However in Cameroon, secondary school enrolment as a gross percentage of school age population is 34% for males and 29% for females (UNFPA 2005:26).

#### 3.4.2.1.3 *Religion*

As the HIV/AIDS crisis has spread throughout the world, the HIV rates among Christian populations have remained significantly higher than among Muslim populations. This trend can be shown within Nigeria. With an HIV population of over 3 million, Nigeria has the second highest burden of HIV infection in SSA (Nigeria 2005).

Within Nigeria, the highest prevalence rates are found in Christian areas of the country such as Benue where 10% of the population is HIV positive (Mack 2006:1). All of the states with an HIV prevalence rate above 6% are in the Christian areas of the country. The prevalence rates within Muslims states on the other hand, generally fall within 2-4% (Mack 2006:1). In Cameroon, the highest prevalence of HIV/AIDS is found in the Christian dominated provinces of the country. (See table 1.4). The population distribution of Cameroon according to religion is as follows: Catholic, 26%; Indigenous beliefs, 24%; Protestant, 21%; Muslims, 21% and others, 8% (Cameroon facts and figures 2006).

Religion does play a large role in shaping the HIV/AIDS crisis in Cameroon, but not because of underlying differences in beliefs and moral choices between Christians and Muslims. Christians and Muslims have similar views on why the HIV epidemic continues

to spread: both groups see promiscuity as the root cause of HIV/AIDS (Mack 2006:1). Promiscuity is frowned upon heavily because of religious teachings and because of underlying cultural traditions within the Cameroonian society. Leaders in both the Christian and Muslim communities discourage their followers from pre-marital and extra-marital sex. With this similar aversion to risky sexual behaviours that could lead to contraction of HIV, it would seem that the infection rates between both groups should be comparable. To explain the discrepancy, it could be said that the Muslims put their beliefs into practice much more than do Christians. Many Christians in Nigeria and elsewhere are of the opinion that Islam is more repressive and less forgiving than Christianity. The lower rates are therefore not a reflection of merits of the religion, but rather of the inherent oppressive nature of the religion (Mack 2006:2).

Table 3.7 exhibits the 10 most Christian countries in Africa (according to Operation World) and the HIV prevalence for each country.

**Table3.7: The 10 most Christian countries in Africa and their HIV prevalence rates**

Country	Christian (%)	HIV/AIDS rate (%)
Congo (Dem Rep)	95.3	4.9
Equatorial Guinea	95.1	3.4
Angola	94.1	5.5
Congo	91.3	7.2
Burundi	90.1	8.3
Uganda	88.7	5.0
Zambia	85.0	21.5
Swaziland	82.7	33.4
Rwanda	80.8	8.9
Malawi	80.0	15.0

Source: Martin Roth (2002:1)

In general the HIV/AIDS rates are highest in those countries where Protestants and other non-Catholic Christians predominate.

Table 3.8 gives the 20 most non-Catholic Christian countries in Africa and their adult HIV/AIDS infection rates.

**Table 3.8: The 20 most non-catholic Christian countries in Africa and their adult HIV/AIDS prevalence rates.**

<b>Country</b>	<b>Non-catholic Christian (%)</b>	<b>HIV/AIDS rate (%)</b>
Swaziland	78.0	33.4
South Africa	65.2	20.1
Ethiopia	64.4	6.4
Namibia	64.0	22.5
Botswana	63.2	38.8
Zimbabwe	63.0	33.7
Malawi	57.1	15.0
Kenya	56.0	15.0
Ghana	53.2	3.0
Central African Republic	52.1	12.9
Zambia	51.6	21.5
Congo (Dem Rep)	50.8	4.9
Uganda	46.7	5.0
Erithrea	43.7	2.8
Cameroon	42.5	11.8
Congo	42.0	7.2
Nigeria	39.2	5.8
Rwanda	38.2	8.9
Mozambique	36.8	13.0
Lesotho	35.8	31.0

Source: Martin Roth (2002:2)

Table 3.9 gives the 10 most Muslim countries in Africa and their adult HIV/AIDS prevalence rates.

**Table3.9: The 10 most Muslim countries in Africa and their adult HIV/AIDS prevalence rates**

<b>Country</b>	<b>Muslim (%)</b>	<b>HIV/AIDS rate (%)</b>
Somalia	100.0	1.0
Morocco	99.9	0.1
Algeria	96.7	0.1
Libya	96.5	0.2
Senegal	92.1	0.5
Gambia	88.8	1.6
Mali	87.0	1.7
Egypt	86.5	0.1
Sierra Leone	70.0	7.0
Sudan	65.0	2.6

Source: Martin Roth (2002:3)

From these tables, it could be deduced that the Muslim countries have a lower prevalence of HIV/AIDS than their Christian counterparts. The lower incidence might be due to external control. The same external control might account for lower crime levels.

Ehlers (1999:54) states that religion could sometimes hamper the effective use of contraceptives, especially condoms. The Roman Catholic Church opposes condom use in favour of “direct contact” (Alsan 2006; Bradshaw 2003). This could have serious implications in the spread of HIV/AIDS. This could be problematic in the African situation characterised by low socio-economic status for women, and men’s dominant culture. This could have serious implications in the spread of HIV/AIDS. Makhetha (1996:29), in his study of factors associated with contraceptive use by adolescents in South Africa, mentioned that high religiosity made adolescents less likely to engage in premarital sexual relations. Murray, Zabin, Toledo-Dreves and Lvengo Charath (1998:140) state that the teenagers, who attended religious services regularly, delayed the timing of the first sexual encounters. Adolescents who are highly religious are less likely to use condoms during sexual intercourse (Zaleski & Schiaffino 2000:223).

The HBM posits that people must perceive themselves to be susceptible to HIV/AIDS before they can implement safer sexual practices to prevent the infection. The current study investigated the correlation between religiosity and AIDS risk perception, and the sexual behaviours of learners in Kumba, Cameroon. The current study also investigated the risk perception of respondents on HIV/AIDS and sexual practices in the light of their religious affiliations.

#### *3.4.2.1.4 Sexuality education*

Some studies exhibit some correlations between educational levels and HIV/AIDS prevalence. In South Africa for instance there is a general trend that those with tertiary education have lower rates of HIV than people with less education (Shisana & Simbayi 2003). In addressing the possible arrest of HIV/AIDS 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. 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).

Galvao, Diaz, Diaz, Osis, Clark and Ellertson (1999:169) report that in Brazil both parents' educational level was of significance in terms of receptivity to information and imparting sexual knowledge to their children. It was stressed in the study that parents who did not complete their high school education were less likely to talk about sexuality with their children as discussing sexual matters might be embarrassing. Statistics released by the United Nations Educational Scientific and Cultural Organisation (UNESCO), claim that HIV "prevalence among young people is high and rapidly rising. 30% of people currently living with HIV/AIDS are under the age of 24 years. In most developing countries, young people between the ages of 12 and 24 constitute the majority of new HIV infections" (UNESCO 2003:23). As purported by the (World Bank 2002:30): "*schools may often be the only place where adolescents can obtain accurate information on reproductive health*". So the current study aims at establishing the knowledge secondary learners have regarding HIV/AIDS that will influence their risk perception.

Research shows that school-based prevention programmes in countries such as Uganda and Zambia have contributed to the decrease in HIV infection rates. In Lusaka, Zambia, HIV prevalence among adolescents age 15-19 declined from 28% in 1993 to 15% in 1998. There is also evidence of increased condom use and fewer sexual partners, attributed to a vigorous programme providing life skills education and health services for young people.

In Kampala, Uganda, too, HIV prevalence rates among pregnant girls aged 15 to 19 fell from 22% in 1990 to 7% in 2002, most likely because of delayed first intercourse, fewer partners and increased condom use. The president of Uganda has spoken openly about AIDS and the mass media as well as the government and community and

religious organisations have active public education campaigns (UNICEF/UNAIDS/WHO 2002:23). Because of increased levels of risk perception resulting from improved knowledge of HIV/AIDS, the adult prevalence rate of HIV/AIDS in Uganda for 2002, stood at 5% (Avert 2009).

Critics have accused the US government of encouraging a shift of Uganda's HIV prevention policy towards promoting abstinence only, and away from promoting condom use. A severe national condom shortage is reported. As a result of this, scientists have suggested that HIV prevalence in Uganda may be rising again (Avert 2009). Also contributing to a rise in HIV prevalence is the fact that in mid-2006 the growth and effectiveness of ART programme in Uganda were put in jeopardy by drug shortages-allegedly due to sloppiness in the procurement following the suspension of global fund support (Avert 2009).

Secondary school learners may not realise the impact that unsafe sexual practices, STDs and HIV/AIDS may have on their lives. Young people cannot protect themselves if they do not know the facts about HIV/AIDS. Good quality education fosters analytical thinking and healthy habits. It is essential to reach young people before they engage in high-risk behaviours, including drug and alcohol use. Information on HIV/AIDS and reproductive health as well as life skills should be integrated into primary schools' curricula and offered throughout the school years (UNICEF/UNAIDS/WHO 2002:26).

UNICEF/UNAIDS/WHO (2002:6) emphasise that the only hope left for reducing the HIV/AIDS prevalence around the world is to focus on young people through educating them about HIV/AIDS. The education should be based on sex and sexuality, as the main mode of transfer of HIV is through sexual contact. Young people should be taught sound morals before engaging in sexual practices. With this in mind, UNICEF/UNAIDS/WHO (2002:7) emphasise: "*establishing healthy patterns from the start is easier than changing risky behaviours already entrenched.*" Sex education should commence at the pre-puberty stage, between 10 and 14 years of age, when the

young adolescent is more receptive and more likely to adopt what is being taught (UNICEF/UNAIDS/WHO 2002:7).

Starting early also means that children who do not remain in school can be reached. The current study also investigates the HIV/AIDS related information that learners have, and their sources of information.

In Cameroon, there exists neither HIV/AIDS policy in the education sector nor any HIV/AIDS specific legislation against discrimination on the grounds of HIV (UNAIDS/ECA 2000:39). With the assistance of international partners, many interventions to reduce the prevalence of HIV/AIDS in schools have been made, through the introduction in 2007, of the teaching of HIV/AIDS related issues in secondary schools. Unfortunately these teachings only take place during manifestations marking the World AIDS day celebrated every 1<sup>st</sup> of December. So far, only 127 schools distributed throughout 32 council areas have benefited from this (NACC Cameroon UNGASS Progress Report No 3, 2008:9). There still exists no legislation against discrimination on the grounds of HIV/AIDS in Cameroon (NACC Cameroon UNGASS Progress Report No 3, 2008:10). Effective sex education included in the curricula of schools in Cameroon might produce results similar to those in Zambia and Uganda. So, the results of the current study will be used to make recommendations that will be included in the curricula of secondary schools in Cameroon, with the aim of educating learners with correct knowledge regarding HIV/AIDS. Sexuality education is a process that should be continuous throughout life. Sex information regarding HIV/AIDS should include relevant knowledge of transmission, knowledge of protection from the disease and sexual behaviours.

#### *3.4.2.1.5 Cultural and African humanism (Ubuntu)*

Culture is defined as a complex whole, which includes knowledge, beliefs, arts, morals, laws, customs and habits, acquired by man as a member of the society. Culture

represents the way of perceiving, behaving, and evaluating one's world; it is a blue print that is used for determining one's values, beliefs and practices (Andrews & Boyle 1995:8).

Banda (2006:3) states: "*there is no culture that is perfect.*" Norms are said to be roles by which human behaviour is governed; they provide direction for living according to values (Andrews & Boyle 1995:10). Values are personal perceptions of what is good or useful; they differentiate what is desirable from what is undesirable. Values are the universal features of culture (Andrews & Boyle 1995:10). Humans do not exist without culture, or without a value system.

According to the United Nations Economic Commission for Africa, Commission on HIV/AIDS and Governance in Africa (CHGA) (2005:12), health care providers must be aware of the effect culture has on HIV/AIDS related knowledge, perceptions and attitudes, and the sexual behaviours of learners. Traditional social values prescribe strict gender roles that may undermine women's ability to protect their sexual and reproductive health, and condone promiscuity among men. 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 and early marriages, especially when the husband is a much older man.

Campbell (1997:186) states that for many SSA communities, negative attitudes towards condom use is based on cultural factors, including the desire for more children and female sex compliance to enhance their economic status and/or increase the parents' perceived social security for their old age (by having many children to care for them when they are old).

UNAIDS (1999b:34) purported that there was no doubt that all countries were experiencing a decline in traditional sexual values and culture which coincided with a growing pressure to identify young people as a special category at risk of contracting HIV/AIDS. Young people are using aspects of traditional culture to fashion a new one.

The use of sexual workers by young Cambodian men received a perverse kind of approval from a society that highly values virgin brides. Young men perceive their sexual needs to be beyond their control and demand immediate satisfaction, hence:

- Different cultural understanding of young people's sexuality.
- The experience of coerced sexual activity and rape of women and effects of modernisation (UNAIDS 1999b:34-35).

Cultural practices in some parts of Cameroon and elsewhere such as KwaZulu-Natal in South Africa such as the inheritance of the 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 (Kinge 2003:146; Mogotlane, Hazell & Mtembu 2007:40). These practices are actually in service of HIV/AIDS transmission. So if people become aware of the actual nature of HIV/AIDS, such cultural practices will die away.

Cultural beliefs have had negative effects on HIV/AIDS programme in Lesotho. One of these beliefs is that having sex with a virgin can cure AIDS. This has led to youths and even infants being vulnerable and faced with senseless assault. Goercke (2004:14) further states: "traditional healers in Cameroon, as well as in other African countries, even resort to desperate measures to cure HIV/AIDS infected individuals, such as encouraging them to sleep with virgins." Such advice would increase the HIV/AIDS transmission and the virgin victims of such practices. This increases the burden of HIV/AIDS services in African countries, including Cameroon.

Traditional practices such as circumcision for boys and girls has led to them being infected with HIV as some traditional healers use unsterilised utensils or blades on recruits. During funerals, it is a traditional practice that people shave their hair off their heads to show their mourning. It has been the norm to use one razor blade to shave everyone. These practices increase the risk of HIV infection (LAPCA 2002:17). It is

within these traditional and cultural beliefs that discussions on sex and sexuality are a taboo.

Mashau (2001:17) posits that social structures especially in Africa have changed, and the traditional values are facing extinction. Because of these, adolescent females and males mingle freely and social control measures among the indigenous people are replaced by activities such as dating and coitus with ignorance about contraceptives, especially condoms. The current study also investigates the perceptions of respondents on, and their actual use of condoms.

In today's society, children mature physically and sexually earlier than before. Netshikweta and Ehlers (2002:79) as well as Spelzer, Muller and Amegee (2001:182) purport that a younger age of menarche is an outcome of social changes in the life style, sexual attitudes and practices among adolescents. Adolescents live in a socio-cultural environment that is different from that of the older generations. The adolescents' world is shaped by what they learn from their peers, television, radio, internet and magazines. The current study also investigates the sources of HIV/AIDS related knowledge of senior secondary school learners.

In Zimbabwe, the African Marriages Act enables a man to have more than one wife. "Men's right to more than one wife is interpreted as their right to have sex with as many women as they wish without obligations of fidelity or family responsibility. Almost all women are seen as sexually available regardless of age or status" (Goercke 2004:14). This increases the risk of HIV/AIDS infection.

Many of the behaviours contributing to a high risk of HIV/AIDS and other STIs among adolescent women and men in SSA are closely related to two powerful environmental influences namely:

- Poverty
- Cultural beliefs about appropriate gender roles (Akinrinola, Susheela, Vanessa & Diedre 2003:24).

*Ubuntu* (a Zulu word) serves as a spiritual foundation for African societies. It is a unifying vision or world-view enshrined in the Zulu maxim *Umuntu ngumuntu ngabantu*, meaning: “*a person is a person through other persons*” (Shutte 1993:46). Essentially, this traditional African aphorism articulates a basic respect and compassion for others. It can be interpreted as both a factual description and a rule of conduct or social ethic. It both describes human beings as “*being-with-others*” and prescribes what “*being-with-others*” should all be about. As such, Ubuntu adds a distinctly African flavour and momentum to a decolonised assessment of the religious others. While Western humanism tends to underestimate or even deny the importance of religious beliefs, Ubuntu or African Humanism is resiliently religious (Prisloo 1995:4).

Thus, Ubuntu as an ancient philosophy or world-view has its roots deeply anchored in traditional African life. It is therefore defined as the “*art of being human being*” (Bhengu 1996:10). According to Broodryk (2002:56), a more comprehensive definition of Ubuntu is: Ubuntu is an ancient African world-view based on the primary values of intense humanness, caring, sharing, respect, compassion and associated values, ensuring a happy and quality human community life in the spirit of family. These primary values of Ubuntu are not abstract, but form the foundations of Ubuntu life coping skills. These values will thus manifest in their practical applications during the exposition of Ubuntu personality.

The Ubuntu personality is thus a reference to the ideal human being as it is manifested in the living of the ancient Ubuntu values (Broodryk 2006). The ideal man, according to the Ubuntu world-view possesses all the following virtues:

- A kind person
- Living in harmony
- Friendly
- Modest
- Helpful
- Humble
- Happy (Broodryk 2006).

These values of Ubuntu will be directly linked to the basic beliefs of the ideal Ubuntu person. In the current study, these Ubuntu values were correlated with the central variables of the research that is HIV/AIDS related knowledge, attitudes, perceptions and sexual behaviours of senior secondary school learners in Kumba, Cameroon. Interestingly, people in Cameroon are not aware of the word “Ubuntu”. The current study in this respect establishes this awareness.

For the western person, the maxim “A person is a person through other persons,” has no obvious religious connotations. One will probably interpret it as nothing but a general appeal to treat others with respect and decency.

However, in African tradition, this maxim has a deep religious meaning. The person is to become “through another person,” ultimately, an ancestor. Ancestors are extended family. Dying is an ultimate homecoming. Not only the living must therefore share with and care for each other but the living and the dead depend on each other (Van Niekerk 1994:2; Ndaba 1994:13-14).

Going therefore by the Ubuntu tradition of basic respect and compassion for others one will expect positive attitudes towards people living with HIV/AIDS (PLWHA). The current study therefore investigated the attitudes of learners towards PLWHA. According to the Ubuntu tradition that prescribes a rule of conduct and social ethics, one would expect the sexual behaviours of youths in Cameroon to be good. The current study also

investigated the sexual behaviours of senior secondary school learners in Kumba, Cameroon

Ubuntu inspires people to expose themselves to others, to encounter the difference of the humanness so as to inform and enrich their own (Sidane 1994:8-9). Thus understood, Ubuntu translates as “*To be human to affirm one’s humanity by recognising the humanity of others in its infinite variety of content and form*” (Van der Merwe 1996:1). This translation of Ubuntu attests to a respect for particularity, individuality and historicity without which decolonisation cannot be. The Ubuntu tradition can impact a high-risk perception of HIV/AIDS among learners, and a consequent positive perception of the protection that condoms offer against HIV infection.

The traditional African practice of gender inequality (in section 3.4.2.1.2 of this thesis); female genital mutilation (in section 3.4.2.1.5 of this thesis); and sexual risk behaviours (coerced sex, multiple sexual partners, early sexual debut and non use of condoms), do not reflect the Ubuntu tradition. Further, in Ubuntu tradition, ancestral spirits are central to the different cultures and traditions in Africa. When an individual contracts a grave illness such as HIV/AIDS, it might be assumed that it is a result of unappeased ancestors. This assumption is severely damaging to HIV/AIDS intervention efforts, because it reduces the individuals’ risk perception and vulnerability to HIV/AIDS. As a result of this assumption, HIV/AIDS infection resulting from irresponsible sexual behaviours might be wrongly attributed to ancestral spirits. According to Goercke (2004:14) “those who believe that sexually transmitted diseases such as HIV/AIDS results from unappeased ancestors rather than unsafe sexual practices also seem to be rejecting the fact that this disease is blood borne and primarily spread through sexual intercourse.”

#### **3.4.2.1.6 Marital Status**

Those who live single lives are predisposed to sexual temptations. This increases their vulnerability to STIs and HIV/AIDS. They might have sexual intercourse regularly with casual partners (Nahamya & Elangwe 2005:4). So unmarried young people are more at risk than their married counterparts.

In a study carried out in Tanzania in 2004, it was reported that married couples are more likely to have positive attitudes toward those infected with HIV/AIDS than their unmarried counterparts (Tanzania Commission for AIDS [TACAIDS], National Bureau of Statistics [NBS] & ORC/Macro 2005). In another study conducted in China, it was also reported that married people exhibited more positive attitudes towards PLWHA than their single counterparts (Lau & Tsui 2005:1).

Mullany, Maung and Beyrer (2003:67) report that in the Tak Province in Thailand, unmarried factory workers reported using male condoms more than their married counterparts. This could be because married people may exhibit low risk perception of HIV/AIDS infection because they believe their sexual behaviours (having a single partner) does not put them at risk of contracting HIV. During the current study correlations between marital status and HIV/AIDS related knowledge; risk perceptions and attitudes; and the sexual behaviours of learners were investigated.

#### **3.4.2.2 Socio psychological variables**

Learners' knowledge, perceptions and attitudes regarding HIV/AIDS and their sexual behaviours could be influenced by various socio psychological variables:

#### 3.4.2.2.1 Peer influence

Peer education involves “*interaction between individuals with shared characteristics such as behaviour, experience, status of social and cultural backgrounds. Interaction within the group is based of equality*” (Charleston, Oakley, Johnson, Stephenson, Brodala, Fenton & Petruckevitch 1996). Research suggests that people are more likely to hear and to personalise 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 (Milburn 1995:418; Sloane & Zimmer 1993:244). Numerous studies in America have demonstrated that peers influence youth’s health behaviours - not only in regard to sexuality but also in regard to violence and substance use (National Hemophilia foundation 1994; Sloane & Zimmer 1993:245). 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 (Miller, Forehand & Kotchick 1999:324). Peer education draws on the credibility that young people have with their peers, leverages the power of role modelling and provide flexibility in meeting the diverse needs of today’s youth. Peer education can support young people in developing positive group norms and in making healthy decisions about sex (DiClemente 1993:163).

Youth peer education is a widely used method to prevent HIV/AIDS and improve the reproductive health of young people. It is an approach in which young people inform other young people about HIV/AIDS and other health-related subjects. It is believed that trained peer educators are a more credible source of information for some youths than adult educators as they communicate in readily understandable terms and serve as positive role models (DiClemente 1993:162).

Around the world, youths face serious sexual health issues. As indicated earlier, each year more than half of all people newly infected with HIV are between the ages of 15 and 24 (see section 3.3.6 of this thesis). In Cameroon, more than 600 people are

infected with HIV/AIDS each day, the majority of whom fall within the age group of 15-24 (see section 1.2.3 of this thesis). Research around the world has shown that peer education reduces risky sexual behaviours. An evaluation of the peer health education programme in Cameroon showed an increase in the use of modern contraceptive methods and an increased use of condoms during “most recent sex” amongst participants in the programme as compared to non-participant youth. The programme was more effective among in-school than out-of-school youths (James-Traore, Magnani, Murray, Senderowitz, Speizer & Steward 2002).

The West African Youth Initiative implemented peer education programmes in schools and out-of-school settings in Ghana and Nigeria. Evaluation showed that peer education significantly increased condom use among in-school youth. The proportion of youths reporting the use of modern contraceptives increased significantly from 47% to 56% (Brieger, Delano, Lane, Oladepo & Oyediran 2001:444). In an alternative school in Florida, USA, a peer education programme resulted in increased reports of condom use at most recent intercourse (up from 45 to 55 %) and fewer reports of unprotected sex (down from 15% to 4%) among sexually active learners (O’Hara, Messick, Fichtner & Parris 1996:180).

During the current study, learners (respondents) were also asked about their sources of HIV/AIDS and sexual information, with peer educators as one of the options. A peer is someone who is of the same age as another person, or who belongs to the same social and professional group as another person. For the purpose of the current study peers refer to learners in the same age group and who are in the senior secondary school level. A peer educator is someone with expert knowledge in a particular field, and who teaches members of the same age and social groups (peers). For the current study, peer educators refer to learners with expert knowledge in HIV/AIDS, who teach their peers about HIV/AIDS.

#### 3.4.2.2.2 *Parent-adolescent communication*

Sex education has rarely been a comfortable topic for parent–child communication. Many parents are unwilling to talk about sex or uncomfortable doing so, or they may lack the knowledge themselves. Many barriers might prevent open communication between parents and children about sexual issues. For example adults fear that informing young adolescents about sex and teaching them how to protect themselves will make them sexually active (UNICEF/UNAIDS/WHO 2002:26).

Parents play a passive role in providing information to their children, yet they are expected to be key players in this role. This is because sex in most African societies is a taboo subject between parents and children. In urban areas most parents are working and spend little time with their children. Children therefore spend their time with grand parents or other persons entrusted with their care, yet communication about sex and sexuality are a silent wave (UNICEF 2002:11). The global prevalence of HIV/AIDS increases from year to year (see section 3.3.3 of this thesis).

UNICEF/UNAIDS/WHO (2002:5) advise that, since there is no cure or vaccine for HIV/AIDS, prevention of new infections must be the corner stone for combating HIV/AIDS. More over, preventive measures through educating people were, and still are the only “vaccine” available for this disease (UNAIDS 1999c:5).

Nefale (2001:13) states that the former president of South Africa, Nelson Mandela, emphasised that good morals and socially accepted conduct must be moulded within families. Good parents are therefore responsible for doing so. Moen, Elder and Luscher (2002:438) maintain that children subject to an authoritarian parenting style are more obedient and conform well to standards set by their parents. Nefale (2001:12) stresses the importance of involving parents in educating their young adolescents and states further that the “family must be at the nucleus of the whole struggle” against HIV/AIDS.

Nevertheless, parents fail to fulfil their role of educating their children on sex, sexuality and HIV/AIDS (UNAIDS/ECA 2000:5). This is reflected in the high prevalence rate of HIV/AIDS among adolescent populations (see section 3.3.6.1 of this thesis). The Commonwealth Secretariat (2002:38) argues that young people find it difficult to obtain precise information on HIV/AIDS from their parents. In view of this, Wilbraham is of the opinion that the parents seem to be “ignorant or misinformed” of their parenting role (Wilbraham 2002:7). In addition, parents might be oblivious of the risks involved if they do not educate their children on sexual matters.

In assessing the core of the HIV/AIDS problem, Taffel (2005:1) discovers that parents do not know how to communicate with their children. He expresses the opinion that parents and children live in two separate worlds that are “parallel” to each other (Taffel 2005:3). This can cause parents to be reticent about the knowledge they have concerning HIV/AIDS and unable to transfer it to children, leading to role ambiguity.

Kreitner and Kinicki (1998:293) describe this ambiguity or indistinctness as a state “when one who is expected to perform a task does not know how to do it.” One of the problems that Taffel (2005:203) points out is that children are sometimes abusive towards their parents and parents endure the abuse, reasoning that it is a childish behaviour. Some parents tolerate it because they don’t know how to act upon it. This could indicate that some parents are knowledgeable about HIV and AIDS but are overpowered by their children. Therefore they fail to transfer their knowledge to their off springs.

Parent-child communication has also been an important variable during the current study, as learners were asked whether or not they felt that communicating with their parents with regard to HIV/AIDS and sexuality is awkward. In addition it was also established, in instances where such communication did occur, what the nature (contents) and regularity of the communication were. It was hypothesised that the nature of the communication would have an influence on HIV/AIDS related knowledge and perceptions as well as on the resultant sexual behaviours of the learners.

#### 3.4.2.2.3 *Stigmatisation and discrimination*

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 marked person was blemished, ritually polluted and was to be avoided (Goffman 1963:1). Originally, the meaning of the word stigma did not refer to an illness but to a certain behaviour, causing a lower status in society.

UNAIDS (2002b: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.*”

This explanation is in line with the definition of Goffman (1963) who maintains that people apply a negative label to an individual based on whatever characteristics make that individual different. According to Stein (2003:99), the stigmatised person was once a member of a certain group, but now that he or she has been labelled with a new and degrading identity that does not fit the group, he or she becomes unwanted. Stigma is one of the most difficult problems to solve within the fight against the HIV/AIDS pandemic.

Stigmatisation is also reflected in the way women are predominantly blamed for the spread of HIV. This reflects and contributes to women’s already marginalised and subordinate status in society: a process that prevails elsewhere in Africa too. According to a study undertaken by Leclerc-Madlala (in Pelsers 2002:36) in parts of Africa such as Zaire, Botswana, Uganda and Tanzania, women are being blamed for the cause and spread of HIV/AIDS. AIDS is strongly coupled with women as both the source of HIV infection and disseminators of AIDS illness and death. Pelsers (2002:36) also indicates that in Zaire, when men are infected, their women are suspected of infidelity, and when it is a woman infected, they are assumed to have had multiple partners.

For decades, PLWHA have been feared and threatened. There are many different views as to why people stigmatise those persons who are infected with HIV/AIDS. UNAIDS (2005b:4) notes: “*Stigmatisation associated with AIDS is underpinned by many factors, including lack of understanding of the illness, misconceptions about how HIV is transmitted, lack of access to treatment, irresponsible media reporting on the epidemic, the incurability of AIDS, and prejudice and fears relating to a number of socially sensitive issues including sexuality, disease and death, and drug use.*” In addition, Brown, Trujillo and Macintyre (2001); Herek (1999); and Perloff (2001), say that people fear contact with PLWHA because they are afraid that they might contract the disease. This deep-rooted unfounded fear feeds the AIDS stigma, although this fear is understandable and, in a way a natural human reaction to a deadly disease (Perloff 2001). “Although the HI-virus can only infect a living creature, the AIDS stigma can infect or contaminate virtually anything associated with an HIV-infected individual” (Pryor & Reeder 1993:265).

Further, Perloff (2001:128) refers to AIDS as a social symbol. In this case, people make a connection between HIV/AIDS and groups they dislike. People may have an aversion to prostitutes; because they must have HIV/AIDS. Herek (1999:1106) indicates that for as long as people have lived with HIV/AIDS they have been discriminated against. This discrimination manifests itself in several ways, such as firing PLWHA from their jobs or denying them access to healthcare, insurance, or education. These examples are only some manifestations of stigma and in general, manifestations of stigma can vary from mild reactions such as silence and denial, to severe violence (Brown et al 2001)

Allport (1954; quoted in Bos (2001)) discusses the manifestations of stigma according to five levels of negative reactions towards PLWHA. These five levels include:

- Antilocution: referring to people who talk about the stereotypes of PLWHA and its prejudices.
- Avoidance: referring to avoiding any social interaction with PLWHA because of fear of transmission of HIV or the perception that PLWHA are dirty and immoral.

- Discrimination: referring to people who can discredit and discriminate against the stigmatised individual (that is PLWHA). It concerns unfair and prejudicial treatment of PLWHA.
- Physical attack: referring to intimidation, threat and violence used against PLWHA.
- Extermination: the most severe manifestation of stigma, such as deliberate murder and lynching of PLWHA (Allport 1954:15 cited in Bos 2001).

During the current study the manifestation of stigmatisation among the respondents regarding HIV/AIDS and towards PLWHA was also investigated. For instance, the belief that sharing the same eating utensils with an HIV infected person can lead to one contracting HIV infection.

#### 3.4.2.2.4 *Economic factors/poverty*

SSA is the area with the highest HIV/AIDS prevalence rate (see section 3.3.4 of this thesis). According to specialists, poverty is the cause of malnutrition, low education rates and illiteracy. This in turn, causes high unemployment rates impregnating the negative spiral poverty takes on a multifaceted demeanour, and it deprives the individual of basic needs that are imperative to survival. The absence of shelter, sustenance, basic healthcare, education and empowerment lie at the heart of the problem (Mostert 2005:40).

The introductory sentence of the UNAIDS 2004 Report on the global AIDS epidemic states: *“The global AIDS epidemic is one of the greatest challenges facing our generation. AIDS is a new type of global emergency – an unprecedented threat to human development requiring sustained action and commitment over the long term”* by Kofi A. Annan, the Secretary General of the United Nations (UNAIDS 2004a:7). This implies issues beyond the epidemiological aspects of the disease namely the social and economic dimensions of the pandemic. HIV/AIDS is not simply a biomedical or

demographic problem; it is a development issue and so incorporates economic well-being and human growth. There are two bi-causal relationships, which need to be understood. These are:

- The relationship between poverty and HIV/AIDS which includes the spatial and socio-economic distribution of HIV infections in African populations, and consideration of poverty-related factors which affect house hold and community coping capacities; and
- The relationship between HIV/AIDS and poverty; the understanding of the processes through which the experience of HIV and AIDS by households and communities leads to an intensification of poverty (Desmond 2004:1).

The pandemic is the biggest obstacle to the achievement of the development goals agreed to at the UN millennium summit in 2000 (UNDP 2001:1). It works against the objectives of equity, gender equality and poverty eradication. AIDS is probably the greatest constraint to human and economic development in Africa, a continent that desperately needs to provide its people with the promise of a better life, higher living standards, access to basic services and greater opportunities to live a self-fulfilling life (IDRC 2006:2).

The Cameroon MOPH operates a PHC system since 1992 in all the health districts of the Republic, including the Kumba health district. A cost recovery system was introduced into the PHC system, which involved a consultation fee and the sale of essential drugs at subsidised rates to patients at the health facilities. Profit margins were set to recover the non-salary recurrent cost of health facilities, including re-supply of essential drugs, vaccination programmes, outreach activities and facility maintenance. These systems were functioning satisfactorily until the devaluation of the Central African Franc (Franc de la Communaute Financiere Africaine) (XAF) in the early 1990s (Handyside, Dennis & Sy 1998:ix). This dramatically increased the cost of essential drugs and other imported medical commodities, which in turn has caused the price of drugs and medical supplies to increase by 50% at public facilities and more at

private pharmacies. As a result, the rural population who were just beginning to enjoy access to affordable drugs and medical supplies were unable to use facilities because of high prices. As purported by the Country Human Development Report of the UNDP, 40,2% of the population of Cameroon were living below the national poverty line between 1990-2004; and 50,6% of the entire population were living below US\$2.00 a day between 1990-2005 (UNDP Cameroon 2008). According to the World Bank (2009), Cameroon, with a Gross nation income per capita (GNI) of US\$ 1 150.00 is ranked number 158 in the world and is considered as a low income country.

Many adolescents come from poverty stricken homes; and poverty is a major setback putting adolescents' health at stake. For example, parents cannot afford high costs of education and, as a result children drop out of education system at the time of their development without proper and adequate preparation about the facts of life.

According to Cohen (2001:54), in SSA, the World Bank estimated that in 1998 some 291 million people lived on less than US\$ 1.00 a day and that between 1987 and 1998 the percentage of the total SSA population living at this level remained constant at 46%, implying a significant increase in the absolute number of poor people. The devastatingly poor economic performance has been accompanied by worsening in the quality of access to basic social services in many countries, leading to deteriorating school enrolment, nutrition and health as well as to an increasingly impoverished population. Poverty has a clear causal role in the dynamics of the HIV epidemic (Cohen 2001:55).

Poor learners may find it difficult to initiate and maintain safer sexual practices such as condom use, or being faithful to one partner even if their risk perception of HIV/AIDS is high. In this circumstance, poverty will be an important factor working in favour of increased prevalence of HIV/AIDS among learners. In the current study, learners were thus asked questions about their economics status. The responses were correlated with their risk perceptions of HIV/AIDS and their sexual behaviours.

### **3.4.2.3      *Structural variables***

In terms of the HBM, there are many structural variables affecting learners' perceptions of HIV/AIDS and their sexual behaviours.

#### **3.4.2.3.1      *Voluntary counselling and testing (VCT) services***

Voluntary counselling and testing (VCT) is an important tool for preventing HIV and for providing care among people living with AIDS the world over. People are encouraged to use VCT services and therefore to take definitive steps to avoid becoming infected (for people who are HIV negative) or to receive the necessary counselling to cope with their status and prolong their lives without infecting others (for people who are HIV positive) (Deodatus 2006:8; UNICEF/UNAIDS/WHO 2002:31).

UNICEF/UNAIDS/WHO (2002:31) state that nine out of ten people living with HIV/AIDS do not know they are infected. Yet studies have shown that people have a strong interest in knowing their HIV status. More than 75% of young people surveyed in Kenya, and about 90% in Uganda, indicated that they would like to be tested while still healthy (UNICEF/UNAIDS/WHO 2002:31).

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 a major impact are also the poorest, such as in SSA, the lack of resources has meant that VCT is still not widely available in many countries (UNAIDS 2001b:7).

Knowledge of HIV status is the gateway to behavioural change, treatment, care, support and has documented benefits. As stated by UNAIDS (2004a:85) however, the current reach of HIV testing services is poor in some SSA countries and the uptake is low largely because of fears of stigma and discrimination.

UNICEF/UNAIDS/WHO (2002:32) state that because young people are particularly socially and emotionally vulnerable to HIV/AIDS, VCT must be properly sustained, with follow-ups provided. Post-test support services, especially for young people who are HIV positive should serve, as a safety net to help them continue to meet their health, psychosocial and financial needs.

VCT services can be integrated into existing services – antenatal care clinics, family health services, youth friendly clinics; and should be accessible to young people from marginalised groups such as learners, sex workers and migrants. Confidentiality must be respected at all times. VCT services can also be provided through youth clubs, freestanding clinics or mobile vans (UNICEF/UNAIDS/WHO 2002:32).

Despite the importance of VCT, in many countries fewer than 50% of young people know where they can be tested for HIV. In Cambodia, for example only 16% of girls aged 15 to 19 know where to go for testing; in Zimbabwe only two out of five know where to be tested. Test kits are unavailable in many of the countries most affected by AIDS, which seriously undermines the effectiveness of counselling (UNICEF/UNAIDS/WHO 2002:32).

Some of the reasons cited by young people for not going for VCT include fear of being found HIV Positive, fear for losing a relationship if found HIV positive, lack of confidentiality, being sexually inactive, and using condoms consistently (Munthali et al 2004:27).

In September 2005, the sites for VCT in Cameroon were 89 in number (WHO 2005a:1) while the number of sites offering prevention of mother-to-child transmission (PMTCT) services were 462 in 2005 (UNAIDS, Cameroon 2006:9; Cameroon NACC 2006:5). These PMTCT sites cater only for pregnant women.

In 2007, only 31% of pregnant women in Cameroon were tested for HIV, while only 22% of pregnant women infected with HIV/AIDS received ART for PMTCT. The coverage of ART in 2007 was estimated at 25% only. Of the 180 000 HIV patients needing ART, only 46 000 were receiving it; while of the 34 000 HIV-infected pregnant women needing ART for PMTCT, only 7 516 were receiving it (HIV Insite Cameroon 2009).

As stated earlier in this section, people have to know their HIV status before they can adopt healthy sexual practices. During the current study, respondents (learners) were asked whether they knew their HIV status or that of their sexual partners. Because the number of VCT centres is few, learners who wished to be tested might not have had the opportunity to do. This might have a negative influence on their sexual behaviours.

#### 3.4.2.3.2 *Abstinence*

Full knowledge of the options available to adolescents for the prevention of HIV/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 (AIDS Action 2001:1)

An aura of disappointment and frustration surrounds global efforts to check the spread of HIV in most low-income and middle-income countries. Despite substantial investments in the promotion of safe sex and marketing of condoms, only Thailand and Uganda have clearly succeeded in stemming the epidemic in the general population, though other countries in Africa and the Caribbean also show some signs of progress (UNAIDS/WHO 2005a:17, 40).

Abstinence is one of the elements promoted by major preventive programmes that emphasise the ABC (abstain, be faithful, and use condoms) approach. Evidence that sexual abstinence may have played an important role in reducing HIV infection in

Uganda (Okware, Kinsman, Onyango, Opio & Kaggwa 2005; UAC (Uganda AIDS Commission) 2004), has renewed interest in promoting this method of protection against unplanned pregnancy, HIV and other STIs. Abstinence offers adolescents, in particular, a number of advantages. As mentioned in section 3.3.6.1 of this thesis, young people are vulnerable to HIV/AIDS, and there are some barriers to condom use. Sexual abstinence requires no supplies or clinic visits. And complete abstinence is the most effective means of protecting against HIV/AIDS.

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. Many questions about sexual abstinence remain unanswered: How can it be encouraged? How should it even be defined? Controversy surrounds programmes that promote abstinence as the only means of protection against HIV/AIDS, and the effectiveness of such programmes is still unknown.

Abstinence promotion has become the main approach of the Federal Government to preventing adolescent HIV infection in the United States, where the government provides \$100 million a year for abstinence-only education. Schools, youth programmes, and media campaigns that receive this funding are required to teach that sexual activity outside of marriage is likely to have “harmful psychological and physical effects” (Dailard 2002:2).

In the current study abstinence was investigated through establishing whether a respondent (learner) has had sexual intercourse or not. It was hypothesised that those respondents (learners) who perceived HIV/AIDS as a serious infection are more likely to practice abstinence; also that learners who come from a low socio-economic background are less likely to practice abstinence, especially girls, who might depend on men economically and financially. In addition it was also hypothesised that those learners, who discuss sexual issues freely with their parents, have a higher tendency to practice abstinence than their counterparts. Also learners who have true knowledge of

the mode of transmission of HIV/AIDS might find it easier to practice abstinence. The current study investigated all these correlations.

#### 3.4.2.3.3 *Delaying sexual debut*

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 time period for sexual activity. Modern society is characterised by children who mature physically and sexually much earlier than previously.

Netshikweta and Ehlers (2002:79); as well as Spelzer, Muller and Amegee (2001:182) state that a younger age of menarche would seem to be an outcome of social changes in life style, sexual attitudes and practices. This combination of factors results in a longer time period during which unmarried youths have the opportunities for sexual activity, often in a pattern of a series of monogamous relationships.

An analysis of survey data among 15-19 year olds found that more than 25% of boys reported having had sex before they were 15 years of age in countries such as Gabon, Brazil, Haiti, Hungary, Kenya, Latvia, Malawi, Mozambique and Nicaragua. For girls, the percentages for the same age group in these countries were somewhat lower, but generally over 15% (UNICEF/UNAIDS/WHO 2002:11).

An analysis of results of the study on sexual behaviours among secondary school adolescents in Ibadan, Nigeria revealed that the median age of sexual debut was 15 years (Oladokun, Morhason-Bello, Enakpene, Owonikoko, Akinyemi & Obisesan 2007:279).

Prata, Morris, Mazive, Vahidnia and Stehr (2006:192) reported that 30.9% of the respondents in their study in Mozambique initiated sexual intercourse by the age of 15 years.

In Cameroon, reports from the 1998 demographic and health survey show that over 25% of unmarried females and 17% of unmarried males aged 15-24 have had their sexual debut by aged 15 (Fotso et al 1999:179). The United States Agency for International Development (USAID) (2008) reported a median age of sexual debut of 16.4 years, in their study in Cameroon. Such an early sexual debut can place adolescents at increased risks of unintended pregnancy, HIV, and other STIs. Youths who begin sexual activities early appear more likely to have sex with high-risk partners or multiple partners and are less likely to use condoms (WHO 2000:3).

Many factors affect the timing of first sex. A WHO report of (2002) cited in Finger and Pribila (2003:2), of studies in 53 countries found common protective and risk factors in all regions of the world: positive relationships with parents, teachers, and spiritual beliefs decreased the likelihood of early sex, while risk factors included engaging in other hazardous behaviours and having friends who were sexually active.

A major six-country study indicates that programmes including abstinence messages resulted in a delay of 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. In Uganda, the age of sexual debut among girls increased from 16.5 to 17.3, and for boys from 17.6 to 18.3 years. 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. Meanwhile, the age of sexual initiation did not rise in Cameroon, Kenya, or Zimbabwe, countries that did not experience significant declines in HIV prevalence (Finger & Pribila 2003:2). The study concluded that despite an increase in age of sexual debut in Uganda and Zambia, young women still had an earlier age of sexual debut than their counterparts in Kenya and Zimbabwe. Cameroon with a very early onset of sexual debut for girls and boys had lower rates of HIV infection (see section 1.2.2 and section 3.3.5 of this thesis).

It is hypothesised that safer sexual practice is a preventive measure against HIV/AIDS infection. During the current study learners were asked about their ages of sexual their debuts. The study also investigated the correlation between learners' HIV/AIDS related knowledge and perceptions and their age of sexual initiation.

#### *3.4.2.3.4 Being faithful to one partner*

Researchers increasingly emphasise the need for greater awareness and practice of a three-pronged strategy to prevent HIV infection. The strategy is known as ABC—approach, signifying, abstinence, being faithful to a single partner and condom use (Akinrinola et al 2003:12).

Kenya's Health Ministry estimates that HIV prevalence has dropped markedly from 1998 to 2003. Data point to the increased faithfulness among men aged 20-24 with a reported drop in having more than one sexual partner from more than 35% to 18% (USINFO 2006:1).

USINFO (2006:3) also states: "ABC provides hard data so people can decide how to protect themselves: the only 100% effective way to avoid HIV is to abstain or to be faithful to a single HIV-negative partner, while correct and consistent use of condoms reduces risk by approximately 90%." With this knowledge, if one chooses risky behaviours, condoms must be made available to that person.

As mentioned in section 3.4.2.1.2 on the gender aspects of HIV/AIDS, and in section 3.4.2.1.5 on cultural aspects of HIV/AIDS, notions of masculinity encourage men to have many sexual partners before and even after marriage. It is thus clear that masculinity impacts heavily on the effective implementation of "fidelity", or partner reduction, as a preventive strategy. In African cultures, 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). In view of these notions of masculinity, and because of the economic dependence of women on men, women find

it difficult to demand condom use from their partners, or ask them to be faithful. If these notions of masculinity are not changed, we cannot expect that fidelity promotion, as a prevention strategy can be successful. Infidelity increases women's vulnerability to HIV/AIDS.

The current study accordingly investigates on the number of sexual partners the respondents had during the year prior to the study; prior to the day on which the questionnaire was completed.

#### 3.4.2.3.5 *Knowledge of HIV/AIDS*

Knowledge in the current study refers specifically to issues relating to HIV/AIDS; including topics such as modes of transmission, preventative measures, risk behaviours and implications. Knowledge differs from simple awareness and is highly differential and multifaceted (Du Plessis et al 1993). Even simply creating awareness and acquiring knowledge are influenced by different intermediate variables, such as "*selective perception, the interpretation of messages and selective access to sources of information*" (Du Plessis et al 1993:4).

According to Burns and Grove (2005:9-10), knowledge is an awareness or perception of reality acquired through insight, learning or investigation expressed in a form that can be shared.

In the current study, knowledge of the mode of transmission of HIV/AIDS and knowledge of protection against HIV/AIDS were articulated through the practice of safer sex and true knowledge on the issues of transmission and prevention. In support of this, Campbell (2003:25) states that knowledge of HIV/AIDS is about more than just the regurgitating of facts. Garrick and Rhodes (2000:4, 17) highlight the fact that knowledge is not only about reciting memorised facts concerning a phenomenon but the "authentic" demonstration of knowledge in relevant situations.

Peoples' health seeking behaviours to a large extent depend upon their understanding and interpretation of the causes of illness, in this regard, the causes of HIV/AIDS. Where people 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 & Anarti 1997:250).

True knowledge and understanding of HIV/AIDS is a necessary condition for behavioural change although it is not per se the only condition (Gregson, Zhuwau, Anderson & Chandiwana 1998:321, 329; Uwalaka & Matsuo 2002). In order to assess the prospects of effective behaviour change, it is crucial to ascertain the depth of the object, 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 realisation of risks that pose a danger to one's life.

Mytton (in Mohale 2003:13) purports that people may learn from campaigns on HIV/AIDS about its causes and may even change their sexual behaviours, while their basic and deep-rooted attitudes may change little. This gratification that one seeks from a particular phenomenon is determined by attitudes towards that particular phenomenon, therefore people orientate themselves according to their own attitudes or a cluster of beliefs.

Despite the knowledge of protective measures, studies in SSA have shown that young people rarely subscribe to them (Smith 2003:343; Amazigo, Silva, Kaufman & Obikeze 1997:32; Arowojolu, Ilesanmi, Robert & Okunlola 2002:68; Peltzer & Olandimeji 2004:585). Many young people do not consider their behaviours or that of their sexual partners to be 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 (1995:113) report that young peoples' sexual activities are based on insufficient knowledge and misconceptions rather than on a rational consideration of the consequences; and 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 from around the globe have established that the vast majority of young people have no idea how HIV/AIDS is transmitted or how to protect themselves from the disease. For example, in countries with generalised HIV epidemics, such as Cameroon, Central African Republic, Equatorial Guinea, Lesotho and Sierra Leone, more than 80% of young women age 15 to 24 do not have sufficient knowledge about HIV (UNICEF/UNAIDS/WHO 2002:13).

In the Ukraine, although 99% of girls had heard of AIDS, only 9% could correctly identify the three primary ways of avoiding sexual transmission of HIV/AIDS. Two thirds of young people in their last year of primary school in Botswana thought they could tell if someone was infected with HIV by looking at them. By secondary school a fifth of the pupils still believed they could screen out risky partners by looks alone (UNICEF/UNAIDS/WHO 2002:13). This misinformation is especially dangerous in a country where one in three of their potential sex partners are infected with HIV. This may also have a negative bearing on stigmatisation.

A number of studies for example, in Kuwait and elsewhere, show high engagement in unsafe sexual behaviours such as a high average number of partners, sex with unknown persons, as well as less than positive views about condom use, and a low rate of behaviour change, even after learning about HIV (Al-Owaish, Moussa, Anwar, Al-Showner & Sharma 1999:163; Buysse 1996:259).

Serovich and Greene (1997:429) found that more than 40% of their respondents, who had high knowledge of HIV/AIDS, were engaging in risky sexual behaviours. This emphasises that a moderate to high level of knowledge about AIDS may not be a predictor of safe sexual practices. Knowledge of HIV/AIDS had implications for the current study as it was hypothesised that learners who have true knowledge on the

mode transmission of HIV/AIDS, will have correct perceptions and attitudes regarding the disease, and will engage in safer sexual practices. During the current study the attitudes of learners regarding HIV/AIDS were investigated. Correlations between knowledge, attitudes and sexual behaviours were also investigated.

#### 3.4.2.3.6 *Misconceptions*

Misconceptions about HIV/AIDS are widespread among young people. These vary from one culture to another, and are particularly rumourous in some populations both on how HIV is spread (by mosquito bites or witchcraft, for example) and on how it can be avoided (for example by eating a certain fish, or having sex with a virgin) (UNICEF/UNAIDS/WHO 2002:13). HIV is not spread by sharing utensils, toilet seats, shaking hands, hugging, casual kissing or mosquito bites (CDC 2007b).

In most parts of Africa ignorance about HIV/AIDS remains profound and it is considered a crucial reason why the pandemic has run out of control. The epidemic is sometimes blamed on witchcraft. Poison and witchcraft are widely believed to be the main causes of ill health (AIDS) (Kinge 2003:145-146). AIDS patients may suffer isolation and discrimination because their illness is erroneously believed to be a divine punishment for moral wrongs. PLWHA are also regarded as “dangerous” to the environment because transmission is believed to include some social aspects of life such as sharing household utensils. The ultimate end of such misconceptions may be a disintegrated society characterised by over caution and suspicion of one another (Kinge 2003:146), while the true spread of the disease is not realised and unwittingly advanced.

With regard to the current study misconceptions may result in wrong knowledge, attitudes, and perceptions regarding HIV/AIDS, which in turn could give rise to risky sexual behaviours among learners. So research into HIV/AIDS must identify and take cognisance of myths, misinformation and misconceptions and identify the falsity and danger these have for people. Such myths must be curbed before growing stronger and becoming the basis for attitudes, perceptions and risky practices (Pelsler 2002:51); risky

to respondents (the young) themselves through altered perceptions of the disease and risky to others in the form of unfounded stigmatisation.

Young people all over the world have a variety of sources from which they receive information on sexual and reproductive matters and these include the printed and electronic media, school, peers, parents, relatives and friends. Despite this variety of sources, some gaps exist because of incomplete and inaccurate information emanating from these sources thereby making them unreliable (Adebola 2005:13-14). Misconceptions about HIV/AIDS are spread among young people. A survey from SSA countries including Cameroon indicate that more than 50% of young people aged 15-24 harbour serious misconceptions about how HIV/AIDS is transmitted (UNICEF/UNAIDS/WHO 2002:13). So the current study established what misconceptions senior secondary school learners in the city of Kumba had about HIV/AIDS and also established any correlations between these and respondents' sexual behaviours.

#### *3.4.2.3.7 Attitudes regarding HIV/AIDS*

Attitude is an enduring response towards persons, objects and ideas. Allport (in Sears, Peplau & Taylor 1991:546) portrays that attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related. Attitude is "someone's opinion or feelings about something, especially as shown by their behaviours" (MacMillan English Dictionary 2006:76). Attitudes are learned when observing how people behave in environments with different social and economic pressures. Attitudes once established, are much more resistant to change.

This has implication for the current study because once learners have negative attitudes regarding HIV/AIDS, and towards PLWHA, it might be very difficult to change. So the

current study explored learners' attitudes regarding HIV/AIDS and towards PLWHA so as to make recommendations for engendering more positive attitudes in future.

People do not change their attitudes without putting up a fight and being exposed to a considerable amount of pressure. The reason for not changing an attitude or being resistant to change, are because once people are affectionate about something, it is difficult to automatically dislike it just because they are being told to do so. It takes a considerable amount of pressure to convince people to change their attitudes.

Learners should be taught appropriate attitudes regarding HIV/AIDS and towards PLWHA, and should also be given the opportunity to practice what they have learned. This will help to reduce misconceptions regarding HIV/AIDS and also reduce discrimination and stigma towards PLWHA. Once learners practise these positive attitudes it will be very difficult for them to change their attitudes, and this will go a long way to improve the HIV/AIDS situation among adolescents. For more on stigmatisation and discrimination, see section 3.4.2.2.3 of this thesis.

Nijkam Savage (1998:77) purports that the attitudes of Cameroonian learners towards HIV/AIDS in the beginning had been one of disbelief and of denial of its existence. Consequently the majority of learners regarded HIV/AIDS as mere fiction. It was perceived as a smoke screen and a clever guise to discourage sexual activity and promiscuity among sexually active groups, including youth.

In some studies, attitudes towards HIV/AIDS and towards PLWHA have not been conclusive. Several studies find levels of empathy, tolerance, acceptance and positive attitudes towards HIV/AIDS or PLWHA (Serovich & Greene 1997:440; Villarruel Jommolt, Howard, Taylor & Bush 1998:68). However, other findings show neutral, unfavourable or unsympathetic attitudes towards AIDS or PLWHA. For example AL-Owaish et al (1999:170) report that 80% of Kuwaiti participants felt that PLWHA should not be left to live freely in the community. Liilia, Trummal and Harro (2003:58) report from their study on knowledge, attitudes and behaviours related to HIV/AIDS among Estonian youth that more than 50% of their respondents exhibited negative attitudes

towards PLHWA. A study by the Centre for Social Group Development (CSGD) (2005:28-31) on knowledge, sexual behaviours and attitudes about HIV/AIDS in Kosovo, revealed that more than 90% of the respondents exhibited negative attitudes towards PLWHA but a very positive view regarding HIV/AIDS. They believed the presence of HIV/AIDS was a concern in Kosovo. The current study also explored learners' attitudes regarding HIV/AIDS and towards PLWHA.

#### 3.4.2.3.8 *Condom use*

Many researchers have purported that male condoms are highly effective in preventing the spread of STIs/HIV and unintended pregnancies (Cates 2001:231; Trussell & Vaughan 1999:72). When used correctly and consistently, male condoms can provide as much as 94% reduction in the transmission of HIV (Holmes et al 2004:454).

The 16<sup>th</sup> International AIDS Conference held in Toronto in 2006, closed with a call to deliver on universal access to proven prevention strategies, HIV care and treatment. (AIDS 2006:1). The 2008 international AIDS conference also reiterates this (AIDS 2008a). The release of the 2006 international AIDS conference also confirms that less than one in five, (4%-16%) of people at high risk for infection with HIV/AIDS have access to effective prevention, such as condoms (AIDS 2006:1). In his closing remarks, the co-chairman of the conference, Dr Mark Wainberg said: "indeed, we will have failed unless we dramatically and rapidly expand by millions the numbers of people around the world with access to anti-retroviral drugs and simultaneously scale up prevention" (AIDS 2006:1). One of the ways of scaling up this prevention is by correct and consistent use of male condoms during sexual intercourse.

According to the HBM in figure 2.1, an individual's actions are based on beliefs. Prevention is the first line of defence against HIV/AIDS, and the correct and consistent use of condoms is a mainstay of HIV prevention approaches. Condom usage to prevent

HIV is most effective when it is part of a broader safer sexual behaviour package that includes sexual abstinence, non-penetrative sexual practices, and reduced numbers of sexual partners (South Africa 2009; MTV 2008). Studies into the factors affecting condom use abound in public health literature. The factors that have been identified as being of importance for condom use include knowledge about HIV (Caroll 1991; Wingood & Diclemente 1998); attitudes towards condoms (Edem & Harvey 1995; Horn & Brigham 1996); perceived vulnerability to HIV/AIDS (Catania, Coates & Dokini 1994; Hounton, Carabin & Henderson 2005; Peltzer 2000); discussing condom use and AIDS with partner (Catania et al 1994; Pettifor et al 2004); perceived self-efficacy (Pettifor et al 2004; Soler, Quadagno, Sly, Reichman, Eberstein & Harrison 2000); and relationship control (Grieg & Koopman 2003; Pettifor et al 2004; Wingood & DiClemente 1996). The hypothesis that proper and consistent use of condoms depends on the knowledge, attitudes and perceptions that an individual has regarding condoms was also perused during the current research.

#### *3.4.2.3.8.1 Knowledge and utilisation of male condoms*

Youth who lack the awareness that condoms are effective in preventing HIV would less likely use them (Bankole, Singh, Woog & Wulf 2004:13). Data on condom use in urban Cameroon tend to show considerable variations. Several sources posit that the percentage of urban youth who have used condoms is high; exceeding 60% for youth aged 18-22 (Meekers & Calves 1999:51; Van Rossem & Meekers 2000:383). However, these same sources indicate that reported use in the last sex act is considerably lower, at roughly 25%, suggesting that condom use is inconsistent. Levels of condom use with casual partners appear to be substantially higher for males than females

Peltzer (2001:53-57) investigates knowledge and sexual practices with respect to correct condom use amongst first year university learners in the Limpopo Province of the Republic of South Africa. More male than female learners had information about male condoms. Although 57% of the learners knew about condoms before their first

sexual encounter, only 20% used condoms. A total of 56% were ignorant about the correct moment to put on a condom, 55% on when to take the condom off and 28% on whether a condom should be rolled up before being put onto the penis or not. As many as 92% never used a condom, 34.5% always used condoms, 19.8% used condoms regularly and 8.5% used condoms irregularly during the three months prior to the survey.

Adetunji (2000:196) evaluated condom usage in marital and non-marital relationships in Zimbabwe. The data showed that single sexually active males were more likely to use condoms than married sexually active males. Males with secondary and higher education were ten times more likely to use condoms than males without these qualifications. Reports by Agha (1998:37) in Zimbabwe showed that unmarried females were more likely to use condoms than their married counterparts.

Reports from NACC Cameroon (2006:5); as well as UNAIDS, Cameroon (2006:9) state that in Cameroon only about 70% of youths aged 15-24 could identify one way to prevent HIV/AIDS but only 46.5% of these youths had used condoms during the last sexual intercourse.

Mogotlane et al (2007:41) also reported that in KwaZulu-Natal in South Africa, the culture prohibits women from requesting condom use from their male partners even when they are aware that their partners have other sexual partners. There, a woman's request to use a condom is equivalent to being unfaithful, as someone else, who had sex with her, would have taught her about condoms. Such a practice has a negative impact on the spread of HIV/AIDS. The current study also provided for investigating condom use among the respondents (learners) involved in the study.

#### 3.4.2.3.8.2 *Attitudes and perceptions regarding male condoms*

Adolescents might hold different ideas about condoms than adults, influencing their attitudes towards condom usage. In a study conducted among university students in the Republic of South Africa (SA), condoms were perceived as being too expensive to buy, as making sex less pleasurable, and that too many condoms will be required for all the sexual encounters. Respondents stated that condoms made partners feel distrusted. They maintained that real men do not use condoms, and condoms cause vaginal injuries (Nicholas 1998:893).

In another study conducted in the Limpopo Province of the Republic of SA condoms were perceived to be associated with an HIV positive status. Learners admitted to not using condoms, as they were not HIV positive and regarded themselves as being safe from contracting STDs including HIV (Peltzer 2001:55).

In Nigeria, some teens were afraid that condom usage was unsafe, and they believed that condoms could break away and go to the stomach and cause difficulty in breathing (Amazigo, Silva, Kaufman & Obikeze 1997:28-33).

In Jamaica, of the adolescents who admitted to be sexually active, most use condoms, but some had to hide their condoms from their friends not to be regarded as “chickens” (Eggleston, Jackson & Hardee 1999:82).

In Khayelitsha, in South Africa, women regarded condoms as a method that was difficult to use, since it required men’s co-operation. Most women stated that men refuse to use condoms (Mofokeng, Hoffman, Jacob & Snow 1996:12).

In a descriptive study in South Africa, condoms were perceived as portraying a lack of trust in a relationship, as being unnatural and uncomfortable. When questioned about the risk of HIV infections, men preferred women to use microbicides to prevent cross infection rather than using male condoms (Ramjee, Gouws, Andrews, Myer & Weber 2001:164). In the same vein, Lotrean and Laza (2000:1) investigated the knowledge,

attitudes, beliefs and practices regarding condom use among learners in Cluj-Napoca, Romania. They found out that 40.97% of the sexually active respondents were not using condoms during sexual intercourse; and only 25.38% of the sexually active subjects had used condoms with each act of intercourse. The main reasons for not using condoms were partner trust and the fact that condoms decreased spontaneity and pleasure.

#### 3.4.2.3.9 *Sexual risk behaviours*

Kraemer, Kazdin, Offord, Kessler, Jensen and Kupfer (1997:338) define a risk factor as “*a measurable characterisation of each subject in a specified population that precedes the outcome of interest and which can be used to divide the population into two groups (the high-risk and the low-risk groups that comprise the total population).*” The subject in this case can refer to an individual or specific groups (for example school learners), with “characterisation” also referring to the individual’s or subject’s context. Within the current study, risk behaviours refer to activities that place an individual or group directly at risk of contracting HIV.

Canterbury, Clavet, McGarvey and Koopman (1998); as well as Hall, Holmqvist and Sherry (2004) see sexual risk behaviours as engaging in unprotected vaginal, oral or anal intercourse. Irwin, Igra, Eyre and Millstein (2005), as well as Rothspan and Read (1996:132) state that risky sexual behaviours also include engaging in sexual encounters at an early age, non or inconsistent use of condoms, and multiple sex partners.

These risky sexual practices are influenced by many factors including the lack of accurate information on the modes of transmission of HIV/AIDS, ignorance of own or sex partner(s)’ HIV status, economic conditions, mobility and gender inequalities (Mekonnen, Sanders, Messele, Wolday, Dorigo-Zestma, Schaap, Meless, Mekonnen,

Mihret, Fontanet, Continho & Dukers 2005:358; Nyindo 2005:40; Volk, Prestage, Jin, Kaldor, Ellard, Kippax & Gruch 2006:45).

The current study also investigated the respondents' (learners') sexual risk behaviours in an attempt to correlate these with their attitudes, knowledge and perceived susceptibility regarding HIV/AIDS. A more complete discussion on the sexual risk behaviours with regard to multiple sexual partners, early sexual debuts, inconsistent or non-utilisation of condoms, and coerced sex, follows.

#### *3.4.2.3.8.10 Early sexual debuts*

Early sexual debuts can place adolescents at increased risks of unintended pregnancies, HIV/AIDS infection and other STIs. Youths who begin sexual activities early, appear more likely to have sex with high-risk partners and are less likely to use condoms (WHO 2000:3). During the current study the questionnaire included items clarifying the respondents' (learners') ages of their sexual debuts and alternatively, their virginity.

#### *3.4.2.3.8.11 Unprotected sexual intercourse*

As mentioned in section 3.4.2.3.8 of this thesis, unprotected sexual intercourse is one of the risk factors for sexual transmissions of HIV/AIDS. In addition, section 3.4.2.3.7 of this thesis, mentions that the 16<sup>th</sup> International AIDS Conference concluded with a call for prevention, HIV care and treatment (AIDS 2006:1).

Correct and consistent condom use has been recognised as being very effective in preventing sexual transmission of HIV/AIDS (see section 3.4.2.3.7 of this thesis). Despite such knowledge of the protection condoms give, many people who are sexually active do not use condoms; and among those who do use it, use is inconsistent (see

section 3.4.2.3.7.1 of this thesis). Therefore those who practise unprotected sex (sex without condoms) are at risk of HIV/AIDS infection. This has implications for the current study because learners were asked whether they regularly use condoms during sexual intercourse. Those learners, who perceived HIV/AIDS infection to be a high risk, were expected not to practise unprotected sex.

#### *3.4.2.3.8.12 Multiple sex partners*

Mohapeloa (2006:1) states that multiple concurrent sexual partnerships where condom use tends to be low are among the key drivers of HIV/AIDS infection in Africa. HIV infection is more likely to occur within long term multiple concurrent sexual partnerships, as people are less likely to consistently use condoms within these more regular relationships (Mohapeloa 2006:2). JAMA (1998:1) concurs that unprotected sexual intercourse and multiple sex partners place young people at risk for HIV/AIDS infection. Lansky, Nakashima and Jones (2000:487) report in their study on HIV infection among African Americans that having sex with multiple partners is a contributing factor to higher rates of HIV infection, especially multiple concurrent partners. To this, Ford, Sohn and Lepkowski (2002:17) add that having multiple sexual partners may promote rapid transmission of HIV within and across sexual networks. Multiple overlapping concurrent partners are of special concern. Within a set of serial relationships, transmission is linear; so early partners are protected. In the case of concurrent partners, earlier partners continue to be at risk as a later partner infects the subject because the partners overlap in time. In addition, Konghyuy, Wiysonge, Mbu, Nana and Kouam (2006:1) report in their study on wealth and sexual behaviours among men in Cameroon that wealthy men who are HIV positive also tend to have multiple concurrent sexual partners. The Zulu culture in the Republic of SA encourages men to have more than woman lover or sex partner (Mogotlane et al 2007:40). This practice impacts negatively on the spread of HIV/AIDS. With regard to the current study, items referring to the number of sex partners respondents had, were included in the questionnaire

#### *3.4.2.3.8.13 Coerced or forced sex*

As mentioned in section 3.4.2.1.2 of this thesis, women are more vulnerable to HIV infection than men. Male dominance and the subservient position of women and children in African society contribute to coerced sex.

UNICEF (2002:3) states that a large share of new HIV infections is due to gender-based violence in homes, schools, the workplace and other social arenas. Forced or coerced sex renders a woman even more vulnerable to infection, and the younger one is, the more likely it is that one will contract HIV. In the same vein UNFPA (2002:2) also posits: “Gender inequality deprives women of the ability to refuse risky sexual practices, leads to coerced sex and sexual violence, keeps women uninformed about prevention, puts them last in line for care and life-saving treatment and imposes an overwhelming burden on them to care for the sick and dying.”

The WHO’s Gender and Health Report (2003:3), states that research conducted in Guatemala, India, Jamaica and Papua New Guinea found that some women were threatened or endured actual physical violence when attempting to negotiate safer sex through the use of condoms. The women in these studies often avoided bringing up the issue of condom use for fear of triggering violent male responses.

Violence in the form of coerced or forced sex or rape may result in HIV/AIDS infections especially as coerced and violent sex may lead to the tearing of sensitive tissues and increase the risk of contracting HIV.

In South Africa, Jewkes and Abraham (2002) found that in the 17-48 year age group, there were 2 070 rape incidents per 100 000 women per year. Forced sexual initiation was reported by almost a third of the adolescent girls. The threat of violence further affects women’s power and ability to negotiate the conditions of sexual intercourse, especially condom use. Conversely respondents in the current study were asked whether they had ever been forced to have sex.

### **3.4.3 Variables affecting likelihood of initiating and maintaining condom use against HIV/AIDS infection**

#### ***3.4.3.1 Perceived benefits of utilising male condoms against HIV/AIDS***

Perceived benefits are one's beliefs in the efficacy of the advised action to reduce the risk or seriousness of impact (Groenewold et al 2006:4; ReCAPP 2007:4). Perceived benefits of condom use with regard to the current study refer to the belief in the efficacy of condom use to prevent HIV/AIDS (Groenewold et al 2006:4).

Many studies have been carried out to investigate the reasons why sexually active people use condoms. Meekers and Klein (2002b:335) investigating the determinants of condom use among young people in urban Cameroon, found out that most adolescents use condoms. Parental support, personal risk perceptions of HIV/AIDS, and self-efficacy of condom use were found to be the main factors motivating the youths to use condoms.

In another study by Maharaj (2006) on the reasons for condom use among young people in Kwazulu-Natal in South Africa, it was reported that the majority of the respondents (two-thirds) cited protection against pregnancy as their main reason for using condoms while fewer than one in five cited the risk of HIV infection as their reason for condom use (Maharaj 2006:28). This shows that the majority of young people perceived themselves as being at no or low risk of HIV/AIDS infection.

According to the HBM, individuals must perceive themselves to be highly susceptible to HIV/AIDS, and believe in the efficacy of condoms in preventing HIV/AIDS infection, before they would be likely use condoms to prevent HIV/AIDS. Thus during the current study, the perceived benefits of condom use was utilised to determine the correlation

between this “knowledge” and actual use of condoms by senior secondary school learners in the city of Kumba.

### **3.4.3.2 Perceived barriers to condom use**

Perceived barriers to condom use refer to one’s belief in the tangible and psychological costs of using condoms to prevent HIV/AIDS (Groenewold et al 2006:4). Receptiveness to condom use is plagued by barriers including embarrassment or timidity to obtain condoms from sources that require person-to-person contact (UNFPA 2006:1). Any obstacles in the use of condoms can interfere with their frequent and consistent employment as a means of preventing HIV/AIDS and for family planning purposes (Adih & Alexander 1999; Estrin 1999; Ford & Koetsawang 1999). Thus when young people do have sex, they must be able to protect themselves. Good quality condoms have to be easily available and free or affordable (UNICEF/UNAIDS/WHO 2002:14). These aspects were also investigated during the current research. Items in the questionnaire referred to factors which affect condom use including:

- Risk perception of HIV/AIDS
- Social support and accessibility of condoms
- Acceptability of condoms
- Affordability of condoms
- Attitudes of condom providers
- Condom side effect and
- Partner confidence and refusal (Finger & Pribila 2003:1).

#### **3.4.3.2.1 Risk perception**

Youths, even when aware of HIV risk often do not consider this risk with steady partners. They tend to establish the trustworthiness of their partners with criteria other than sexual history or the consequences of not using condoms according to focus

groups conducted among youths in Eritrea, Tanzania, Zambia, and Zimbabwe. Youths said learning about partners' sexual history was important, but it rarely happened (Longfield, Klein & Berman 2002).

Risk perception is difficult to change. A four-country social marketing and peer education intervention (in Botswana, Cameroon, Guinea and South Africa) did not change the perceived risk of HIV, and increased risk perception of pregnancy only among females in two countries. However, beliefs that condoms do protect against pregnancy and HIV/AIDS did increase in several countries (Agha 2002:113).

#### *3.4.3.2.2 Social Support*

Social support for buying condoms can affect youths' behaviours. During an intensive, 18-month mass media and interpersonal communication campaign in Cameroon called "100% Jeune", hesitancy by males to buy condoms declined from 44% to 33%, while perceived support by parents for condom use increased from 59% to 70%; similar changes occurred among females. Reported use of male condoms at last intercourse increased (males, 46% to 59%; female, 40% to 48%) (Meekers & Agha 2002; PSI Research Brief 2004:2; Finger & Pribila 2003:2).

#### *3.4.3.2.3 Accessibility and affordability of condoms*

Many youths do not feel condoms are readily accessible, even in areas with wide availability. In Botswana, youths were reluctant to get condoms from the public sector even when free, because health workers questioned their behaviours (Finger & Pribila 2003:2). "Teenagers are afraid to go to the clinics to ask for condoms because they know that nurses are going to ask them questions about use of condoms and their age" a school girl in Botswana informed Meekers and Ahmed (2001:300).

Boys from an out-of-school group within the same study were, however, willing to go to a “window” at a public hospital where boxes of condoms were kept and distributed without any questions being asked (Meekers & Ahmed 2001:300).

The private sector poses few barriers to accessibility and is generally the preferred source for condoms for youths, according to an analysis of DHS data (Murray, Dougherty & Stewart 2003). Surveys show that nearly two-thirds of young sexually active males (in Jamaica) and youth (in Bolivia) got their condoms from commercial sources, mostly small retail outlets including pharmacies (Finger & Pribila 2003:2).

In Cameroon, the Programme de Marketing Social du Cameroon (PMSC) has made tremendous efforts with the ministry of public health to make condoms accessible to Cameroonians (KFW Entwicklunskbank 2004:2). “Prudence Plus”, a brand of condom, is available in hospitals, pharmacies, and private outlet stores where people can access them. During the current study, respondents (learners) were pertinently asked about the challenges they faced in accessing condoms.

#### *3.4.3.2.4 Acceptability of condoms*

Acceptability of condoms affects their utilisation. Perceived lack of pleasure and loss of spontaneity were the most important issues for non-use of condoms with casual partners according to surveys conducted in Angola and Cameroon. Among regular partners, dislike ranked first in Angola, and second in Cameroon (Finger & Pribila 2003:2). In contrast, a South African survey, involving more than 3 000 youths, found general support for condoms. Two out of three respondents disagreed with the statement: “using a condom is a sign of not trusting your partner” (Finger & Pribila 2003:2).

In Cameroon the ‘Population Service International’ (PSI) “100% Jeune” Programme, funded by the Bill and Melinda Gates Foundation, uses mass media, and interpersonal

communications to promote the reduction of risk-taking behaviours among youths. The programme promotes consistent condom use as an effective preventive strategy for HIV, STIs and unwanted pregnancies. Peer education sessions, a weekly radio call-in show, a monthly magazine and a serial radio drama, as well as television, radio and bill board messages and a net work of branded youth-friendly condom sales outlets encouraged youth to take greater responsibilities for protecting their health (PSI Research Brief 2004:1).

In addition, Cameroon's Government has made efforts to cater for adolescents' reproductive problems through the social marketing programme, which makes condoms available to youths at the affordable price of US\$0.18 per packet of four latex condoms (UNAIDS 2000b:30). This programme falls in line with the country's preventive strategies against HIV/AIDS.

These studies show that condoms are readily accessible, acceptable and affordable to Cameroon youths. The current study nevertheless explored perceived and actual barriers to condom use, in order to come up with possible recommendations, aimed at reducing and minimising these barriers. Explicating the potential barriers to condom use represents an important step in promoting the effectiveness of a strategy for improving their use (Knodel & Pramualratana 1996:100).

### **3.4.3.3        *Cues to action for condom use***

As explicated in table 2.6 of this thesis, cues to action refer to events or experiences, personal (physical symptoms of a health condition), interpersonal or environmental (media publicity) that motivate a person to action (Groenewold et al 2006:4; ReCAPP 2007:4). With regard to the current study, cues to action refer to personal and environmental events motivating a person to use condoms during sexual intercourse to prevent HIV/AIDS (Groenewold et al 2006:4).

Despite the recognised effectiveness of condoms for HIV prevention, many sexually active young people use them only sporadically or not at all (Shaffi, Stovel & Holmes 2007). Research has shown that condom use among adolescents is influenced both by stable traits, including gender and race/ethnicity, and by time-varying factors including perceived risk of HIV/AIDS, or unintended pregnancy, attitudes towards condoms, self-efficacy in negotiating condom use with sexual partners, and having previously suffered a negative consequence of unprotected intercourse such as an STI or unintentional pregnancy (Brown, DiClemente & Beausoleil 1992; Baele, Dusseldorp & Maes 2001; Leigh 2002; Leland & Barth 1992; Narring, Wydler & Michaud 2000). In addition to these factors, research among adolescents has shown that early condom use is associated with subsequent condom use (Robertson & Levin 1999).

The mass media is a powerful weapon against HIV/AIDS. The media can disseminate information among young people such as the “ABCs” of HIV prevention. The media can also tackle issues, such as how to handle unwanted sexual advances and how to negotiate condom use (UNICEF/UNAIDS/WHO 2002:28-29). The media initiative was taken a step further in Brazil where street theatre formed part of a programme for young people that increased awareness about condom use (UNICEF/UNAIDS/WHO 2002:29). During the current study, the various factors that motivated or encouraged respondents (learners) to use condoms were explored. This was done, as according to the HBM, learners will not use condoms against HIV/AIDS or any other reason if they are not motivated to use them.

#### **3.4.3.4      *Self-efficacy in condom use***

As previously stated in section 2.3.2.5.6 of this thesis, self-efficacy is a construct in the HBM, which has gained recognition as a tool for facilitating positive behavioural change. Self-efficacy was derived from the SCT of Bandura (Bandura 1977). Bandura proposed self-efficacy as an important mediator of behaviours and defined the concept as “a

*judgment of one's capability to accomplish a certain level of performance"* (Bandura 1986:390).

Perceived self-efficacy is one of several key determinants of HIV sexual risk reduction and reproductive health (Bandura 1977; Mantell, DiVittis & Auerbach 1997). Bandura (1986:391) concurs that perceived self-efficacy refers to people's judgment of their ability to organise and execute specific behaviours that are required to deal with various future situations. These "self beliefs" about people's capacities influence how they behave: "expectations of personal efficacy determine whether coping behaviours will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and adverse experiences" (Bandura 1977:191). Bandura (1997:2) states that key contentions as regards the role of self-efficacy beliefs in human functioning are that "people's level of motivation, affective states and actions are based more on what they believe than on what is objectively true." For this reason, how people behave can often be better predicted by the beliefs they hold about their capabilities than by what they are actually capable of accomplishing, for these self-efficacy perceptions help determine what individuals do with the knowledge and skills they have (see section 2.3.2.5.6 of this thesis).

Self-efficacy in condom use, the belief that one is both capable of and likely to use condoms in sexual situations, may play a key role in promoting condom use behaviours (Melissa, Farmer & Meston 2006:313). Learners (or any persons for that matter) who lack confidence in their abilities to purchase condoms and negotiate their use, tend to have a higher likelihood of engaging in unprotected intercourse. Such low self-efficacy, especially learners' low self-efficacy makes the individual more vulnerable to HIV infection and other reproductive health problems. Several studies have found that self-efficacy is associated with higher levels of condom use and have argued that HIV prevention programmes should aim at enhancing self-efficacy in the target population (Malow, Corrigan, Cunningham, West & Pena 1993:50; Soler et al 2000:101).

In this regard, several studies in Africa have investigated the effect of self-efficacy on condom use. Meekers and Klein (2002a:11) found that self-efficacy in condom use among youths in urban Cameroon resulted in an ability to discuss condom use with partner(s) and that there were no gender differences in this regard. The results also showed that young women were significantly less likely than young men to believe that they could actually convince their partners to use condoms (Meekers & Klein 2002a:11). It was also reported in the same study that women have a disadvantage in terms of the practical aspects of self-efficacy, such as shyness when purchasing condoms, and lack of confidence in their ability to correctly use a condom. More than four out of ten sexually active young women did not feel confident that they knew how to correctly use a condom, compared to two out of ten young men. Likewise, 67% of the young women in the study reported that they would be shy obtaining condoms, compared to 51% of men (Meekers & Klein 2002a:11).

Pettifor et al (2004) investigated South African youths' sense of self-efficacy to control events surrounding safe sexual practices. The results indicated that the majority of these young people felt that they could refuse sex with their partners if the partners refused to use condoms. This same majority was positive that they could use a condom every time they engaged in sexual intercourse. Burns and Dillon (2005:184) found in their studies that greater probability of condom use was related to higher self-efficacy and future time orientation amongst African American college students.

During the current study, the concept of self-efficacy as it related to condom use, was used to investigate the sexual behaviours of learners in Kumba. It was hypothesised that learners with a high level of perceived benefits of condoms and who have a high level of perceived condom use self-efficacy will be more likely to correctly and consistently use condoms during sexual intercourse.

### **3.5 HIV/AIDS AND CONDOM INFORMATION NEEDS OF YOUNG PEOPLE**

UNICEF/UNAIDS/WHO (2002:13) posit that studies from across the globe have established that the vast majority of young people have no idea how HIV/AIDS is transmitted or how to protect themselves from the disease.

For example, in countries with widespread epidemics such as Cameroon, Central African Republic, Equatorial Guinea, Lesotho and Sierra Leone, more than 80% of young women aged 15-24 did not have sufficient knowledge about HIV/AIDS. In Somalia, only 26% of girls had heard of AIDS; only 1% knew how to avoid infection. In the Ukraine, although 99% had heard of AIDS, only 9% could correctly identify the three primary ways of avoiding sexual transmission of HIV/AIDS (UNICEF/UNAIDS/WHO 2002:13).

As indicated in section 3.4.2.3.5.1 of this thesis, two thirds of young people in their last year of primary school in Botswana thought they could tell if someone was infected with HIV by looking at him/her. These misconceptions are dangerous, especially in countries like Cameroon, where the youths are highly vulnerable to HIV/AIDS.

These research findings showed that young people lacked accurate information regarding HIV/AIDS. Young people cannot protect themselves if they do not know the facts about HIV/AIDS. Adolescents must learn the facts before they become sexually active and the information needs to be regularly reinforced (UNICEF/UNAIDS/WHO 2002:26). A basic education of good quality for all children, offering sound knowledge about sexuality and HIV, is essential.

Many adults fear that informing young adolescents about sex and teaching them how to protect themselves will make them sexually active. In surveys from Cambodia, Haiti, Malawi, and Zimbabwe, at least 40% of adults felt that children aged 12-14 should not be taught to use condoms. But a review of more than 50 sex education programmes around the world found that young people are more likely to delay starting their sexual

activities when they are provided with correct information about sexual and reproductive health. And when they do start having sex, they are more likely to protect themselves against unwanted pregnancies and STIs including HIV/AIDS (UNICEF/UNAIDS/WHO2002:26).

### **3.6 SERVICE DELIVERY ISSUES AFFECTING YOUNG PEOPLE'S LIKELIHOOD OF ACCESSING CONDOMS**

Youth-friendly health services can be freestanding clinics or attached to existing clinics or recreational facilities. Ideally, they should provide a full range of services and information to young people and should be welcoming, confidential, conveniently located and affordable (UNICEF/UNAIDS/WHO 2002:30). Services to help prevent HIV/AIDS and other STIs should provide access to condoms and voluntary counselling and testing for HIV. For young women who are HIV positive the clinic should provide information and services to help them avoid transmitting HIV to their infants. Reaching young people should be one of the health services' main aim as young people often do not attend formal health services for their preventive health needs and tend to seek sexual and reproductive health services in a variety of settings. For example, when young people in Zambia were asked where they went for sexual and reproductive health (SRH) services, 44% mentioned traditional headers, 32% mentioned private clinics, and 8% mentioned friends (Boswell & Baggaley 2002:7). In South Africa, Pettifor et al (2004:57) found that 47% of the young people had been to clinics but only 20% of them had obtained contraceptives and only 5% collected condoms. It appears from these studies that few young people use health services or condoms as a strategy to reduce risky sexual behaviours and that young people appear to encounter more challenges in this regard than adults. As such condom delivery services need to become more general and need to target young people more pertinently. In Cameroon, there are no youth-friendly health services (Nijkam Savage 2005), so youths in Cameroon, majority of whom are learners, may experience some difficulties in obtaining condoms.

### **3.7 SERVICE DELIVERY NEEDS OF YOUNG PEOPLE**

The National Youth Council of Malawi (NYCOM) (2000:34) states that studies conducted in Malawi revealed that young people required services provided by health care workers who are friendly and who are trusted and keep confidential information about the young people. Studies in Uganda revealed that 90% of youths preferred friendly health care providers, 74% approved of provider professionalism, and 87% appreciated a warm reception on arrival (Horizons Programme 2004:3).

Boswell and Baggaley (2002:7) suggested the following key features for youth friendly health services:

- Full participation of young people in decision making, planning and delivery of services
- Community mobilisation to understanding young people's health needs
- Peer education through community outreach and clinic based educators and compensation packages to ensure participation and motivation.
- Designated youth corners
- Health service providers trained in youth friendly approaches to communication and counselling.
- Suitable venues ensuring discretion for issues of consent and disclosure
- Confidentiality
- Adequate supplies of condoms; information, education and communication (IEC) materials as well as sufficient medicines.

A study conducted in Botswana further revealed that peer-led AIDS prevention interventions, incorporating social-cognitive learning to enhance self-efficacy, is effective in changing HIV prevention related attitudes, knowledge and behaviours among ordinary African women (Norr, Norr, McElmurry, Tlou & Moeti 2004:223). The key features of youth friendly health services were included in the questionnaire to determine respondents' perceptions of condom services in Cameroon.

### **3.8 CONCLUSION**

This chapter discussed the literature review of knowledge perceptions and attitudes regarding HIV/AIDS and condom use; and the sexual behaviours among senior secondary school learners in Kumba, Cameroon, structured according to the HBM. Previous research on the predictive utility of the HBM for HIV prevention behaviours, suggests that the constructs of the HBM are strong predictors of HIV/AIDS preventive behaviours (Peltzer 2000:39). These constructs were utilised in the research instrument, in the data analysis and in the discussion of the research results.

The 17<sup>th</sup> International AIDS Conference held in Mexico from the 3<sup>rd</sup> to the 8<sup>th</sup> of August 2008, ended with the following conclusions:

- Increasing prevention strategies tailored to decrease HIV transmission
- Increasing access to ART to dramatically reduce morbidity and mortality among those infected
- Increasing the use of ART to reduce community viral load as an aid to HIV prevention
- Improving strategies to enhance HIV testing
- Improving strategies to reduce poverty, and discrimination against persons living with HIV/AIDS (PLWHA).

The recommendations from the current study address all the issues raised in the conclusions of the 17<sup>th</sup> International AIDS Conference (AIDS 2008b).

Chapter 4 will discuss the research design and methodology used for the current research.

## CHAPTER 4

### RESEARCH DESIGN

#### 4.1 INTRODUCTION

A research design is a blue print for conducting a study that maximises control over factors that could interfere with the validity of the findings (Babbie & Mouton 2002:72; Burns & Grove 2005:211; Polit & Hungler 1999:713). According to Burns and Grove (2005:211), the design of a study is the result of a series of decisions made by the researcher concerning how the study will be implemented. The design is closely associated with the framework of the study (the HBM) and guides planning for implementation of the study.

Burns and Grove (2003:195); LoBiondo-Wood and Haber (2002:188); Polit and Beck (2006:55) as well as Polit, Beck and Hungler (2004:53, 164-165), add that a research design is the researcher's overall plan for obtaining answers to research questions or testing research hypotheses.

According to Burns and Grove (2005:211), the term research design is used in two ways. Some consider a research design to be the entire strategy for the study, from identification of the problem to plans for data collection. Others limit design to clearly defined structures within which the study is implemented. For the current study the research design refers to the former: this includes defining the population, sampling, development of the data collection instrument and establishing its validity and reliability, and the method of data collection and analysis (Brink et al 2006:92).

According to Babbie and Mouton (2002:72) the researcher must follow two steps in the research design. Firstly the researcher must pinpoint exactly what one intends to find out. Secondly the researcher "must determine the best way of doing that" (Babbie & Mouton 2002:72). The current chapter reports on the researcher's decisions with regard to the latter; following a quantitative approach, with a correlational (descriptive,

exploratory and non-experimental) design to determine the knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours among senior secondary school learners in Kumba, Cameroon.

#### **4.2 META-THEORETICAL, PARADIGMATIC AND THEORETICAL FOUNDATIONS**

All research is based on philosophical beliefs about the world (LoBiondo-Wood & Haber 2002:127). Meta-scientific reflections on social enquiry resulted in two schools, known as the meta-theories of science, namely positivism and anti-positivism. These two “schools” also resulted in the so-called quantitative and qualitative research paradigms. These schools and resulting paradigms differ in their ontological and epistemological positions, and as a result hereof use different methodologies. Three meta-theoretical paradigms emerged from positivism and anti-positivism, which Babbie and Mouton (2001:20), and Mouton (2006:140) regard as the most influential, namely positivism, phenomenological/interpretivist and critical theory. More importantly they are linked to three methodological researches in the social sciences. Positivism is experimental, quantitative and has hypothesis testing as methodology (Shepard et al 1993:92). Anti-positivism has two meta-theoretical paradigms:

- Phenomenological/interpretivist with qualitative or naturalistic inquiry; interpretative and interactional as methodology and
- Critical theory/constructionist with contextual analysis and discourse (participatory) analysis as methodologies (Mouton 2006:141; Terre Blanche & Durrheim 2002:6).

The current research is founded on the meta-theoretical construct of positivism and the quantitative research paradigm. In line with the traditions and dictates of these, the research was further guided by the HBM as the theoretical foundation. The latter provided for the deduction of hypotheses, which in turn required both positivism and a quantitative research paradigm to be tested.

A theory is a way of explaining some segment of the empirical world. It consists of a set of concepts that are defined and interrelated to present the view of a phenomenon (Burns & Grove 2005:9; LoBiondo-Wood & Haber 2002:109; Polit & Hungler 1999:24, 716). When a quantitative study is performed within the context of a theoretical framework, that is, when a previous theory is used as a basis for generating predictions (hypotheses) that can be tested through empirical research, it is more likely that its findings will have broad significance and utility (Polit & Hungler 1999:36).

#### **4.2.1 Meta-theory: positivism**

As mentioned in section 2.2.1.2 of this thesis, Chinn and Kramer (1999:255) define meta-theory as “*theory about theory and the processes for the development of the theory.*” The theory focuses on the methodological questions related to the development of a theory. As mentioned in section 4.2, the current research is founded on the meta-theoretical construct of positivism.

Auguste Comte (1798-1857) developed the main ideas of positivism between 1826 and 1829 (Babbie 2005:34). Positivism is an approach to science based on a belief that social and natural phenomena are similar, a belief in universal laws, and insistence on objectivity and neutrality (Babbie 2005:34-35; Babbie & Mouton 2001:21). Positivism is the application of natural sciences methods to the field of human sciences and the humanities. Traditional positivism believes in searching for the truth through empiricism – that is the idea of observation and measurement as the core activities of a scientific endeavour. Thus positivist research is rooted in a belief that there exists a reality out there (realist ontology,) driven by natural laws (objectivist and quantitative or statistical epistemology), that reality can be quantified, and the appropriate way of going about finding the knowledge (methodology) is by designing measures that allow for:

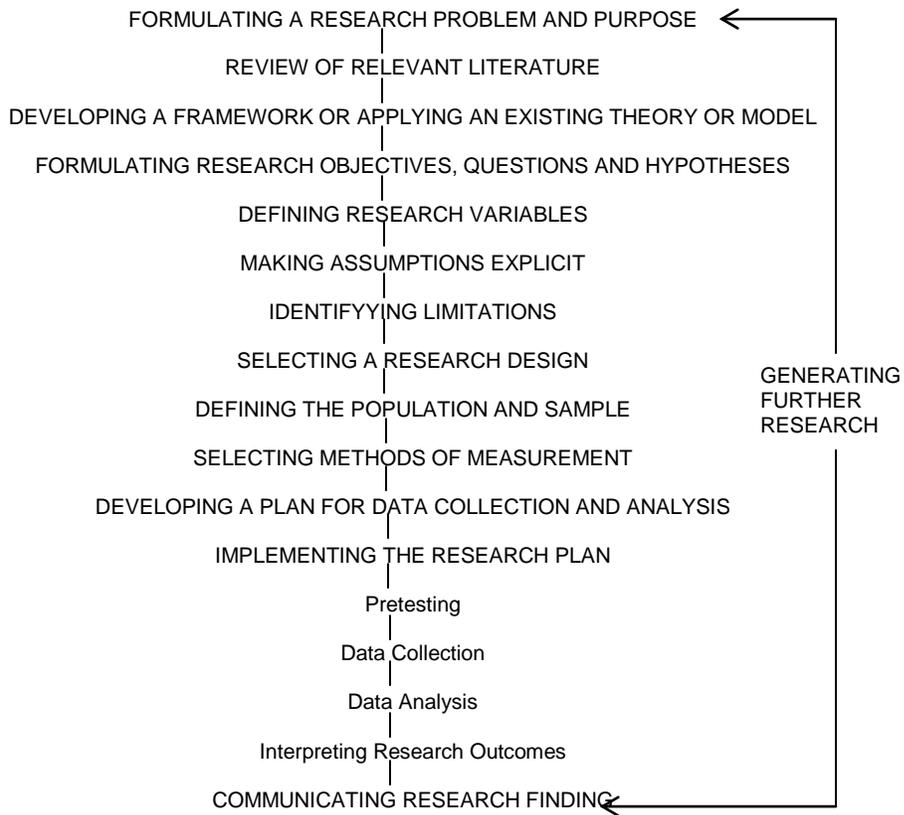
- Quantification and measurement: quantitative data were collected through the use of a self-designed questionnaire containing forced choice questions and items on the research topic, structured according to the HBM.
- Deduction: this is a logical thought process in which hypotheses are derived from theory. Reasoning moves from the general to the specific or from a general premise to a particular situation (Burns & Grove 2005:733; LoBiondo-Wood & Haber 2002:491; Polit et al 2004:182). Chinn and Kramer (1999:79) go on to say that deductions are made by “applying the rules of logic”, and in this way to make predictions from general principles. For the current research, the researcher worked from the general structure provided by the HBM, to the specific observations (respondents’ scores).
- Generalisation: the researcher sought to generalise the research findings to the entire population of secondary school learners in the two participating schools.
- Objectivity: objectivity refers to the degree to which two independent researchers can arrive at “scores” or make similar observations regarding the concepts of interest, that is, make judgements regarding respondents’ attributes or behaviours that are not biased by personal feelings or beliefs (see section 2.2.2.11 of this thesis). During the current research, this was achieved by using the HBM as the theoretical foundation, and the statistical analyses of the data. The researcher was also objective and neutral, especially during the data collection process (De Vos 2001:350; Hart 1998:83).
- Replicability: is reproducing or repeating a study to determine whether similar findings will be obtained (Burns & Grove 2005:749; LoBiondo-Wood & Haber 2002:499). For the current study replicability was achieved by conducting the study in two different school settings, and by pretesting the data collection instrument (see sections 4.5.2.6 & 4.6.1.5 respectively).
- Verification and validation: (Polit et al 2004:182): were done via applicable statistical calculations that enabled the researcher to arrive at possible associations and correlations.

#### 4.2.2 Paradigm: quantitative research

A paradigm is “a system of ideas embodying one’s beliefs on the nature of reality and how that reality can be known.” A paradigm is not necessarily proven or provable, it is just believed, but must be logically coherent. Any process of formal inquiry is guided by a set of basic beliefs (Bailey 1997:18; LoBiondo-Wood & Haber 2002:497). Mouton and Marias (1993:12) refer to paradigm as collections of metatheoretical, theoretical and methodological beliefs which have been selected for a particular study. The concept “paradigmatic research” refers to research which is conducted within the framework of a given research tradition. A paradigm is therefore broader than a metatheory because it not only encompasses theories but also methods of the subject matter. As mentioned in section 4.2 of this thesis, the current research was founded on the quantitative research paradigm.

According to Burns and Grove (2003:26); and Polit and Beck (2006:508), quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world. This research method is used to describe variables, and determine the correlations between variables. The current study was quantitative because the study aimed at measuring and quantifying factors relating to HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours of senior secondary school learners in Kumba, Cameroon. Quantitative analysis involves the “manipulation of numerical data through statistical procedures for the purpose of describing phenomena or assessing the magnitudes and reliability of relationships among them” (Burns & Grove 2003:26).

Figure 4.1 explicates the steps of the quantitative research process.



**Figure 4.1: Steps of the quantitative research process.**

Source: Burns and Grove (2005:36)

Quantitative research uses structured tools to generate numerical data and uses statistics to interpret, organise and represent the collected data (Burns & Grove 2003:30). In the current study, the research design was quantitative in nature as the researcher used a structured self-designed questionnaire to collect numerical data from the respondents. This method allowed the researcher to ask all the respondents the same questions with predetermined responses, which allowed objective numerical data to be collected (Brink et al 2006:11).

### 4.2.3 Theoretical foundation: The Health Belief Model (HBM)

As indicated in section 4.1 of this thesis, positivist research and, by implication quantitative research in general, is deductive in nature: moving from the general (theory) to the specific (observations or responses). The “theoretical” point of departure of the current research is the HBM; perceptions, attitudes, knowledge and sexual behaviours categorised according to the major tenets of the HBM. In this regard see chapter 2 of this thesis.

A theory is developed from a combination of personal experiences, research findings and abstract thought processes. Findings from research may be used as a starting point; with the theory emerging as the theorist organises the findings to best explain the empirical world (Burns & Grove 2005:9)

Schick (2000:9) posits that in science, a theory is a mathematical or logical explanation, or a testable model of the manner of interaction of a set of natural phenomena, capable of predicting future occurrences or observations of the same kind and capable of being tested through experiment or otherwise falsified through empirical observation.

Brink (1999:29) states: “*A model is often described as a symbolic depiction of reality. It provides a schematic representation of some relationships among phenomena and uses symbols or diagrams to represent an idea.*” This is corroborated by LoBiondo-Wood and Haber (2002:496). If the research is undertaken within a context of a theoretical framework, the model will help to organise the study, examine a problem, gather and analyse data. The HBM provided the framework for the current study. The HBM was developed to provide a framework to explain why some people take specific actions to avoid illness, while others failed to protect themselves (Dennill et al 1999:156).

Polit and Hungler (1999:110) state that a framework (such as the HBM) is the conceptual underpinning of a study. In a study based on a theory, the framework is referred to as the theoretical framework. A theory is a formal structure about some aspect of reality indicating the relationship among components and is used for description, prediction and

control (see section 2.2.1.3 of this thesis). A conceptual model only explicates components of such a reality without necessarily indicating the relationships (predictions), but it could do so (such as the HBM) (see section 2.2.1.4 of this thesis). A conceptual framework is mostly self-designed and is based on the literature review. For the current study, the researcher used the HBM to conceptualise the literature review. So the current research falls within the formal conceptual model arena. Stanhope and Lancaster (2000:252) state: “the HBM is beneficial in assessing health protection or disease prevention behaviours. It is also useful in organising information about clients’ views on the state of health and what factors may influence them to change their behaviours. The HBM when used appropriately provides organised assessment data about clients’ abilities and motivations to change their health status. Health education programmes can be developed to better fit the needs of clients.”

The HBM asserts that the motivation for people to take action to promote or prevent disease is based on:

- How strongly they believe they are susceptible to the disease in question
- Whether the disease would have serious effects on their lives if they should contract it
- Whether 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 behaviour.

The model is divided into three major components (Dennill et al 1999:156; Onega 2000:271); see section 2.3.2.4 of this thesis in this regard.

The components of the HBM are used in the current study to explore HIV/AIDS related knowledge, attitudes, and perceptions; and sexual behaviours among senior secondary school learners in Kumba, Cameroon, with the view of making recommendations to curb the spread of HIV/AIDS among youths in Cameroon. For more on the components of HBM and their possible influences on learners’ decisions as to whether or not to utilise condoms to prevent HIV/AIDS, see sections 1.9 and 2.3 of this thesis.

### **4.3 RESEARCH QUESTIONS, OBJECTIVES AND HYPOTHESES**

With the integration of the literature review into the constructs of the HBM, the researcher arrived at pertinent research questions to be answered, objectives to be attained and hypotheses to be tested.

#### **4.3.1 Research questions**

The overarching research question the researcher set out to answer was:

- What is the correlation between secondary school learners in Kumba's knowledge, attitudes and perceptions with regard to HIV/AIDS and their sexual behaviours? This research question is more in line with a correlational design. The research questions stated in section 1.5 of this thesis are also formulated accordingly.

#### **4.3.2 Objectives**

In addition to the "generic research objectives", the research objectives set out for the current study (see section 1.6 of this thesis) are as follows:

- Explore the knowledge regarding HIV/AIDS and condoms among senior secondary school learners in Kumba.
- Explore the sources of knowledge regarding HIV/AIDS and condoms, of senior secondary school learners in the city of Kumba
- Explore the sources of knowledge regarding sexuality of senior secondary school learners in the city of Kumba

- Explore strategies that could enhance learners' utilisation of reproductive health services in the city of Kumba
- Determine the attitudes regarding HIV/AIDS and condoms, and towards PLWHA, of senior secondary school learners in the city of Kumba.
- Explore the perceptions regarding HIV/AIDS and condoms of senior secondary school learners in the city of Kumba.
- Determine the relationship if any, between knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours among senior secondary school learners in Kumba.
- Explore strategies that could enhance learners' utilisation of condom access points in the city of Kumba.
- Determine reasons why senior secondary school learners in Kumba used or failed to use condoms and use them consistently.
- Identify possible barriers experienced by senior secondary school learners in accessing condoms in the city of Kumba.

### **4.3.3 Hypotheses**

As indicated in section 1.11, certain hypotheses were derived from the HBM which were tested during the current research within the research topic of knowledge, attitudes and perceptions regarding HIV/AIDS and sexual behaviours among senior secondary school learners in Kumba, Cameroon.

According to Burns and Grove (2005:159), a hypothesis is a formal statement of the expected relationship or relationships between two or more variables in a specified population. This implies prediction and correlation. The hypothesis translates the problem and purpose of the study into a clear explanation or prediction of the expected results or outcomes of the study.

Babbie (2005:42); Brink and Wood (1998:48), as well as LoBiondo-Wood and Haber (2002:61, 493) add that hypotheses are statements concerning predicted relationships between the variables under study that link a study's theoretical framework to experimental realities.

#### **4.3.3.1 Purpose of hypothesis**

The purpose of a hypothesis is similar to that of research objectives and questions (Burns & Grove 2005:159). A hypothesis has the following purpose:

- It specifies the variables to be measured
- It identifies the population to be examined
- It indicates the type of research
- It directs the conduct of the research.

Hypotheses also influence the study design, sampling technique, data collection and analysis methods and interpretation of the findings (Brink & Wood 1998:48; Burns & Grove 2005:159); this is because as Burns and Grove (2003), Polit et al (2004) and Polit and Beck (2006) state, the research design is the overall plan for testing research hypotheses (see section 4.1 of this thesis). Hypotheses differ from objectives and questions of a study by predicting the outcomes of a study, and the research findings indicate support for or rejection of each hypothesis.

#### **4.3.3.2 Sources of hypothesis**

Hypotheses are generated by observing phenomena of problems in the real world of clinical practice, analysing theory and reviewing the literature (Burns & Grove 2005:159; De Vos 2001:57-58). For the current study, hypotheses were deduced from the HBM,

and from the literature review on knowledge, attitudes and perceptions of HIV/AIDS, and on condom use.

Deductive inquiry moves from the general to the specific. It moves from a pattern that might be logically or theoretically expected to observations that test whether the expected pattern actually occurs (Babbie 2005:23). Deductive thinkers examine more abstract statements from theories or previous research and then formulate a hypothesis for study (Burns & Grove 2005:165).

#### **4.3.3.3 *Types of hypotheses***

Different types of relationships and numbers of variables are represented in hypotheses. Studies might have one or more hypotheses, depending on the complexity and the scope of the study. The type of hypotheses developed is based on the problem and purpose of the study. Hypotheses are described using the terms in the following four categories:

- Associative versus causal. An associative relationship identifies variables that occur or exist together in the real world. In this relationship, when one variable changes, the other variable changes. The format used for expressing associative hypotheses is as follows: Variable X increases as variable Y increases in a specific population. Causal relationships identify a cause-and-effect interaction between two or more variables, which are referred to as independent and dependent variables. The independent variable is manipulated by the researcher to cause an effect on the dependent variable. The dependent variable is measured to examine the effect created by the independent variable.
- Simple versus complex. A simple hypothesis predicts a relationship (associative or causal) between two variables. One format of stating a simple hypothesis is as follows: Variable X is related to variable Y. A complex hypothesis predicts a relationship (associative or causal) among three or more variables.

- Directional versus non-directional. A directional hypothesis states the nature or direction of the relationship between two or more variables. The hypotheses are developed from theoretical statements, findings of previous studies, and clinical experience. A non-directional hypothesis states that a relationship exists but does not predict the nature of the relationship.
- Null versus alternative (Burns & Grove 2005:161; Polit & Hungler 1999:66-70). The null hypothesis ( $H_0$ ), also referred to as a statistical hypothesis, is used for statistical testing and interpretation of statistical outcomes (Brink & Wood 1998:49; Burns & Grove 2005:164). A null or statistical hypothesis states that there is no significant difference between two variables (Burns & Grove 2005:164; Polit & Hungler 1999:69). A research hypothesis is the alternative hypothesis ( $H_1$  or  $H_a$ ) to the null hypothesis. A research hypothesis states that there is a relationship between two or more variables (Burns & Grove 2005:164). Such a relationship could either be directional or non-directional (Burns & Grove 2005:161; Polit & Hungler 1999:66-70). Alternative hypotheses indicate what the researcher expects to find as a result of conducting the study. These predictions in a research hypothesis need to be based on theoretical statements, previous research findings or clinical experiences (Burns & Grove 2005:164-165).

Polit and Hungler (1999:61) posit that in quantitative studies (such as the current study), researchers often present a statement of purpose and then one or more hypotheses. In quantitative studies a hypothesis is a tentative prediction or explanation of the relationship between two or more variables; a hypothesis thus translates a research question into a precise prediction of expected outcomes.

Thus in quantitative studies, research questions are usually queries about how phenomena are related and interact. Hypotheses, on the other hand, are proposed solutions or answers to these research queries (Polit & Hungler 1999:61).

Rejecting the null hypothesis suggests support for the research hypothesis (Brink & Wood 1998:49). Researchers can commit two types of errors in accepting or rejecting

the null hypothesis (Brink & Wood 1998:49). Type I error (alpha) occurs when the null hypothesis is rejected and it is true; that is, no differences actually exist in the data. Alpha errors are best avoided by choosing a conservative ( $\alpha=.05$ ) level of significance. Type II error (beta) occurs when the null hypothesis is accepted falsely; that is, the researcher concludes that no difference exists when a difference actually does exist. There is no established beta error level (Brink & Wood 1998:49; Burns & Grove 1999:298-299). With regards to the current study, hypotheses were deduced from the conceptual framework (the HBM) and the literature review about the research topic.

#### ***4.3.3.4 Hypotheses relating to the Health Belief Model (HBM)***

The following research hypotheses were developed for the current study, relating to the HBM.

- **Hypothesis 1**

There is a positive relationship between risk perception of HIV/AIDS and modifying factors (demographic variables such as sex and gender; structural variables such as VCT; knowledge regarding HIV/AIDS; mode of transmission of HIV/AIDS).

- **Hypothesis 2**

There is a positive relationship between risk perception of HIV/AIDS and the likelihood of taking action.

- **Hypothesis 3**

There is a positive relationship between modifying factors and the likelihood of taking action.

#### **4.3.3.5 Additional deductive hypotheses relating to the current study and the HBM**

The following additional hypotheses were deduced for the current study in relation to the outcome variable of *how at risk of contracting HIV/AIDS learners from the two secondary schools in Kumba, Cameroon, who participated in this research are of contracting HIV/AIDS*. Whereas the three main hypotheses in section 4.3.3.4 correlate the variables of modifying factors, risk perception and likelihood of action, the following hypotheses refine issues relating to risk only. The statistical details of these are contained in chapter 5 (section 5.8)

##### **Hypothesis 1:**

There is a relationship between perceived susceptibility to HIV/AIDS and risk exposure to HIV/AIDS (See table 5.129)

##### **Hypothesis 2:**

There is a relationship between perceived severity of HIV/AIDS and risk exposure to HIV/AIDS (See table 5.130)

##### **Hypothesis 3:**

There is a relationship between perceived benefit of condom use and the risk exposure to HIV/AIDS (See Table 5.131)

##### **Hypothesis 4:**

There is a relationship between perceived barriers to condom use and risk exposure to HIV/AIDS (See table 5.132)

##### **Hypothesis 5:**

There is a relationship between perceived condom use self-efficacy and the risk exposure to HIV/AIDS (see table 5.133)

**Hypothesis 6:**

There is a relationship between perceived information provided by clinics and risk exposure to HIV/AIDS (See table 5.134)

**Hypothesis 7:**

There is a relationship between modifying factors and risk exposure to HIV/AIDS (See table 5.135)

**4.4 PREDICTIVE CORRELATIONAL DESIGN**

Based on the definitions derived from the HBM, and the definition of the term hypothesis, and the predictive nature of hypotheses, a correlational research design was called for during the current research.

**4.4.1 Definition of correlational research**

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 variable. The researcher is testing whether the variables co-vary; that is, as one variable changes, does a related change occur in the other variable? (LoBiondo–Wood & Haber 2002:225).

Burns and Grove (2005:26) 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 relationships exist the researcher determines the type (positive or negative) and the degree or strength of the relationships.

The primary intent of correlational studies is to explain the nature of relationships, not to determine cause and effect (Burns & Grove 2005:26). LoBiondo–Wood and Haber (2002:225) stress that the researcher using a correlational design is interested in quantifying the strength of the relationship between the variables or in testing a hypothesis about a specific relationship.

Correlational research designs examine relationships among variables. The examination can occur at several levels. The researcher can seek to describe a relationship, predict relationships among variables, or test the relationship proposed by a theoretical proposition. 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. Thus, large samples are needed. In correlational designs, a large variance in the variable score is necessary to determine the existence of a relationship. Therefore, correlational designs are non-experimental and are unlike experimental designs, in which variance in variable scores is controlled (limited).

#### **4.4.2 Descriptive underpinnings of correlational research**

Burns and Grove (2003:480); Polit and Beck (2004:192); as well as Polit et al (2004:177, 437-438) define a descriptive design as a method to gain more information about variables within a particular field of study. The purpose is to provide a picture of situations as they naturally happen. The design is used to identify a phenomenon of interest, identify variables within the phenomenon and develop conceptual and operational definitions of variables in the study (Burns & Grove 2003:798). Descriptive studies provide valuable base–line information. The method is also flexible and can be used to collect information from a large group of respondents (Polit & Beck 2006:189). With the descriptive design the researcher plans either to assemble new information about an unstudied phenomenon or to gain more information about characteristics of individual situations, or groups, and the frequency within a particular field of study (Burns & Grove 2003:268). In the current study, the descriptive design was used to describe and

investigate the nature of the phenomenon of HIV/AIDS related knowledge, attitudes and perceptions, and sexual behaviours of senior secondary learners in the city of Kumba in Cameroon.

Descriptive studies also measure incidence rates, prevalence rates and relative risks (Polit & Beck 2004:193), and descriptive studies do not involve manipulation of data, neither is there an attempt to establish causality (Burns & Grove 2005:232, 240).

#### **4.4.3 Explorative underpinnings of correlational research**

According to Brink et al (2006:151); Mouton (2002:72) as well as Polit and Beck (2004:20), 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. When a study is explorative, it 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; Grinnel & Williams 1990:136). Experiences as described by respondents can be explored to reveal new meaning, the manner in which it is revealed and other factors relating to it (Polit & Beck 2004:20).

According to Couchman and Dawson (1995:40) an exploratory research design allows the use of questionnaires distributed to a large sample of the population and is therefore intent on finding facts which relate to the field of study. With regard to the current study, exploring the HIV/AIDS related knowledge, attitudes and perceptions; and the sexual behaviours of senior secondary school learners in the city of Kumba, Cameroon, resulted in gaining insights into and meaning about the research, in aiding the design of programmes that will curb the spread of HIV/AIDS among learners in Cameroon.

#### **4.4.4 Non-experimental nature of correlational research**

Polit and Beck (2004:198) state that a non-experimental design includes descriptive research that investigates situations, correlations between variables without manipulating the independent variables. This is supported by LoBiondo-Wood and Haber (2002:222-223). Non-experimental research designs are used in studies in which the researcher wishes to construct a picture of a phenomenon; explore events, people or situations as they naturally occur; or test relationships and differences among variables (LoBiondo-Wood & Haber 2002:222). A non-experimental design is thus a system of collecting data through the use of self-reporting techniques. In the current study, a self-designed questionnaire was used as a self-reporting technique of data collection.

An experimental research is the objective, systematic, controlled investigation to examine probability and causality among related independent and dependent variables for the purpose of predicting and controlling phenomena (Burns & Grove 2005:26, 736).

The three essential elements of experimental research are:

- Randomisation: this involves the distribution of subjects to either experimental or control groups on a purely random basis. Random assignment to experimental or control groups allows for the elimination of any systematic bias in the group with respect to the attributes that may affect the dependent variable being studied. The procedure of randomisation assumes that any important intervening variables will be equally distributed between the groups.
- Controlled manipulation of at least one treatment variable (the independent variable): the independent variable is manipulated by giving the experimental treatment to some participants in the study and not to others or by giving different amounts of it to different groups. The independent variable might be a treatment, a teaching plan, or a medication. It is the effect of this manipulation that is measured to determine the result of the experimental treatment.
- Researcher control of the experimental situation, including a control or comparison group: this involves the introduction of one or more constants into the

experimental situation. Control is acquired by manipulating the causal or independent variable, by randomly assigning subjects to a group, by very carefully preparing experimental protocols, and by using comparison groups. In experimental research, the comparison group is the control group or the group that receives the usual treatment, rather than the innovative experimental one (Bless & Higson-Smith 2000:73, 74; Burns & Grove 2005:26-27, 256; LoBiondo-Wood & Haber 2002:204-205; Mouton 2006:155).

Experimental studies usually have highly controlled settings in laboratories or research units in clinical agencies (Burns & Grove 2005:27).

In non-experimental research, the independent variable is not manipulated, but occurs naturally; so to speak the researcher can not directly control them by manipulation. Non-experimental research requires a clear, concise research problem or hypothesis that is based on a theoretical framework. Non-experimental research also explores the relationship or differences between variables (LoBiondo-Wood & Haber 2002:222).

The current research does not involve manipulation of the independent variables, neither does it involve random assignment of subjects into experimental or control groups, nor does it involve any researcher control of the experimental situation as in experimental research. The current research does not investigate cause-effect relationship among the research variables, but explores possible correlations among the variables. In the current research, hypotheses were deduced from the HBM, which is the framework used for the current study, to be tested (see section 4.3.3 of this thesis). So the current research falls within the non-experimental design.

#### **4.4.5 Basic assumptions underlying correlational design**

The following assumptions are implicit in the use of correlational designs:

- The study variables have not been shown to co-vary in previous studies of similar populations.
- The 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 was no manipulation of variables; they are studied as they exist naturally.
- There is no tested theory on which to predict the possible relationships between the variables (Brink & Wood 1998:163-164).

Brink and Wood (1998:164) also concur that the classical correlational design includes all of the following:

- A large random sample of the population is assembled
- A conceptual framework is proposed to explain potential relationships
- Research questions are posed regarding possible relationships between variables
- Cross-sectional data are collected on each variable from each respondent. A cross-sectional study is a non-experimental research design that examines groups of subjects in various stages of development simultaneously with the intent of inferring trends over time (Burns & Grove 2005:732; LoBiondo-Wood & Haber 2002:491)
- Data are measured using tools designed to measure quantitative or numerical data
- Correlational analysis is used to examine the relationships between the variables

The current study is correlational, as it adhered to all the stated assumptions.

## **4.5 POPULATION AND SAMPLING**

The empirical phase of any research begins with the identification of the population from which participants will be selected (Swanson-Kauffman & Schonwald 1998:100). When selecting samples, quantitative researchers “develop a sampling plan that will allow them to generalise the results to broader groups. Researchers decide in advance how participants will be selected, as well as how many will be included” (Polit & Beck 2004:289).

### **4.5.1 Population**

Population is a well-defined set that has certain specified properties. The population can be composed of people, animals, objects or events that meet certain criteria for inclusion in a given universe (Burns & Grove 2005:40; LoBiondo-Wood & Haber 2002:240; Polit & Beck 2006:258).

Salkind (2003:86) defines population as a group of people who share the common traits or attributes, which are of interest to the researcher, and of the population to whom the findings can be generalised. Mouton (2002:134) concurs by describing a population as individuals with common characteristics in which the researcher has an interest.

So it is necessary to define the population in order to apply the results of the current study to a specific group. In identifying a population, the researcher should be specific about the inclusion or exclusion criteria (Polit & Hungler 1995:230). The population criteria establish the target population; that is the entire set of cases about which the researcher would like to make generalisations and who meet the sampling criteria (Burns & Grove 2005:342; LoBiondo-Wood & Haber 2002:242; Polit & Beck 2004:290).

The target population, once defined, becomes the population of interest from whom the data can be collected (Parahoo 1997:219). The population for the current study

consisted of all the senior secondary school learners in Cameroon. The target population for the current study consisted of all the senior secondary school learners in the city of Kumba. The target population could not be manageable due to its size, location, distribution and other practical issues such as time, money and personnel. For this reason, the target population was thus scaled down to the accessible or study population, which could be manageable (Brink et al 2006:123).

The accessible population thus becomes the section of the entire population the researcher accessed and from which the researcher obtained data. With regard to the current study, the accessible population consisted of two secondary schools' senior learners in the city of Kumba who satisfied the specified sample eligibility criteria (Burns & Grove 2005:342; LoBiondo-Wood & Haber 2002:240-242; Polit & Beck 2004:289-290).

Due to financial and time constraints only learners from two schools were included in the sample. When deciding on the population of the study, one would acknowledge the fact that it is impossible to conduct the study on the entire population. For this reason a sample needs to be drawn from the accessible population.

#### **4.5.2 Sampling technique**

Sampling is a procedure to select a small portion of the accessible population. According to Burns and Grove (2005:341) and LoBiondo-Wood and Haber (2002:242), sampling involves selecting a group of people, events, behaviours or elements with which to conduct a study. Polit and Hungler (1999:279,714) posit that in quantitative research, "sampling refers to the process of selecting a portion of the population to represent the entire population." The representative sample consists of the elements of a population. This allows for the study results to be generalised (Burns & Grove 2005:324; De Vos et al 2005:194; Polit & Beck 2004:290; Polit & Hungler 1999:279). The characteristics of the sample population are intended to be representative of the

target population (Burns & Grove 2005:343; Polit & Hungler 1999:279). Quantitative research necessitates large samples for reasons of representativeness and generalisability. The first step in sampling is to accurately and precisely state the sampling criteria.

#### **4.5.2.1 Sample eligibility criteria**

Sampling criteria also referred to as eligibility criteria, consist of a list of characteristics essential for membership or eligibility in the target population. The criteria are developed from the research problem, the purpose, review of literature, the conceptual and operational definitions of the study variables, and the design (Burns & Grove 2005:342; LoBiondo-Wood & Haber 2002:240,241).

For the purpose of the current study, respondents had to meet the following sample eligibility criteria:

- Be registered learners of the senior secondary school level in any of the participating high schools in the city of Kumba.
- Participate willingly in the current study.
- Must have parents' or guardians' approval.
- Must be male or female.
- Must be present in school on the day and time of data collection.
- Must be present on the day of the study (Brink et al 2006:124).

#### **4.5.2.2 Sampling design**

The literature differentiates between two types of sampling: one yields probability samples in which the probability of selection of each respondent is assured. The other yields non-probability samples in which the probability of selection is unknown (Brink et

al 2006:148; Burns & Grove 2005:346-354; De Vos 2001:195; LoBiondo-Wood & Haber 2002:243; Polit & Hungler 1999:281-288).

Non-probability sampling is used in large-scale surveys where the elements are not known and are thus non-randomly selected (Babbie 2005:188; Burns & Grove 2005:350). Here the sample size is usually small. The disadvantage of non-probability sampling is that it is a less representative and less accurate approach. Four types have been identified: convenient, snowball, quota and purposive or judgmental (Babbie 2005:188-191; Burns & Grove 2005:350-353; De Vos 2001:198-200; LoBiondo-Wood & Haber 2002:243-246).

Probability sampling is the best way of selecting a sample that is representative of the population from which it is drawn. In probability sampling, every element has an equal chance of being selected for the sample. Probability sampling allows for the calculation of the desired sample size for the margin of error the researcher will agree to (Brink & Wood 2001:134; Burns & Grove 2005:354; De Vos et al 2005:198; Polit & Beck 2004:311).

Four types of probability sampling are: systematic, simple random, stratified random and cluster (Babbie 2005:195-196; Brink & Wood 2001:140; Burns & Grove 2005:346-350; De Vos et al 2005:198; LoBiondo-Wood & Haber 2002:247-253; Polit & Beck 2004:311). A proportional, stratified, simple random sampling method was used in the current study (Burns & Grove 2005:348; De Vos 2001:197; LoBiondo-Wood & Haber 2002:249-250).

#### ***4.5.2.3 Sampling respondents***

Burns and Grove (2005:341-342), as well as LoBiondo-Wood and Haber (2002:242) describe a sample as a subset of elements that makes up the population. The sample is obtained from the accessible population, and findings are generalised first to the

accessible population and then, more abstractly, to the target population. The sample represents the population. A sample is thus a sub-section of the population, which is selected to participate in a study. The selected sample should therefore have similar characteristics to the population under study to allow for generalisability of results to represent the population (Polit & Beck 2006:259). The sampling method used for the respondents for the current study was a proportional, stratified, simple random sampling. See sections 1.13.3 and 4.5.2.2 of this thesis.

The sampling frame consisted of a consecutively numbered list of the respondents' names from form five (Grade level 10) to upper sixth (Grade level 12) from the two participating high schools (Burns & Grove 2005:346,750; LoBiondo-Wood & Haber 2002:247,249; Polit & Beck 2004: 295-297). A sampling frame is a prerequisite for probability sampling which is the sampling method used for quantitative positivist research; thus the current study.

The respondents were stratified at different levels of study namely, form five (level 10), lower sixth (level 11) and upper sixth (level 12). After stratification, a proportional, simple random sample was selected. All the numbers corresponding to the name list were placed in a container and 80 respondents, who met the stated sample eligibility criteria as explicated in section 4.5.2.1 of this thesis, were selected:

- Proportional: proportional sampling is “the selection of a sample according to proportions of subgroups in a population” (Polit & Beck 2004:297). In the current study it referred to the proportion of male and female learners in the two participating high schools. A proportional number of respondents were included from each participating school to ensure that both schools were represented proportionately according to gender.
- Stratified: strata refer to subgroups in a population and stratified sampling is the selection of participants from two or more subgroups or strata in a population (Brink et al 2006:130). In the current study, strata referred to the subgroup of

learners at different levels of study (that is grades 10, 11 and 12), who were included to ensure grade level representativeness.

- Probability/random: probability or random sampling refers to “the selection of a sample in such a way that every individual in the accessible population has an equal chance of being selected for the study. Random sampling is done from a list of all the members of the population (Brink et al 2006:126). The school attendance registers were used and respondents were randomly selected from the register. Probability sampling enables researchers to use inferential statistics. Probability sampling was used in the current study because it increased the likelihood that all elements in the population would have an equal chance of being included in the sample. In probability sampling, the sample is more likely to be representative of the population and the findings of the study can be generalised to the study population. Probability sampling reduces the sampling bias and the sampling error can be ascertained (Brink et al 2006:126).

#### ***4.5.2.4 Sampling procedure***

The following technique was followed during the implementation of the proportional, stratified, simple, random sampling procedure:

- A list of all the learners registered in the senior secondary school level in the participating schools was obtained.
- The sampling frame, that is a list of all the units of the target population (Burns & grove 2005:346; LoBiondo-Wood & Haber 2002:247, 249; Polit & Beck 2004:296), consisted of a consecutively numbered name list of the respondents in the two participating schools.
- The respondents were stratified at different levels of study, namely grade 10, grade 11, and grade 12.
- After stratification a proportional, simple random sample was obtained by placing all the numbers, corresponding to the name list in a container and selecting the

stipulated sample size from respondents who met the stated eligibility criteria (see section 4.5.2.1 of this thesis).

#### **4.5.2.5 Sample size**

Struwig and Stead (2001:124) state that it is impossible to state what an ideal sample size of a study should be. The sample size for a quantitative approach depends on whether generalisation and transferability can be done. The sample must not be too small nor too large.

According to De Vos (2001:191,192) and De Vos et al (2005:195), large samples allow for drawing more representative and accurate conclusions and generalisations with regard to quantitative research. In other words, the larger the sample, the smaller the sampling error. Generalisation is a very important aspect in the results of a quantitative study like the current study. It extends the study results to the larger population. However, small samples may not provide enough scope for generalisation. Small sample size can impact on statistical tests and can make them insensitive or over-sensitive. Another aspect of sampling is bias. According to Polit and Beck (2004:291) sampling bias refers to the systematic over or under-representation of some segments of the population in terms of characteristics relevant to the research questions.

With regard to estimating the correct sample size in quantitative research, Grinnell and William (1990:127) as quoted in De Vos et al (2005:195) state that a 10% sample should be sufficient to control any sampling errors, and large enough to assume that the statistical analysis is meaningful. Grinnell and William (1990:127), as quoted in De Vos et al (2005:195), feel that a sample of 30 respondents per variable is sufficient to perform basic statistical procedures. This is corroborated by Burns and grove (2005:354), who state: "a sample should contain at least 30 subjects" per variable.

The sample size for the current quantitative study consisted of 80 respondents from each grade level in each of the two high schools. In total, a sample size of 480 respondents made up the sample size for the current study. That is 2 high schools x 3 years of study x 80 respondents=480 respondents (see table 4.1 of this thesis). The larger the sample, the more representative it is going to be. Smaller samples produce less accurate results because they are likely to be less representative (De Vos 2001:191-192; LoBiondo-Wood & Haber 2002:255-256). According to Polit and Beck (2006:267-268), quantitative research designs require large samples to increase representation and reduce sampling error.

Table 4.1 exhibits the representative stratified random sample of senior secondary school learners (respondents) in the participating schools, used in the current study.

**Table 4.1: Representative random sample of learners involved in the current study**

1	School	Form five (Grade10)	Lower sixth (Grade 11)	Upper sixth (Grade 12)	Total
2	School A	80	80	80	240
3	School B	80	80	80	240
<b>GRAND TOTAL</b>		<b>160</b>	<b>160</b>	<b>160</b>	<b>480</b>

#### **4.5.2.6 Site sampling**

Burns and Grove (2005:359) state that the research setting is the location where a study is conducted. There are three common settings for conducting research: natural, partially controlled, and highly controlled (Burns & Grove 2005:359). A natural setting, or field setting, is an uncontrolled, real-life situation or environment. Conducting research in a natural setting means that the researcher does not manipulate or change the environment of the study. Burns and Grove (2005:359) stress that descriptive and correlational studies, such as the current study, are often conducted in natural settings. As mentioned in chapter 1, two high schools in the city of Kumba were selected for the

study. In Muslim and Christian areas of Cameroon, schools could expect opposition from parents for research about sexual issues, such as the current research where respondents were asked very personal and sensitive questions about HIV/AIDS and sexual behaviours. There are about 30 high schools in Kumba with an estimated learner population of more than 30 000 (learners register, divisional delegation of secondary education for Meme Division, Kumba 2007/2008 academic year). All the school principals were contacted and permission to undertake the current research was sought. Only two school principals granted permission and due to time, financial and logistical constraints the researcher had to go ahead and collect data from these two schools. No further principals were willing to give permission. These two schools were thus conveniently chosen by the researcher (Brink et al 2006:133; Marshall & Rossman 1995:54). Kumba is a township in the South West Province of the Republic of Cameroon. This urban city is characterised by a cosmopolitan population, which influences the emigration and immigration processes and the high economic activity in the city. Permission to conduct the research at these two high schools was obtained from the principals of the respective institutions. A convenient date was scheduled by the principals of the respective high schools, for data collection, to avoid interference with the learners' programmes and activities (see section 4.8.2.1 of this thesis). For the permission granted to conduct the current study, see Annexures A, B, C and D.

#### **4.6 DATA COLLECTION**

Polit and Hungler (1999:29, 699) define data as “information obtained during the course of an investigation or study.” In the current quantitative positivist research, data represents what is operationalised, measured or verified. Data collection is the precise, systematic gathering of information relevant to the research purpose or the specific objectives, questions or hypotheses of a study (Burns & Grove 2005:733).

Research data, particularly in quantitative studies (such as the current study) are often collected according to a structured plan that indicates what information is to be gathered

and how to gather it. When data are collected in a highly structured way the researcher must develop an instrument if an existing one is not available (Polit & Hungler 1999:315-318). Structured data collection is “*an approach to collecting information from subjects either through self-report or observations, wherein the researcher determines in advance the response categories of interest*” (Niccoll 1997:214).

#### **4.6.1 Data collection instrument**

According to Burns and Grove (2005:43) during data collection, the study variables are measured through the use of a variety of techniques, such as observation, interview, questionnaires, scales and physiological measurement methods. According to Wilson (1989:336), the choice of a data collection method is one of the most important steps in the research process.

The questionnaire was selected as the most appropriate data collection instrument for the current study. “A questionnaire is a printed self-report form designed to elicit information that can be obtained through the written responses of the subjects” (Burns & Grove 2005:398; Brink 2001:154). LoBiondo-Wood and Haber (2002:301) emphasise: “*questionnaires are paper-and-pencil instruments designed to gather data from individuals about knowledge, attitudes, beliefs and feelings.*” This is supported by Burns and Grove (2005:398). Babbie (2005:487) also states: “A questionnaire is a document containing questions and other types of items designed to solicit information appropriate for analysis, and they are used primarily in survey research.” Thus a questionnaire is the most appropriate data collection instrument for the current study, which is aimed at exploring the knowledge, attitudes, and perceptions regarding HIV/AIDS and condom use; and the sexual behaviours of senior secondary school learners in Kumba, Cameroon.

The basic characteristic of a questionnaire is that all the respondents involved in the study answered the same set of standardised questions and items (Burns 2000:567).

The researcher used a self-designed questionnaire for data collection with regard to the current study, for the purpose of collecting data regarding HIV/AIDS-related knowledge, attitudes and perceptions of senior secondary school learners, and their sexual behaviours. The self-designed questionnaire comprised closed-ended and opened-ended items structured according to the HBM. A four-point Likert scale was used to rate the responses. According to Burns and Grove (2005:741), a Likert scale is an instrument designed to determine the opinion or attitudes of a subject; it contains a number of declarative statements with a scale after each statement. Likert items use such response categories as strongly agree, agree, disagree, and strongly disagree (Babbie 2005:485; LoBiondo-Wood & Haber 2002:495).

After an in-depth literature review, the researcher designed the questionnaire with the guidance of the promoter and joint promoter. The design of the questionnaire was guided by the objectives of the study, the literature review, and the HBM. In view of the different types of information required from the male and female respondents, two self-administered questionnaires were developed and designed for data collection - one for male and one for female respondents.

#### ***4.6.1.1 Advantages of using questionnaires***

The advantages for using questionnaires for the current study were the following:

- It is the simplest and least expensive method of obtaining data from large numbers of subjects.
- It permits anonymity and may result in more honest responses, as data could not be linked with any respondent.
- It eliminates bias due to phrasing questions differently for different respondents. All respondents had to answer the same standardised sets of questions.

- Time was saved during the data collection as the completion of each questionnaire required a short time and all the learners could complete the questionnaires simultaneously.
- The respondents were at ease as the researcher was not present during completion of the questionnaires.
- As supported by Seaman (1987:285) hand delivery of the questionnaire might have stimulated respondents' answers (Brink & Wood 2001:159; Burns & Grove 2003:289; LoBiondo-Wood & Haber 2002:304).

Questionnaires also have disadvantages.

#### ***4.6.1.2 Disadvantages of using a questionnaire***

The disadvantages of using questionnaires in the current study were identified as follows:

- Respondents failed to answer some questions. The reasons for non-responses could not be established. Forced rating scales for certain questions might have led the respondents to mark a specific response as there was no space for other response options on the questionnaire.
- Questionnaires also depend on personal reporting and therefore may be biased or inaccurate (Brink & Wood 2001:159; Burns & Grove 2005:35; Polit & Hungler 1999:350-351). The Hawthorne effect, Mouton and Marias (1990:86); Polit and Hungler (1999:184-185), was another disadvantage of using a questionnaire for the current study. For the fact that the respondents were aware that they were under study, they might have given responses to questions in a manner which they perceived as being more polite or as the researcher expected, and not really as the felt about.

#### **4.6.1.3 Covering letters and consent forms**

The title of the study was written, followed by the date, to prove that the study is current. In the introduction of the cover letter the intention and significance of the study was clarified as advised by Salkind (2003:143). The cover letter highlighted that the research was part of the researcher's studies and that findings would benefit the country on fighting the HIV/AIDS epidemic (see Annexure E).

Salkind (2003:143) also suggests that in the introductory section, the respondents should be assured of the confidentiality of their responses. This was fulfilled by the fact that a consent form was signed by the researcher and the respondents, assuring them of confidentiality and anonymity (see Annexure F).

Lastly, Salkind (2003:144) suggests that the respondents must be appreciated for their corporation in the study. A note of thanks was therefore added. Also included, was an example of how to fill in the questionnaires.

#### **4.6.1.4 Questionnaire format**

The design of the questionnaire was based on the objectives of the study, the literature review and the HBM. Most of the questions were closed-ended, and a few open-ended questions which were grouped into similar categories and subjected to statistical analysis. Opened-ended questions are questions which allow respondents to respond to questions in their own words, while closed-ended questions are questions in which the options are designated by the researcher (Polit & Hungler 1999:214). Details of both questionnaires are as follows:

#### *4.6.1.4.1 Male questionnaire*

The questionnaire consisted of 10 sections numbered A-J, to measure the different components of the HBM as substantiated by knowledge, attitudes and perceptions regarding HIV/AIDS and sexual behaviours among senior secondary school learners in Kumba, Cameroon (Annexure H).

Section A consisted of 22 items (A1-A22) relating to the demographic detail of the respondents (Welman & Kruger 2001:165). This section required the respondents to indicate their gender, level of education, age, marital status, social group affiliation, religious affiliation, school of attendance, their academic profile, area of residence, and their economic and cultural status.

In section B, questions relating to knowledge on HIV/AIDS of the respondents were asked. This section comprised 42 close-ended questions and items (B1.1-B6.4).

Section C comprised questions and items relating to knowledge regarding condoms of respondents. It consisted of 21 closed-ended questions and items (C1.1-C5.6).

In section D, the attitudes regarding HIV/AIDS of respondents were explored. This section comprised 12 closed-ended questions and items (D1.1-D3.3).

In section E, the attitudes towards people living with HIV/AIDS (PLWHA), of respondents were explored. It consisted of 10 closed-ended questions and items (E1.1-E1.10).

Section F comprised closed-ended questions and items relating to attitudes regarding Condoms of respondents. It consisted of 20 closed-ended questions and items (F1.1-F3.10).

In section G, questions and items relating to perceptions regarding HIV/AIDS were asked. It consisted of 26 closed-ended questions and items (G1.1-G7.4).

In section H, the perceptions regarding condoms of respondents were explored. It consisted of 10 closed-ended items (H1.1-H4.2)

Section I comprised of 27 closed-ended questions and items and 1 opened-ended question (I1.2), relating to the sexual behaviours of respondents.

In section J, the service delivery issues affecting young people and the service delivery needs for young people were explored. It consisted of 39 closed-ended items (J1.1-J2.4.9).

#### *4.6.1.4.2 Female questionnaire*

Items in the female questionnaire were similar to those in the male questionnaire although there were some gender specific differences with regard to certain items (B1.2, C1.2, C5.5, F1.6, G5.1, H1.4, I1.1, I2.1, I2.2, I2.6, and I2.9). Question I1.13, regarding the age of current “steady sexual partner”, appeared only in the female questionnaire, while items G7.1, G7.2, G7.3, and G7.4, which appeared in the male questionnaire, were deleted from the female questionnaire (Annexure I).

#### **4.6.1.5 Pre-testing of the questionnaire**

Babbie (2005:265) states: “no matter how carefully researchers design a data collection instrument such as a questionnaire, there is always the possibility- indeed the certainty- of error.” Babbie (2005:265) then advises that the surest protection against such errors is to pre-test the questionnaire in full or in part. Pre-testing is the process of testing out the effectiveness of a measuring instrument in gathering the appropriate data (Polit and Beck 2004:728). Polit and Hungler (1999:711) concur by stating that a pre-test is a trial run to determine whether the instrument is clearly worded and free from major biases and whether it solicits the type of information envisioned. LoBiondo-Wood and Haber (1990:353) advocate that the only way to know whether the questions in the questionnaire are understandable to the respondents is to pre-test them in a similar population. Burns

and Grove (2003:228) state that information obtained on pre-test may improve the responses of respondents.

The reasons for pre-testing for the current study were to “*clarify instructions, relevancy, usability and completion time, to refine and introduce modifications where necessary and to ascertain reliability and validity*” (Bless & Higson-Smith 2000:52; Brink & Wood 1998:260; Burns & Grove 1999:40; De Vos 1998:395-396; Mouton 2001:103-104; Polit & Beck 2004:51,196,727; Polit & Hungler 1999:320-321;).

During the pre-testing phase, a proportional simple random sampling method was used to select a sample of 20 respondents who were senior secondary schools, but who were not selected for the actual study (Burns & Grove 1999:40; Polit & Beck 2004:354). The sampling procedure is discussed in section 4.5.2.4 of the thesis.

The pre-testing enabled the researcher and the research assistants to gain experience in administering the questionnaire to the subjects. It also enabled the researcher to establish face validity and judge whether the questions were appropriate for the intended purpose (Cormack 2000:31). In addition the researcher was able to test the use of the questionnaires and to assess whether the questions were understood (Streubert & Carpenter 1995:46). This further determined the questionnaire’s reliability (Abdellah & Levine 1986:239).

After the pre-test, refinement was done with the assistance of the statistician, an expert in the field of research, the promoter and joint promoter to eliminate and reduce problems encountered during the pre-test, in the course of the actual study (Polit & Hungler 1999:321).

Table 4.2 depicts the persons that participated in the pretest of the questionnaires.

**Table 4.2: Persons that participated in the pretest of the questionnaires**

CATEGORIES OF PERSONS	OTHERS	GRADE 10 (Form 5)	GRADE 11 (Lower Sixth)	GRADE 12 (Upper Sixth)
College A (male and female)		4	3	3
College B (male and female)		3	3	4
College principals	1			
Field expert	2			
Statistician	1			
<b>TOTAL</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>7</b>

The following aspects of the questionnaire were corrected:

- Some of the wordings of some questions and items were changed because some of the learners (respondents) indicated that they did not understand them well:
  - The word “ *heterosexual*” in questions B1.2, B3.1, and B6.2 was changed to “sexual”
  - The word “*debut*” in question B6.1, was changed to “*initiation*”
  - The word “*brittle*” in questions C4.1 and C4.2, was changed to “*hard and easily break*”
  - The acronym “ARV” in questions D3.3, G6 and I1.11 was written in full “*Anti retroviral.*”
- The duration for completing the questionnaire was reduced from fifty minutes to forty five minutes in the covering letter to respondents

#### **4.6.2 Training of research assistants**

Two research assistants were recruited to assist in collecting data from the learners (respondents). The research assistants, one male and one female, both with bachelor’s degree were trained in the use of the data collection instruments (questionnaires). They

were given one-day training, before the start of data collection. Recruitment paid attention to the following:

- The purpose and significance of the current study
- The personal characteristics of the research assistants, such as their approach to the respondents on the time of data collection
- Techniques and ethics in research, such as obtaining informed consent from the respondents
- Reviewing the data collection instruments (questionnaires) in order to clarify content and to ensure mutual understanding of the research objectives
- Systemising the data collection instruments (questionnaires).

The research assistants were also advised to wear simple clothes and to look simple as these could affect the quality of information collected during the data collection process. After training, the two research assistants were then introduced to the schools at which the current study was carried out.

#### **4.6.3 Administering of the questionnaire**

In the administration phase of the questionnaire, the researcher went to the selected schools in person, accompanied by the research assistants, who assisted in distributing the questionnaires to and collecting from the respondents with the assistance of the various school authorities. The researcher was present but stayed at a distance, but within the school premises to answer questions from respondents. This was done to minimise response bias, that is, misinterpretations and incomplete responses. The learners (respondents) were grouped in their various classrooms into two, male and female and sitting arrangement was done in such a way that no learner interfered with the other's response. The completed questionnaires were handed over to the research assistants immediately. The possibility of questionnaires being sent in incomplete and misunderstanding of items and non-return of questionnaires were problems that were foreseen (De Vos et al 2005:212). To counteract these negative aspects:

- The administration of the questionnaire was conducted in the respondents' classrooms; which is a natural setting (Burns & Grove 2005:359).
- At each venue, sufficient seating, pens, questionnaires and consent forms were available. All respondents signed only one contract; the printed one was returned with the completed questionnaire without the name of the respondent on it. This latter aspect ensured the anonymity of the respondents.
- The researcher explained the study and instructions for completing the questionnaire.
- The researcher established rapport by introducing himself to the respondents, thus making them feel at ease and thereby providing a comfortable and non-threatening environment.
- A detailed, verbal and written outline of the study was given, namely the aim, design, ethical considerations and the right to have access to the results (Burns & Grove 2005:400).
- The research assistants explained the completion of the questionnaire in detail to the respondents. They emphasised the importance to complete all the questions and that there are no right or wrong answers. Only the personal opinions of the respondents were required (Polit & Hungler 1999:348).
- The contract was explained in detail to the respondents. It was emphasised to them that they were free to terminate participation in the current study at any time. The respondents were reassured that they had the right to stop participation in the study, and by so doing they would not be discriminated against (Burns & Grove 2003:177-179).
- Respondents all signed one contract thereby signalling agreement between respondents and the researcher.
- An unsigned copy of the contract was submitted to the principals of the participating high schools.
- The researcher thanked the respondents for their willingness to participate in the study.

- Prior to submitting the completed questionnaire, the respondents were again requested to check that they had completed all the questions and items.
- Immediately upon submission of the completed questionnaires, the research assistants checked with the respondents that they had completed every question and item.

#### **4.6.4 Data quality**

In quantitative research, the major criterion for assessing the quality of data is by means of establishing the validity and reliability of the data-collection instrument (Polit & Beck 2004:428). Validity and reliability are important variables that determine a good quantitative research. This also forms part of the scientific integrity of the researcher.

Reliability and validity of an instrument relate mainly to the items measuring the constructs under investigation. With regard to the current study, these constructs entail the HIV/AIDS-related knowledge, attitudes and perceptions, and the sexual behaviours of senior secondary school learners in two high schools in the city of Kumba.

##### **4.6.4.1 Reliability**

Reliability is the consistency, constancy or dependability; accuracy and precision with which an instrument measures the target attribute (Burns & Grove 2005:374, 749; LoBiondo-Wood & Haber 2002:319-327, 499; Polit & Beck 2004:416; Polit & Hungler 1999:713). This means that administering the same instrument by various researchers will provide the same results under comparable conditions (De Vos et al 2005:163).

Quinn (2000:204) also concurs that reliability means that scores for a measurement are internally consistent and stable over time. That is, the same results are obtained when administered on two or more separate occasions. Reliability also relates to the precision

and accuracy of the research instrument. If used on a similar group of respondents in a similar context, the instrument should yield similar results (Brink et al 2006:207).

With regard to the current study, data are collected from respondents at the respective participating schools at different occasions. Grouping these different schools separately is thus one way of establishing the reliability of the instrument.

Babbie (2005:145-147); LoBiondo-Wood and Haber (2002:323-326), and Polit and Hungler (1999:411-416); state that reliability can be estimated in one of the following four ways, which are internal consistency reliability, split-half reliability, test-retest reliability and inter-rater reliability. In the current study, reliability of different items of the instrument was tested by means of the Cronbach's alpha, which is the most common means of testing internal consistency of the items using windows SPSS package (LoBiondo-Wood & Haber 2002:325; Polit & Hungler 1999:415). Cronbach's alpha is a widely used reliability index that estimates the internal consistency or homogeneity of a measure composed of several subparts, by comparing each item in a scale to all others; also referred to as coefficient alpha. The higher the values, the higher the internal consistency (LoBiondo-Wood & Haber 2002:491; Polit & Beck 2004:420, 713; Polit & Hungler 1999:699).

Internal consistency reliability refers to the extent to which all the subparts of an instrument will measure the identified attributes (LoBiondo-Wood & Haber 2002:324, 494; Polit & Hungler 1999:704). By rule, a lenient cut-off point of 0.60 is common in exploratory research such as the current research; the alpha should be at least 0.70 or higher to retain an item in an adequate scale (Burns & Grove 2005:376).

For most of the items in the current study, the reliability test was found to be adequate. The researcher also pre-tested the questionnaire. This also ensures reliability (see section 4.6.1.5 of the thesis).

For the current study, the Cronbach's alpha correlation coefficient test was used to test the reliability of each of the six items of the HBM, and items related to the research topic and

the research questions and objectives. The Cronbach's alpha was calculated in order to establish whether the respondents were consistent in their answers.

#### **4.6.4.2 Validity**

Validity refers to the degree to which an instrument measures what it is supposed to measure. In other words a valid instrument actually measures the concept and construct it claims to measure (Burns & Grove 2005:755; De Vos et al 2005:160; LoBiondo-Wood & Haber 2002:314-318, 502; Polit & Beck 2006:329; Polit & Hungler 1999:717). With regard to the current research this involves knowledge, attitudes and perceptions of HIV/AIDS and condom use. Validity addressed the appropriateness, meaningfulness and usefulness of the specific inferences made from instrument scores. It is the inferences made from the scores, not the scores themselves, that are important to validate (Burns & Grove 2005:376, 377).

Four main approaches for assessing the validity of instruments for quantitative research include face validity, content validity, criterion validity and construct validity (Babbie 2005:148-149; Bless & Higson-Smith 2000:131; De Vos et al 2005:60; LoBiondo-Wood & Haber 2002:314; Polit & Beck 2004:41; Polit & Hungler 1999:418).

##### **4.6.4.2.1 Face validity**

Face validity verifies basically that the instrument looks like it is valid or gives the appearance of measuring the variables in the content (Burns & Grove 2005:377). Face validity is an important aspect of the usefulness of an instrument, because according to Burns and Grove (2005:377-378), "the willingness of subjects to complete the instrument is related to their perception that the instrument measures the content they agreed to provide."

In the current study, the following enhanced face validity:

- The questionnaire was discussed with the promoter, joint promoter, statistician and experts in the current field of research, before, during and after administering it to respondents during the pre-test and actual study. The experts, statistician, promoter and joint promoter evaluated the presentation, design of the instrument, typographical quality, clarity of instructions, relevancy, ease of completion and completion time of the instrument.

#### *4.6.4.2.2 Construct validity*

A construct is an abstraction or concept that is deliberately invented or constructed by researchers for a scientific purpose (Burns & Grove 2005:731; LoBiondo-Wood & Haber 2002:490; Polit & Beck 2004:425,714). Construct validity examines the fit between conceptual and operational definitions of variables and determines whether the instrument actually measures the theoretical construct that it purports to measure (Babbie 2005:149; Burns & Grove 2005:217, 731; De Vos 2001:85; LoBiondo-Wood & Haber 2002:316). Theoretical constructs or concepts are defined within the framework (conceptual definitions). These conceptual definitions provide the basis for the development of operational definitions of the variables. Operational definitions (methods of measurement) must validly reflect the theoretical constructs (Burns & Grove 2005:217). Thus construct validity ensures that abstract concepts are measured adequately and logically and relationships between variables are identified with the instrument based on theory, and clear operational definitions. Construct validity includes the definition of variables in line with existing literature or theory and differentiates between respondents who possess the trait and those without the trait (Burns & Grove 2003:232).

For the current study, the construct validity was enhanced because it was presented to experts in the field of research, statistician, the promoter and joint promoter for their evaluation, comments and recommendations; to evaluate the constructs and items of the questionnaire prior to use. The questionnaire was also based on the literature review and

the relevance to the variables in the study. The variables were operationally defined to create a common understanding.

#### *4.6.4.2.3 Content validity*

Content validity examines the extent to which the method of measurement includes all the major elements relevant to the construct being measured. This evidence is obtained from the literature, representatives of the relevant population, and content experts (Babbie 2005:149; Burns & Grove 2005:377,732; De Vos 2001:84; LoBiondo-Wood & Haber 2002:314). Content validity also refers to the extent to which the method of measurement includes all the major elements relevant to the construct being measured (Burns & Grove 2003:274,482). In other words, does the instrument contain an appropriate sample of items for the construct being measured (Polit & Beck 2004:423)?

For the current study content validity was enhanced by the fact that:

- Literature was reviewed to enhance the refinement and adaptation of all the concepts contained in the conceptual framework
- Experts in the field of study, statistician, the promoter and joint promoter were called upon to judge whether or not the instrument reflects the known content area (Brink & Wood 2001:179; Burns & Grove 2003:274-275; Burns & Grove 2005:378; De Vos et al 2005:161).
- During pre-testing of the questionnaire respondents gave feed back regarding the content of the questionnaires (Burns & Grove 2003:274; Burns & Grove 2005:378).

#### **4.6.4.3 Internal and external validity**

*“When reading research, one must feel that the results of a study are valid, based on precision, and faithful to what the researcher wanted to measure. For a study to form the*

*basis for further research, practice and theoretical development, it must be credible and dependable. There are two important criteria for evaluating the credibility and dependability of the results: internal validity and external validity” (LoBiondo-Wood & Haber 2002:194).*

#### *4.6.4.3.1 Internal validity*

*“Internal validity is the extent to which the effects detected in the study are a true reflection of reality rather than the results of extraneous variable” (Burns & Grove 2005:215).* Although internal validity should be a concern in all studies, it is addressed more commonly in relation to studies examining causality than in other studies (Burns & Grove 2005:215). Any study can contain threats to internal validity. Threats to internal validity are factors that may give false positive or false negative in the measurement of variables. Lack of internal validity may be observed when other variables rather than the independent variables under study are responsible for part of or the entire observed outcome on the dependent variables. Therefore, the researcher has to be observant of other variables rather than the dependent variables that may affect the outcome of the results (Burns & Grove 2003:232). The researcher was observant of the following factors, which could give false or negative measurement of the variables in the current study:

- Setting: the study was conducted in a natural environment, in classrooms in school settings, as it wanted to explore HIV/AIDS-related knowledge, attitudes and perceptions, and sexual behaviours of senior secondary school learners. This setting was conducive for learners since they are used to such environment.
- Pre-testing: Burns and Grove (2003:228) state that information obtained on a pre-test might improve the responses of respondents. With regard to the current study, the questionnaire was pre-tested (see section 4.6.1.5 of this thesis).

#### 4.6.4.3.2 *External validity*

External validity is concerned with the extent to which study findings can be generalised beyond the sample used in the study (Burns and Grove 2005:218,219; LoBiondo-Wood & Haber 2002:197). With the most serious threat, the findings would be meaningful only for the group being studied. The findings of the current study were generalised to the target population under study because the study used a quantitative positivist design.

In a quantitative study, a probability sampling method is used, and the sample size is large enough to ensure generalisation. The current study fulfilled all these conditions (see sections 4.5.2.3 & 4.5.2.6 of this thesis). Using more than one study sites in the current study also enhanced generality.

## **4.7 DATA ANALYSIS**

Data refers to the pieces of information that are collected during a study (Burns & Grove 2005:733; LoBiondo-Wood & Haber 2002:491; Polit & Hungler 1999:699). Data analysis refers to the systematic organisation and synthesis of research data to give meaning to the data; and the testing of research hypotheses (Burns & Grove 2005:733; Polit et al 2004:311, 430; Polit & Hungler 1999:699). It also entails “categorising, ordering, manipulating and summarising the data and describing them in meaningful terms” (Brink et al 2006:170). In this regard, the researcher first conducted “descriptive” and “summative” statistics to “order” the data.

Scientists have developed a system for categorising different types of measures. This classification system is important because the analytical operations that can be performed on data depend on the measurement level used (Burns & Grove 2005:372; Polit & Hungler 1999:439).

According to Kaplan (1963:177), cited in Burns and Grove (2005:368), measurement is the process of assigning numbers to objects (or events or situations) in accord with some rules. Four levels of measurement have been identified: nominal, ordinal, interval and ratio (Burns & Grove 2005:372; Polit & Hungler 1999:439).

Nominal-scale measurement is the lowest of the four measurement categories. 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 1=male, 2=female. The numbers assigned to categories in nominal measurement are used only as labels and are not intended to convey any quantitative information (Burns & Grove 2005:372; Polit & Hungler 1999:440)

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. If a researcher were to rank-order subjects from the heaviest to the lightest, then we would say that an ordinal level of measurement had been used (Burns & Grove 2005:372; Polit & Hungler 1999:440). Examples of ordinal data include: academic level, monthly income, age and number of people in household.

In the current study therefore, statistical analysis was done based on nominal and ordinal data, as the data in the current study were at the nominal and ordinal levels of measurement; and also based on the advice of the statistician.

Data was analysed using the statistical package for social sciences (SPSS) version 12 software computer program (Burns & Grove 2005:455-456; Polit & Hungler 1999:597, 598). Descriptive and inferential statistics such as frequency tables, graphs, measures of central tendency, standard deviations, percentages, Cronbach's alpha, multiple regression analysis, Wilcoxon signed ranked test and Chi square test were used (Burns & Grove 2005:435, 461, 462, 465, 484, 486-487, 525-532, 741; LoBiondo-Wood & Haber

2002:332, 336, 342-343, 348-354, 357-358; Polit & Hungler 1999:439,469, 489, 500-502, 705).

#### **4.7.1 Chi square test ( $\chi^2$ )**

Chi-square test ( $\chi^2$ ) examines the relationships between two variables at nominal and discrete level in quantitative research. The test compares the actual frequencies with the expected outcomes or how closely they match or differ from the expected distribution or 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 (Burns & Grove 2005:518-519; LoBiondo-Wood & Haber 2002:357; Polit & Hungler 1999:487-488).

Burns and Grove (2005:518) state that Chi-square test of independence ( $\chi^2$ ) tests whether two variables being examined are independent or 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 ( $\chi^2$ ) were therefore performed using SPSS version 12 (Burns & Grove 2005:455-456; Polit & Hungler 1999:597-598).

According to De Vos (2001:225-226), 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. Crosstabulation allows visual comparison of summary data output related to two variables within a sample (Burns & Grove 2005:517). According to Burns and Grove (2005:518), the most familiar analysis of cross-tabulated data is the use of Chi-square statistics, as used in the current study.

#### **4.7.2 Multiple regression analysis**

Multiple regression analysis is a multivariate analysis which measures the relationship between one dependent variable and several independent variables. It is the analysis of more than two variables simultaneously (Babbie 2005:435, 484; Burns & Grove 2005:525, 741; LoBiondo-Wood & Haber 1994:416-417, 507; Polit & Hungler 1999:705). The independent variable is presumed to cause or determine the dependent (outcome) variable (Babbie 2005:482, 484). Multiple regression analysis is an expansion of correlation to include more than two variables, and it is used when the researcher wants to determine what variables contribute to the explanation of the dependent (outcome) variable and to what degree (Babbie 2005:435-436; LoBiondo-Wood & Haber 1994:417). Multivariate regression analysis was used in the current study to correlate the different components of the HBM (the independent variables) with respect to the risk of contracting HIV/AIDS (the dependent variable). Squared multiple correlations were used to indicate how well risk of contracting HIV/AIDS (the dependent variable) was predicted by the components of the HBM (the independent variables). The squared multiple correlation is the difference between the log-likelihood for the entire HBM and the log-likelihood for the intercept only component divided by the log-likelihood for the intercept only component of the HBM. It shows the amount of variability in the dependent variable that is accounted for by the independent variables (LoBiondo-Wood & Haber 1994:417). The contributions of the various components of the HBM, and the integration of all the components of the HBM together (the integrated value mapping (IVM)) with respect to risk exposure to HIV/AIDS, were compared.

#### **4.7.3 Wilcoxon signed ranked test**

Wilcoxon signed ranked test is a nonparametric test of differences between two means when the data are ranked or measured at the ordinal level (Burns & Grove 2005:525, 741; LoBiondo-Woo & Haber 1994:412, 415). In the current study it was used to test the

difference in the means between female respondents and their current “steady” sexual partners.

#### **4.7 ETHICAL CONSIDERATIONS**

Burns and Grove (2005:176) state that conducting research requires not only expertise and diligence but also honesty and integrity. When human subjects are used in a 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 needed to ensure their adequate protection.

In research, ethics are defined as a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations during the research (Babbie 2005:61; Polit & Hungler 1999:701; LoBiondo-Wood & Haber 2002:492).

Working with human subjects emphasises informed consent, avoidance of harm, violation of privacy, anonymity and confidentiality, deceiving of human dignity, and presentation and interpretation of data (Babbie 2005:61-71; Burns & Grove 2005:181-206; De Vos et al 2005:58; LoBiondo-Wood & Haber 2002:273; Polit & Beck 2004:144).

Ethical issues observed in the current study include:

- The respondents
- The institutions
- The scientific integrity of the researcher
- Ethics pertinent to the research topic

(Department of health studies, Tutorial letter MNUALLL/301/2009:73).

### **4.8.1 The respondents**

A researcher should ensure that participants in quantitative research should not be injured regardless of whether they volunteered or not. Often participants in quantitative research reveal sensitive or embarrassing information about themselves, which may result in psychological and emotional trauma. The following issues thus become imperative regarding the participants in quantitative research.

#### **4.8.1.1 *Informed consent***

Obtaining informed consent from human subjects is essential for the conduct of ethical research (Brink et al 2006:151; Burns & Grove 2005:193). According to Babbie (2005:64); Burns and Grove (2005:739); and LoBiondo-Wood and Haber (2002:494), informed consent is the prospective subject's agreement to voluntarily participate in a study, which is reached after assimilation of essential information about the study. Burns and Grove (2005:193), as well as LoBiondo-Wood and Haber (2002:276) acknowledge the importance of informed consent by stating that researchers must obtain informed consent from respondents before the research begins.

In the current quantitative research, the researcher obtained informed written, voluntary consent from respondents by means of a formal contract (see Annexure F). Informed consent involved explaining the aim of the study to the respondents, what their participation entails, the design, for example, the procedures to be used, the time involved and the potential risks and benefits (Mouton 2001:244). The role of the researcher was also clarified, namely that he conducted the research as an independent researcher and not as a representative of any higher authority. This was very necessary to allay respondents' fears in the school environments. Each consent form in writing was included in each data collection instrument (questionnaire). All respondents signed one contract, which was filed by the researcher. But before signing the contract, respondents were asked to obtain written consent from their parents or guardians so that there was no undue

pressure. Fortunately in the current study neither the respondents nor their parents refused to sign the consent forms. To ensure privacy, the researcher submitted an unsigned copy of the contract to the college principals of the participating schools for perusal by learners (Babbie 2005:64; Burns & Grove 2005:193-198; LoBiondo-Wood & Haber 2002:273-279; Wilson 1993:257).

Ethical considerations in quantitative research are mainly to protect the respondents from harm. Consent form was also sent to the parents or guardian of each learner through the learners themselves. The aim of the study was explained by the researcher to the parents or guardians in the consent form. The parents or guardians had to sign the consent form as a confirmation of their approval for their children to take part in the current study. The signed consent forms were returned to the researcher before the commencement of data collection.

#### **4.8.1.2 Preventing harm**

Avoiding harm is another basic human right to be considered when conducting research on human beings. According to Burns and Grove (2005:190), discomfort and harm that may be encountered in research may be physical, psychological, emotional, social and economic in nature.

All participants in the current study were assured of freedom from any harm, whether psychological or physical. Hereby the ethical principles of beneficence, which hold that one should do well and, above all, do no harm, were upheld (Babbie 2005:63; Burns & Grove 2005:190). According to this principle, members of society should take an active role in preventing discomfort and harm and promoting good in the world around them (Burns & Grove 2005:190). In the consent form the researcher explained to the respondents that the result of the current study would aid in planning programmes to curb the spread of HIV/AIDS among youths. The respondents were also told that their names would not appear on the questionnaires. This ensured the maintenance of the personal dignity and

autonomy of respondents. In addition, the researcher did not attempt to correct respondents' beliefs and attitudes during the research. This would have skewed the data, and it could also have caused emotional unease to respondents. However, the researcher's telephone contact was available to any learner who required more information or who wanted to discuss any aspect addressed in the questionnaire.

#### **4.8.1.3 Confidentiality**

Confidentiality is the researcher's management of private information shared by a subject that must not be shared with others without the authorisation of the subject (Babbie 2005:65; Burns & Grove 2005:188; LoBiondo-Wood & Haber 2002:490). Burns and Grove (2005:188) state that confidentiality is grounded on the basis that individuals can share personal information to the extent they wish and are entitled to have secrets. Thus confidentiality necessitates privacy. Privacy is the freedom an individual has to determine the time, extent, and general circumstances under which private information will be shared with or withheld from others (Burns & Grove 2005:747) In the current study, privacy was maintained by omitting names of respondents from the questionnaires and also by the fact that the respondents were not forced to answer questions.

According to Burns and Grove (2005:188), one can choose with whom to share personal information; those accepting information in confidence have an obligation to maintain confidentiality; researchers have the duty to maintain confidentiality that goes beyond ordinary loyalty. Thus, the researcher integrity is also important in maintaining confidentiality. During the current quantitative research access to all raw data from respondents was limited to the researcher only, to ensure confidentiality.

#### **4.8.1.4 Anonymity**

Confidentiality is a basic ethical principle while anonymity is one way in which confidentiality is maintained. Complete anonymity exists if the respondent's identity cannot be linked, even by the researcher, with his or her individual responses (Babbie 2005:64; Burns & Grove 2005:188; LoBiondo-Wood & Haber 2002:489). To ensure anonymity, steps are taken to protect the identity of the respondents by neither giving their names when presenting research results, nor including identifying details which may reveal their identity, such as personal characteristics (Brink et al 2006:151; Burns & Grove 2005:188).

Anonymity is an important ethical issue in quantitative research as respondents are more willing to divulge information if they are assured that their names will not be linked to any data or information they give.

To ensure anonymity in the current quantitative research, respondents did not write their names on the questionnaires. Researcher's integrity was very important in ensuring that anonymity was maintained during the current quantitative research study.

A written consent form was included at the back of each questionnaire, and all the respondents signed only one contract. The written consent was returned with the questionnaire without the name of the respondent on it. This aspect ensured the anonymity of the respondents.

#### **4.8.2 The institutions at which the research was conducted**

Van der Wal (2005:154) states: "*It is imperative that the institution be treated as a person by the researcher.*" The following issues thus become imperative with regard to the institutions at which the current research was conducted.

#### **4.8.2.1 *Informed consent and permission***

Permission to conduct the current study, with their full consent was obtained from the respective principals, and they had to approve the time period for distribution of the questionnaires to respondents, and data collection (see Annexures A, B, C & D).

#### **4.8.2.2 *Anonymity***

To maintain anonymity at the institutional level, the researcher omitted identifiable data, such as names of all the participating institutions on documents, such as the appendices. Institutions where the current study was conducted and the respondents were not named. The institutions were given pseudonyms.

#### **4.8.3 *Scientific integrity of the researcher***

The scientific integrity of the researcher refers to the competence of the researcher in conducting the research. All the ethical considerations pertaining to the respondents and the institutions as mentioned in sections 4.8.1 and 4.8.2 of this thesis, confirm the scientific integrity of the researcher.

##### **4.8.3.1 *Competence***

The Research and Ethics Committee of the Department of Health Studies, University of South Africa, acknowledged the researcher's competence to conduct the current study by approving the research proposal, and by also approving that the research be conducted. To this effect, the researcher was assigned to a promoter and a joint promoter to guide the researcher and to increase the researcher's competence.

Concerning the scientific honesty of the researcher, deception and misconduct become very important and must be avoided. Burns and Grove (2005:751) state that scientific misconduct involves such practices as fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data. Babbie (2005:67); Burns and Grove (2005:733); Polit and Hungler (1999:700); as well as Struwig and Stead (2001:69) state that deception is the deliberate withholding of information, or the provision of false information to research participants for research purposes. The researcher can in one way or the other deceive the institutions, at which the research was conducted, as well as the community and the general public. To avoid deception in the current study, accurate information was not deliberately withheld from all the parties involved in the study. Struwig and Stead (2001:69) further state that exposed deception can lead to those being deceived feeling embarrassed, emotionally uncomfortable or humiliated, especially the researcher himself or herself.

The researcher applied honesty in planning and conducting the research, and in writing the report, not to change or fabricate information. The data analysis and interpretation was given to statisticians and experts in quantitative research thus, having consensus on the final report.

The American Psychological Association APA, (1992 as cited in Struwig & Stead 2001:67) pointed out five general principles that researchers must comply with, when conducting research. These include:

- The researcher must be qualified and competent to under take a particular research project.
- The researcher must prove his scientific integrity through honesty, fairness, and respect towards all involved in the research and by not attempting to mislead or deceive anyone.
- The researcher must respect the rights and dignity of others, including respecting the privacy, confidentiality and autonomy of all involved in the research.

- The social development of others has to be a major concern to the researcher in conducting the research.
- The researcher must uphold the standards of his or her profession and accept responsibility for his or her actions.

The researcher complied with all of the above principles during the conduct of the current study.

#### **4.9 SUMMARY**

In this chapter the quantitative positivist research paradigm underlying the current study was discussed. With respect to the quantitative approach, a descriptive, explorative, correlational non-experimental design was undertaken. The chapter is discussed vis-à-vis the research design, data collection instrument (self-designed questionnaire) and data collection technique, population and sampling design, pretesting of data collection instrument, and the reliability and validity. Also discussed are the ethical aspects pertaining to the current study. In the next chapter, the results of the current study are given.

## CHAPTER 5

### PRESENTATION AND DISCUSSION OF DATA

#### 5.1 INTRODUCTION

According to Babbie (2005:414), quantitative analysis is a technique by which researchers convert data to a numerical form and subject it to statistical analysis. Quantification is thus the process of converting data to a numerical format. This involves converting social science data, such as data obtained from the current study into a computer-readable form, a form that can be read and manipulated by computers used in quantitative analysis (Babbie 2005:414). The data were coded with numbers and entered into the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 12 software program.

Data analysis in the quantitative paradigm such as the current research paradigm entails breaking down data into constituent parts to obtain answers to research questions and to test hypotheses. Data analysis is conducted to reduce, organise and give meaning to the data. Analysis of data in quantitative research involves the use of:

- Descriptive and exploratory procedures to describe study variables and the sample
- Statistical techniques to test proposed relationships
- Techniques to make predictions and
- Analysis techniques to examine causality. Most of these procedures were used in the current quantitative research (Burns & Grove 2005:43; De Vos 2001:203).

The purpose of statistical analysis is as follows:

- Summarise the data collected

- Explore the meaning of deviations in the data
- Test the proposed relationships in a theoretical model
- Infer that the findings from the sample are generalised to the entire population
- Examine causality
- Predict
- Infer from the sample to the theoretical model. The current analysis achieved the above mentioned purpose (Burns & Grove 2005:487).

The choice of analysis techniques implemented is determined primarily by the research objectives, questions or hypotheses (Burns & Grove 2005:43). For more on these see sections 1.5, 1.6 and 4.3.3.4 of this thesis respectively.

According to De Vos (2001:203), and Burns and Grove (2005:43), the analysis of research data however does not by itself provide the answers to research questions. Interpretation of the data is necessary, that is to explain and to find meaning in the data. It is difficult if not impossible to explain larger sets of raw data; one must first analyse the data and then interpret the results of the analysis (Kerlinger 1986:125-126 in De Vos 2001:203).

According to Burns and Grove (2005:43), interpretation of research outcomes involves:

- Examining the results from data analysis
- Exploring the significance of the findings
- Forming conclusions
- Generalising the findings
- Considering the implications for the study
- Suggesting further studies

The current study results were also translated and interpreted to become findings, and conclusions were formed from the synthesis of findings. The conclusions provided a basis for identifying study implications and suggesting further studies.

## 5.2 PRESENTATION AND DISCUSSION OF RESEARCH RESULTS

The current chapter deals with the analysis and presentation of the data collected for the current study as described in section 4.6 of this thesis. The purpose of the current study was to explore the knowledge, attitude and perception regarding HIV/AIDS and condom use; and the sexual behaviours among senior secondary learners in Kumba, Cameroon, using a quantitative paradigm. The data analysis and discussion were guided by the research questions, which were developed using the three components of the Health Belief Model (HBM) viz:

- The individual perceptions
- The modifying factors, which include demographic, socio-psychological and structural variables
- The likelihood of taking preventive actions (see sections 1.9 & 2.3.2.4 of this thesis).

In the current study, a stratified simple random sampling method was used to select the respondents (see section 4.5.2.3 of this thesis). Four hundred and eighty respondents (learners) from the two participating high schools participated in the current study. The sample contained equal numbers of males and females, and it was non-proportional in the sense that it did not reflect the demographic distribution of the population of this part of Cameroon (see section 5.3.1.2 of this thesis). A statistician analysed the data using the SPSS version 12. Descriptive and inferential statistics such as frequency tables and percentages were used in the data analysis and summaries. The frequencies are illustrated by means of pie charts or bar charts (Burns & grove 2005:462). Bar charts are particularly useful in the case of a question that offered a number of alternatives and where the respondents are allowed to mark more than one choice (the “Yes/No” option) where the bar chart compares the frequencies of the different choices. The pie chart is used in cases where the respondents are allowed to choose only one alternative, and the pie chart then illustrates the share of the total respondents opting for each choice. The information in the current study is thus presented in tables, pie charts and bar charts (Burns &

Grove 2005:589-590). Correlations between variables were determined using specific correlational statistics (Chi-square test, Spearman's test and Multiple regression analysis) (see section 4.7 of this thesis). The SPSS program produces percentages rounded off to the nearest full figure, as indicated in the frequency tables for bar charts and pie charts. This however did not change the general tendencies displayed by these visuals. In the current study, some differences in the responses to the same items across the questionnaires were noticed. These were due to the changes in the total number of valid responses to the same items across the questionnaires. However, no changes occurred in the tendencies displayed in the research results.

Some questions and items in the questionnaires had as one of the response options, "others". Respondents who chose these options did not always write down their opinions. In some instances the averages of respondents' scores to all the items and questions making up a particular section and subsection in the questionnaires were used for the advanced statistical analyses, but in circumstances where the averages could not be calculated, all the items in those sections and subsections were used as separate entities in the statistical analyses. This was because in such circumstances there were no outcome variables that could cut across all the items of the sections or subsections; coming out with an average score of all the items could thus truncate the results of the analyses.

The researcher collected data from the respondents in the current study using a self-designed questionnaire (see section 4.6.1 of this thesis). Some of the respondents chose not to complete certain sections of the questionnaires or certain items within specific sections and subsections presumably because of the sensitive and personal nature of most of the questions. This was the case because questions and items sought knowledge, attitudes and perceptions regarding HIV/AIDS, condom use, sexuality and sexual behaviours among the respondents. In the consent form signed by the respondents, it was agreed that they may refrain from answering any questions or items should they feel these are an invasion of their privacy, and that they were free to end their participation or to recall their consent to participate in the current study at any time should they feel like doing so (see Annexure F). As a result, some respondents omitted answers to some subsections and items. So the

percentages were thus calculated on the number of responses to each item, and not on the total number of questionnaires received. A response rate, which is the rate of participation of respondents in a study, greater than 60% is sufficient for most research purposes. A high response rate minimises the risk of serious response bias (Polit & Hungler 1999:348). In the current study, the response rate was 89%. For most of the questionnaire items, the respondents were asked to indicate their agreement on a four-point Likert scale. For the purpose of analysis and discussion, “strongly disagree” (SDA) and “disagree” (DA) were grouped as “disagree”, while “strongly agree” (SA) and “agree” (A) were grouped as “agree.” This, for all practical purposes changed the data involved into binary (nominal) data.

The questionnaire format was as follows (composed according to the three components of the HBM):

- Section A consisted of items relating to the demographic detail
- Section B consisted of items relating to HIV/AIDS related knowledge
- Section C comprised questions relating to knowledge about condoms
- In section D explored attitudes regarding HIV/AIDS
- Section E comprised items relating to attitudes towards PLWHA
- Section F comprised items relating to attitudes regarding condoms
- Section G consisted of items relating to perceptions regarding HIV/AIDS
- Section H consisted of items relating to perceptions regarding condoms
- Section I consisted of items relating to the sexual behaviour
- Section J consisted of items relating to service delivery issues affecting young people and service delivery needs for young people (see Annexures H and I).

Reliable instruments enhance the power of a study to detect significant differences or relationships actually occurring in the population under study. Whenever possible the reliability of an instrument should be established before it is used (Burns & Grove 2005:149). This is not always possible with regard to self-designed instruments. During the current research the reliability coefficients were calculated with data analysis. Table 5.0 contains the results of these calculations

These Cronbach alpha reliability coefficients were used to test the internal consistency of the items in the different sections of the questionnaire (see section 4.6.4.1 of this thesis) (LoBiondo-Wood & Haber 2002:324-326; Polit & Beck 2004:713; Polit & Hungler 1999:699). The alpha of the different section (variables) should be at least 0.6 (see section 4.6.4.1 of this thesis) to be considered as reliable. As depicted in Table 5.0, most of the sections in the questionnaire had reliability coefficients of more than 0,6.

The following is important to note. According to Brink and Wood (1998:269); LoBiondo-Wood and Haber (2002:324-326) as well as Polit and Beck (2004:421-422) a number of characteristics of the measurement situation can affect the coefficient value obtained:

- The coefficient alpha does not provide a very good estimate when the items making up the measurement scale are heterogeneous in their relationship to each other or when their number is small. The more items the instrument contains the more accurate the alpha coefficient.
- The Cronbach alpha increases with the spread of variance of scores. Low reliability coefficient may also be due to the homogeneity of the sample. The more homogeneous the sample is, the lower is the Cronbach alpha coefficient.
- The alpha coefficient is a function of test length. The longer the test the higher the level of alpha. The Cronbach alpha is lower when a response with two possible answers was used. The coefficient is improved when a Likert scale response option is used.

**Table 5.0 Alpha reliability coefficients of the various sections of the questionnaire**

Questionnaire sections	Question Numbers	With all the items		Only with standardised items	
		Number of Items	$\alpha$ Reliability Coefficient	Number of Items	$\alpha$ Reliability Coefficient
Section A: biographic data.	A1 – A22	36	-0.001	-	-
Section B: knowledge on HIV/AIDS.	B1 – B6	75	0.312	31	0.649
Section C: knowledge regarding Condoms.	C1 – C5	36	0.119	8	0.558
Section D: attitudes regarding HIV/AIDS.	D1 – D3	12	0.536	12	0.536
Section E: attitudes toward people living with HIV/AIDS (PLWHA).	E1	10	0.469	10	0.469
Section F: attitudes regarding Condoms	F1 – F3	30	0.000	19	0.714
Section G: perceptions regarding HIV/AIDS.	G1 – G7	30	0.001	24	0.479
Section H: perceptions regarding Condoms.	H1 – H4	15	0.005	9	0.610
Section I: sexual behaviours.	I1 – I2	68	0.002	19	0.509
Section J: service delivery issues affecting young people and service delivery needs for young people.	J1 – J2	-	-	38	0.875
Sections B + C	B1 – B6 and C1 - C5	-	-	52	0.646
Sections B +C + D	B1 – B6, C1 - C5, and D1 – D3	-	-	64	0.723
Sections B+C+D+E	B1 – B6, C1 - C5, D1 – D3, and E1	-	-	74	0.719

The lower reliability coefficients observed in sections A, C, D, E and I of the questionnaire could be due to these characteristics.

The current study was guided by the following research questions:

- What knowledge, attitudes, and perceptions do senior secondary school learners in the city of Kumba have with regard to HIV/AIDS?
- What knowledge, attitudes and perceptions do senior secondary school learners in the city of Kumba have with regard to Condoms?
- From whom do senior secondary school learners in the city of Kumba learn about sexuality and HIV/AIDS?
- What strategies could enhance learners' utilisation of reproductive health services and condom access points in the city of Kumba?
- Why do senior secondary school learners in Kumba use or fail to use condoms and use them consistently?
- What barriers do learners in the city of Kumba encounter in accessing condoms?
- How strong do learners believe that they are susceptible to HIV/AIDS?
- How strong do learners believe that HIV/AIDS is a serious condition, which must be avoided?
- What barriers do learners encounter in using condoms to prevent HIV/AIDS?
- How strongly do learners believe that effective use of condoms can prevent HIV/AIDS infection?
- What motivates learners to use condoms during sexual intercourse?
- How strongly do learners believe that they have the ability to successfully use condoms to prevent HIV/AIDS? (see sections 1.5 & 4.3.1 of this thesis)

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

- Explore the knowledge, regarding HIV/AIDS among senior secondary school learners in Kumba.
- Explore the sources of knowledge regarding HIV/AIDS, of senior secondary school learners in the city of Kumba.
- Explore the sources of knowledge regarding sexuality of senior secondary school learners in the city of Kumba.
- Explore strategies that could enhance learners' utilisation of reproductive health services in the city of Kumba.
- Determine the attitudes regarding HIV/AIDS and towards PLWA of senior secondary school learners in Kumba.
- Explore the perception regarding HIV/AIDS of senior secondary school learners in the city of Kumba.
- Explore the knowledge regarding condom of senior secondary school learners in the city of Kumba.
- Explore the sources of knowledge regarding condom of senior secondary school learners in the city of Kumba.
- Determine the attitudes regarding condom of senior secondary school learners in the city of Kumba.
- Explore the perception regarding condom of senior secondary school learners in the city of Kumba.
- Determine the relationship, if any between knowledge, attitudes, and perceptions regarding HIV/AIDS and sexual behaviour among senior secondary school learners in Kumba.
- Explore strategies that could enhance learners' utilisation of condom access points in the city of Kumba.
- Determine reasons why senior secondary learners in Kumba use or fail to use condoms and use them consistently.
- Identify possible barriers experienced by senior secondary school learners in accessing condoms in the city of Kumba (see sections 1.6 & 4.3.2 of this thesis).

In an attempt to maintain a flow of discussions, tables were placed directly following subheadings, and discussions were placed directly following tables or figures. Some longer tables continue on consecutive pages.

Data analysis was done by Mr Nana Celestin, a WHO recognised statistician in Cameroon, using the SPSS version 12 program (see annexure J). The following statistical analyses were done:

- Chi-square test ( $\chi^2$ ) examines the relationships between two variables at nominal and discrete level in quantitative research. The test compares the actual frequencies with the expected outcomes, or how closely they match or differ from the expected distribution, or whether two variables are independent or not. In the current study some questions were 'yes' or 'no' (nominal) and discrete, hence the use of this test and frequency tables for interpretation of data (Burns & Grove 2005:518-519; LoBiondo-Wood & Haber 2002:357; Polit & Hungler 1999:487-488). The Chi-square test of independence ( $\chi^2$ ) indicates whether or not two variables being examined are independent or related (Burns and Grove 2005:518). The Chi-square test was used to determine the statistical significance of the HIV/AIDS knowledge, attitudes and perceptions relating to sexual behaviours and other variables at the 0.05 significant level using the differences in frequencies of these the various categories of the variables involved. These are summarised in contingency tables throughout this chapter.
- According to De Vos (2001:225-226), 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 (Burns & Grove 2005:517). According to Burns and Grove (2005:518), the most familiar analysis of cross-tabulated data is the use of Chi-square statistics, as used in the current study.
- Multiple regression analysis is a multivariate analysis which measures the relationship between one interval dependent variable and several independent variables. It is the analysis of more than two variables simultaneously (Babbie

2005:435, 484; LoBiondo-Wood & Haber 1994:416-417, 507). Multiple regression analysis is an expansion of correlation to include more than two variables, and it is used when the researcher wants to determine what variables contribute to the explanation of the dependent variable and to what degree (Babbie 2005:435-436; LoBiondo-Wood & Haber 1994:417). Multivariate regression analysis was used in the current study to correlate the different components of the HBM. Squared multiple correlations were used to indicate how well the risk of contracting HIV/AIDS was predicted by the components of the HBM.

- The Wilcoxon signed ranked test is a nonparametric test of differences between two means when the data are ranked or measured at the ordinal level (Burns & Grove 2005:525, 741; LoBiondo-Wood & Haber 1994:412, 415). In the current study it was used to test the difference in the means between female respondents and their current “steady” sexual partners.

The analysis of data according to variables and groups of variables was guided by the Health Belief Model (HBM) as depicted in figure 2.1.

### **5.3 ANALYSIS OF MODIFYING FACTORS**

McCormack (1999:358) and Onega (2000:271) state that, modifying factors as implied by the Health Belief Model (HBM), including demographic, socio-psychological and structural variables that may affect an individual’s perceptions and thus indirectly influence health–related behaviours. Socio-demographic factors, like educational status, could affect one’s perceptions of susceptibility to and severity of suffering ill effects resulting from HIV/AIDS infection, and one’s perceived benefits to be expected from using condoms effectively as well as barriers to accessing and using condoms and/or condom access points.

#### **5.3.1 Demographic variables**

Demographic details of respondents in the current study, as reflected in the self-designed questionnaires, include age, gender, marital status, grade level, academic

profile and highest qualification of parents/guardians. In the current study, these demographic variables are among the modifying factors that predispose one to take preventive actions such as condom use during sex to prevent HIV/AIDS (see section 3.4.2 of this thesis). Though the information provided by the demographic variables was not central to the current study, the personal data helped the researcher to contextualise the findings and the formulation of preventive programmes to meet the needs of adolescents with regard to HIV/AIDS and condom use (Burns & Grove 2005:170). The importance of these demographic variables was determined by correlating them with knowledge, attitudes and perceptions regarding HIV/AIDS and condom use; and sexual behaviours among senior secondary school learners in Kumba; and with the various components of the HBM.

### **5.3.1.1 Respondents' ages**

The respondents were asked to indicate their ages. Table 5.1 depicts their responses. The respondents' ages were important to ascertain the knowledge, attitudes and perceptions of the different age groups regarding HIV/AIDS and their sexual behaviours. All 480 respondents answered this question.

**Table 5.1: Respondents' age groups**

<b>Variable</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>Age group</b>	<b>11-15 yrs</b>	36	7.5	7.5
	<b>16-17 yrs</b>	135	28.1	35.6
	<b>18-19 yrs</b>	199	41.5	77.1
	<b>20-21 yrs</b>	85	17.7	94.8
	<b>22-23 yrs</b>	25	5.2	100.0
<b>Total</b>		480	100.0	

The respondents were aged between 11 and 23 years. Table 5.1 also indicates that most, 92.5% (n=444) of the respondents were between the ages of 16 and 23 years, which is the age group of adolescents hardest hit by HIV/AIDS.

According to the UNAIDS (2008:33, 96) report on the global AIDS epidemic, young people aged 15-24 account for 45% of all HIV infections in the general population, and many young people still lack accurate, complete information on how to avoid exposure to the virus.

Behavioural, physiological and socio cultural factors, such as early sexual initiation, multiple sexual partners, non-use or inconsistent use of condoms and substance abuse, make young people more vulnerable to HIV/AIDS than adults (The Alan Guttmacher Institute 2004:4). Compounding these behavioural factors is the fact that young people have to overcome significant obstacles to obtain the information and care they need to have safe sexual relationships.

The respondents' ages were further cross tabulated with items comprising the main components of the HBM (see tables 5.50; 5.61; 5.69; 5.74; 5.80 & 5.101); how their first sexual encounter happened (see table 5.107); number of sexual encounters per month (see table 5.110) and perceived accessibility to condoms (see table 5.85).

### **5.3.1.2 Gender of respondents**

Table 5.2 exhibits the respondents' gender. All 480 respondents answered this question. 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 young people, such as condom use during sex to prevent HIV/AIDS and/or pregnancy.

**Table 5.2: Gender of respondents**

<b>Variable</b>	<b>Categories</b>	<b>Frequency (f)</b>	<b>Percent (%)</b>
<b>Gender</b>	<b>Male</b>	240	50.0
	<b>Female</b>	240	50.0
<b>Total (n)</b>		480	100.0

Of the respondents, 240 (50.0%) were male, and 240 (50.0%) were female. This worked out so well because a proportional, stratified, simple random sampling

method was used for the current study (see section 4.5.2.3 of this thesis). This sampling method does not, however, produce a representative probability sample in the sense that the entire population of the current study area is not made up of equal numbers of male and females, and as such the findings of the current study might not be generalised to the rest of Cameroon. This view is supported by the latest official demographic estimate for the South-West region of Cameroon which shows a 1.01male/1.00 female in the general population (EXXUN Cameroon 2009; CIA World Factbook Cameroon 2009).

UNAIDS (2004a:40) posits that the HIV/AIDS epidemic in SSA affects more women than men as women are 30% more likely to be infected than men. The ratio in Africa is highest among young women aged 15–24 years, where women were found to be 3.4 times more likely to be affected than men. The gender distribution of respondents has been anticipated to be an important demographic variable influencing their knowledge, attitudes and perceptions regarding HIV/AIDS and condom use, and their sexual behaviours. In most cultures in Cameroon, women are expected to be receivers of decisions made by men with regard to sexual behaviours. Females are brought up to be submissive to males especially in matters of sex. These aspects of gender inequality predispose women to HIV/AIDS infection (see section 3.4.2.1.2 of the thesis).

Women are discriminated against in terms of employment and education and with increasing levels of poverty in Cameroon women find themselves in casual relationships with men, sometimes older men, who are more likely to be infected than young males. Women therefore could find it difficult to demand safe sex, as they become dependent mainly on older men. In the current study, female respondents were asked to indicate the ages of their current, steady sexual partners (see table 5.120), and the ages of these female respondents were correlated with those of their current, steady sexual partners in order to identify any significant difference (see section 5.6.10). These women could also be forced into sex against their will, which could also expose them to the risk of HIV/AIDS infection (see table 5.95). The context of gender inequalities could therefore place women at a greater risk of being infected with HIV/AIDS (see section 3.4.2.1.2 of this thesis). The

researcher's 50/50 respondent choice for the current study does not discriminate on ground of gender.

The respondents' gender was cross tabulated with the components of the HBM (see tables 5.49; 5.60; 5.68; 5.73; 5.79 & 5.98); the sources providing HIV/AIDS related knowledge (see table 5.43); discrimination against PLWHA (see table 5.13); perception of risk of HIV/AIDS (see table 5.56); perceived accessibility to condoms (see table 5.84) and how their first sexual encounter came about (see table 5.105).

### **5.3.1.3 Marital status of respondents**

The respondents were asked to indicate their marital status. Table 5.3 portrays their responses. Of the 480 respondents, five (5) 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 marital status of respondents was an important demographic variable in the current study against which to match their sexual behaviours.

**Table 5.3: Gender of respondents**

<b>Variable</b>	<b>Categories</b>	<b>Frequency (f)</b>	<b>Percent (%)</b>
<b>Marital status</b>	<b>Married</b>	9	1.9
	<b>Single</b>	448	94.3
	<b>Divorced</b>	4	0.8
	<b>Cohabiting</b>	5	1.1
	<b>Others</b>	9	1.9
<b>Total (n)</b>		475	100.0

Marital status is one of the demographic variables which predispose one to take preventive action against HIV/AIDS infection due to repeated exposure to unprotected sexual intercourse among unmarried adolescents which increases their risk of HIV/AIDS infection (see section 3.4.2.1.6 of this thesis). Of the 475 responses to this item, most, 448 (94.3%) were single. These findings, especially the high

percentage of unmarried respondents were to be expected, as all the respondents were still learners, and most were still living with their parents, hence were single (also see figure 5.2).

Nahamya and Elangwe (2005:4) posit that those who live single lives are predisposed to sexual temptations which might increase their vulnerability to STDs and HIV/AIDS. They might have sexual intercourse regularly with casual partners. So, unmarried young people might be more at the risk of HIV/AIDS than their married counterparts. Marital status was cross tabulated with the number of sexual partners at present (see table 5.114).

### **5.3.1.4 Grade level of respondents**

The respondents were asked to indicate their educational level. Table 5.4 depicts their responses. All the 480 respondents answered this question. The researcher wished to determine the HIV/AIDS and condom knowledge, attitudes and perceptions and the sexual behaviours that the respondents had acquired.

**Table 5.4: Grade level of respondents**

Variable	Categories	Frequency (f)	Percent (%)	Cumulative Percent
Grade level	Form 5 (Grade 10)	160	33.3	33.3
	Lower sixth (Grade 11)	160	33.3	66.7
	Upper sixth (Grade 12)	160	33.3	100.0
Total (n)		480	100.0	

Educational status had been anticipated to be a factor influencing sexual behaviours, and knowledge, attitudes and perceptions regarding HIV/AIDS and condom use. Educational level of respondents was important, as education could influence the individual's decisions regarding reproductive issues such as condom use to prevent HIV/AIDS infection (see section 3.4.2.1.4 of this thesis). Education can empower youths to better understand HIV/AIDS issues and to make informed choices. At the

high school level, youths are expected to have adequate knowledge about the risk of HIV transmission, and the prevention of HIV/AIDS. Reportedly, 160 (33.3%) of the respondents were in form 5 (grade 10); 160 (33.3%) in lower sixth (grade 11), and 160 (33.3%) in upper sixth (grade 12).

Schools might be the only place where adolescents can obtain accurate information on reproductive health, and especially HIV/AIDS. So the current study aimed at establishing what knowledge secondary schools learners; falling within the age group that is hardest hit by HIV/AIDS (see section 5.3.1.1 of this thesis), had with regard to HIV/AIDS and condom use.

### **5.3.1.5 Academic profile of respondents**

The respondents were asked to indicate their academic profile. Of the 480 respondents, 477 answered this question as depicted in table 5.5.

**Table 5.5: Academic profile of respondents**

<b>Variable</b>	<b>Categories</b>	<b>Frequency (f)</b>	<b>Percent (%)</b>
<b>Academic profile for the year 2007/2008</b>	<b>Dismissed</b>	1	0.2
	<b>Promoted on trial</b>	22	4.6
	<b>Passed my exams</b>	353	74.0
	<b>Repeated my current level</b>	97	20.3
	<b>Others</b>	4	0.8
<b>Total (n)</b>		477	100.0

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). Adolescents with high academic aspirations are more likely not to jeopardise their academic careers by unwanted pregnancies and STDs, including HIV/AIDS, by abstaining from sex, by being faithful to one sexual partner, or by using condoms when engaging in sexual intercourse with multiple partners.

As revealed in table 5.5, some of the respondents, 97 (20.3%) indicated that they repeated their current school level; some, 22 (4.6%) indicated that they were promoted on trial; while 1 (0.2%) had been dismissed (expelled) from his/her previous school either for poor academic work or poor conduct, and as such was a new learner in the current institution. These findings portray a low level of academic engagement, thus a lower academic aspiration than the 353 (74%) respondents who indicated that they passed their examinations; and such learners could more likely indulge in risky sexual behaviours such as having multiple sexual partners, submitting to early sexual debuts, and not using condoms, hence exposing themselves to HIV/AIDS infection (see sections 3.4.2.3.8.3, 3.4.2.3.8.1 & 3.4.2.3.8.2 of this thesis respectively). Respondents' academic profiles were correlated with their number of sexual partners within the past year prior to the current study (table 5.113) and their number of sexual partners during the period of the current study (table 5.115).

### ***5.3.1.6 Highest qualifications of parents/guardians***

The researcher wished to establish the educational level of parents/guardians, because as Godfrey (1996:21) reports, the parents' educational level is of significance in terms of receptiveness to information and imparting knowledge, especially sexual knowledge to their children.

The schooling system in Cameroon is such that there are seven years of primary education leading to first school leaving certificate; five years of secondary education leading to ordinary level certificate; two years of high school education leading to advanced level certificate, and three years of university education leading to first degree. There are also some diploma programmes after the first school leaving certificate, ordinary level and advanced level certificates. Most of the parents/guardians with diplomas are teachers with the grade 1 diploma, which is obtained after two years of advanced level certificate studies (Education in Cameroon 2009). Respondents were thus asked to indicate the highest

qualifications of their parents and guardians according to the Cameroonian educational system. Of the 480 respondents, 476 provided their fathers' highest qualifications; 477 provided their mothers' highest qualifications and 344 provided their guardians' highest qualifications. Table 5.6 summarises the result.

**Table 5.6: Highest qualifications of respondents' fathers, mothers and Guardians**

Qualification levels	Father			Mother			Guardian		
	f	%	Cummulative %	f	%	Cummulative %	f	%	Cummulative %
No education.	9	1.9	1.9	32	6.7	6.7	17	4.9	4.9
First school or less.	129	27.1	29.0	181	37.9	44.6	74	21.5	26.4
Ordinary level.	60	12.6	41.6	116	24.3	68.9	68	19.8	46.2
Advanced level.	75	15.8	57.4	61	12.8	81.7	73	21.2	67.4
Diploma.	48	10.1	67.5	23	4.8	86.5	41	11.9	79.3
Degree.	79	16.6	84.1	28	5.9	92.4	54	15.7	95.0
Other	76	15.9	100	36	7.6	100	17	5.0	100.0
<b>Total (n)</b>	<b>476</b>	<b>100</b>		<b>477</b>	<b>100</b>		<b>344</b>	<b>100</b>	

Of the respondents, 29.0% indicated that their fathers had less than Ordinary level education and 41.6% indicated that their fathers had less than advanced level education. That is if "others" is not taken into consideration.

Table 5.6 also revealed that 68.3% of mothers had less than Advanced level education

Of the respondents, 46.2% indicated that their guardians had less than Advanced level education. This is about the same as that for fathers. The results that respondents' fathers had a higher educational level than their mothers, as depicted in table 5.6, are in accordance with the situation in Cameroon where secondary school enrolment as a gross percentage of school age population is 34% for males and 29% for females (UNFPA 2005:26).

The parents'/guardians' low academic levels might also hinder the respondents' educational progress in the sense that parents with low educational levels might not see the need to educate their children to higher levels than the ones parents had attained.

Galvao, Diaz, Diaz, Osis, Clark and Ellertson (1999:169) report that in Brazil both parents' educational levels were of significance in terms of receptivity to information and imparting sexual knowledge to their children. It was stressed in the study that parents who did not complete their high school education were less likely to talk about sexuality with their children as discussing sexual matters might be embarrassing. Most of the learners in the current study might find it difficult to receive accurate knowledge on sexuality, especially HIV/AIDS from their parents because most of their parents' highest qualification was first school level or less.

Parents with incomplete education may lack accurate knowledge on the transmission and prevention of HIV/AIDS or may also lack the necessary skills to impart such knowledge to their children, and as such their children may lack accurate knowledge on sexual risk behaviours, transmission and prevention of HIV/AIDS.

The statistics suggests that some respondents had fathers, mothers and guardians (table 5.6). This could result from the fact that many learners lived permanently with their parents in villages and towns around the city of Kumba, which are far away from their various schools; their parents' houses could also be in Kumba, but far away from their respective schools. As such, these learners might have lived temporarily with their guardians in residences closer to their respective schools, but they still remained financially dependent on their parents; or some learners could have guardians with whom they often spent weekends.

### **5.3.2 Socio psychological variables**

Learners' knowledge, perceptions and attitudes regarding HIV/AIDS and condom use; and their sexual behaviours could be influenced by various socio psychological variables:

### 5.3.2.1 Religious affiliations

Religion could be an important indicator affecting knowledge, attitudes and perceptions regarding HIV/AIDS and condom use; and sexual behaviours. Table 5.7 depicts the respondents' religious affiliations. Of the 480 respondents only 474 provided answers to the question on religious affiliations.

**Table 5.7: Religious affiliations of respondents**

Variable	Categories	Frequency (f)	Percent (%)
Religious affiliation	Catholic	157	33.1
	Jehovah's witnesses	7	1.5
	Presbyterian	224	47.3
	Muslim	6	1.3
	Pentecostals	46	9.7
	Others	34	7.2
Total (n)		474	100.0

Religions such as Christianity and Islam could affect customs regarding sexual practices such as condom use (see section 3.4.2.1.3).

Of the 474 respondents, most, 224 (47.3%) were Presbyterians; 157 (33.1%) were Catholics; 46 (9.7%) were Pentecostals; 34 (7.2%) belonged to other unspecified denominations presumably because their religions or denominations were not represented among the options given; 7 (1.5%) were Jehovah's Witnesses and 6 (1.3%) were Muslims. Overall, 427 (90.1%) of the respondents were *Christians*. The population distribution of Cameroon according to religion is as follows: Catholic, 26%; Indigenous beliefs, 24%; Protestant, 21%; Muslims, 21% and others, 8% (Cameroon facts and figures 2006).

The results as depicted in table 5.7 were to be expected because the City of Kumba, where the current study was carried out, is in the Christian region of Cameroon; and as such the findings of the current study could not be generalised to the Muslim regions of Cameroon. As mentioned in section 3.4.2.1.3 of this thesis, the HIV rates

in the Christian populations have remained significantly higher than among Muslim populations.

Ehlers (1999:54) states that religion could sometimes hamper the effective use of contraceptives, especially condom usage in the prevention of HIV/AIDS transmission. The Roman Catholic Church opposes condom use in favour of “direct contact” (Alsan 2006; Bradshaw 2003). This could have serious implications for the spread of HIV/AIDS.

In the current study, the researcher did not actually measure the level of religiosity. The data only indicate religious affiliations, not level of involvement. Although religious affiliation by itself does not indicate the level of religiosity of adolescents, it is significant that Makhetha (1996:29) reports that a high religiosity made adolescents less likely to engage in premarital sex; teenagers, who attended religious services regularly, delayed the timing of their first sexual encounters (Murray et al 1998:140); adolescents who are highly religious are less likely to use condoms during sexual intercourse (Zaleski & Schiaffino 2000:223). Data related to religious affiliations were correlated with the components of the HBM (see tables 5.51; 5.62; 5.70; 5.76; 5.81 & 5.99) and perceived accessibility to condoms (see table 5.86).

### **5.3.2.2 Social group affiliations**

Adolescents taking part in youth club activities are expected to be more knowledgeable with regard to HIV/AIDS and sexual behaviours since they have opportunities to discuss sexual and HIV/AIDS-related issues with their peers. One could therefore expect that belonging to youth clubs could motivate adolescents to practise safe sex. Figure 5.1 represents the respondents’ social group affiliations. The respondents were free to select more than one response option. Nine (9) respondents did not answer this question.

Of the 484 responses from 471 respondents, 238 (50.5%) belonged to a Church youth group; 103 (21.9%) belonged to a sports group and 84 (17.8%) belonged to a social club.

Adolescents who regularly attend church services and church meetings might be less likely to be sexually experienced at younger age (Lollis et al 1997:559). In the current study, the more than 50.0% respondents who belonged to church youth groups should experience a delay in their first sexual encounter (figure 5.1).

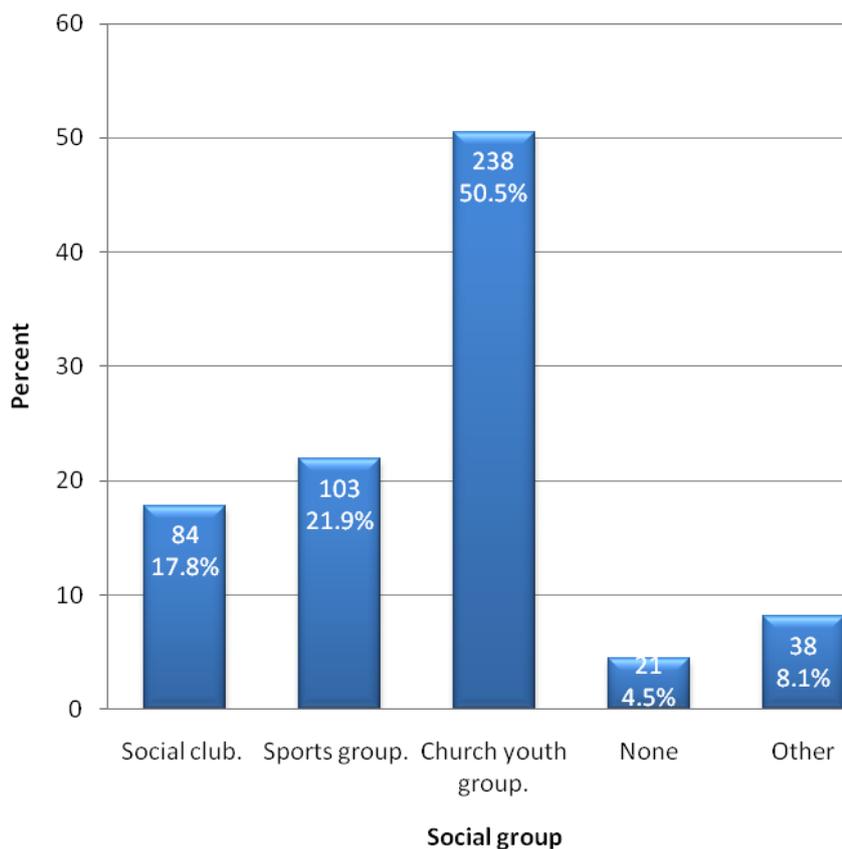


Figure 5.1: Social group affiliation of respondents (n=471)

Sports has an influence on sexuality among adolescents. 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 (Miller et al 1999:324). The data reveal that only 21.9% of the respondents belonged to a sports group; therefore one should expect most of the respondents who did not belong to a sports

group to initiate sex early, to have a greater number of life time partners and to have a higher frequency of sexual encounters in a month.

In the current study, data on social group affiliations were correlated with the components of the HBM (see tables 5.52; 5.63; 5.71; 5.76; 5.82 & 5.100); age of first sex (see tables 5.93 & 5.94); number of sexual partners (see tables 5.103 & 5.104); number of sexual encounters in a month (see tables 5.108 & 5.109); number of sexual partners (see tables 5.112 & 5.116).

### 5.3.2.3 Types of residence

The respondents were asked to indicate the nature of their residences. Table 5.8 represents the respondents' responses. Fourteen (14) respondents did not answer this question.

**Table 5.8: Respondents' residences**

Variable	Categories	Frequency (f)	Percent (%)
House of residence	Duplex	32	6.9
	5 rooms or more	220	47.2
	4 rooms or less	174	37.3
	Shack	24	5.2
	Others	16	3.4
<b>Total (n)</b>		466	100.0

Kumba is a city surrounded by many villages and rural settings, and many houses are bungalows. Just 32 (6.9%) of the respondents were living in duplexes, which are found only in cities. Most of the respondents 220 (47.2%) lived in five rooms or more, followed by 174 (37.3%), who were living in four rooms or less.

One would have expected that those living in five rooms or more should have high monthly incomes. But on the contrary as depicted in table 5.15, most of the respondents' parents and guardians earned less than 100 000 XAF a month. Many

of the bungalows are not cement brick buildings, but plank houses that are cheaper to construct than cement brick houses. The respondents' types of residence were correlated with their fathers' monthly income (table 5.18) and with their mothers' monthly incomes (table 5.19).

### 5.3.2.4 Present residential areas

Table 5.9 explicates the respondents' responses regarding the areas in which they resided. Six (6) respondents did not answer this item presumably because their areas of residence were not represented among the options given.

**Table 5.9: Areas in which respondents reside**

Variable	Categories	Frequency (f)	Percent (%)
Present residential area	City	168	35.4
	Suburb	15	3.2
	Rural area	79	16.7
	Informal setting	2	0.4
	Township	210	44.3
<b>Total (n)</b>		474	100.0

From table 5.9, it could be deduced that most of the respondents, 378 (79.7%) were residing in the cities and urban areas. This could mean that accessibility to health services and condom access points was good, unlike in the rural areas and suburbs where the services might not be readily available or accessible. In Cameroon, rural dwellers travel five times as far as urban dwellers to reach the nearest health facility, while 98.9% of people who travel over 6 kilometres to a health facility live in rural areas (Cameroon 2003). The respondents' areas of residence were correlated with their perceived knowledge level regarding HIV/AIDS (see table 5.27) and their accessibility to condoms (table 5.88).

### 5.3.2.5 Living places during school periods

The respondents were asked to indicate their living places during school periods. Of the 480 respondents, only 477 provided answers to this question as depicted in table 5.10.

**Table 5.10: Respondents' living places during school periods**

Variable	Categories	Frequency (f)	Percent (%)
Living place during school	Boarding	21	4.4
	Rental place	152	31.9
	Parent's house	200	41.9
	Guardian's house	102	21.4
	Others	2	0.4
<b>Total (n)</b>		477	100.0

As revealed from table 5.10, of the 477 respondents, most, 200 (41.9%) were living in their parents' houses; 152 (31.9%) were living in rented places and 102 (21.4%) were living in their guardians' houses. Most of respondents living with their parents or guardians should have opportunities of discussing HIV/AIDS and other sexuality issues with their parents or guardians. This aspect is addressed in the following section(s).

### 5.3.2.6 Parent/guardian–adolescent communication

This subsection consisted of seven items asking the respondents to indicate their agreement on a four-point Likert scale with regard to parental communication. Of the 480 respondents, only some (as indicated by n= in the total column of table 5.11) provided answers to these items presumably because of the sensitivity of the items. The responses to these items are depicted in table 5.11.

**Table 5.11: Parent/guardian–adolescent communication**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
I feel myself free to discuss condom use with my parents or any adult member of the family.	95	22.9	125	30.1	97	23.4	98	23.6	415	100
I feel free to discuss HIV/AIDS with my parents or guardians.	119	28.9	156	37.9	69	16.7	68	16.5	412	100
Parents are supposed to talk about sex with their children.	132	32.9	145	36.2	70	17.5	54	13.5	401	100
It is culturally acceptable for parents to discuss sex with their children.	116	28.3	145	35.4	83	20.2	66	16.1	410	100
My parents/guardians are knowledgeable about HIV/AIDS.	151	37.0	190	46.6	35	8.6	32	7.9	405	100
My parents/guardians are knowledgeable about condom use.	121	29.9	206	50.9	46	11.4	32	7.9	405	100
My parents/guardians support condom use.	100	25.2	163	41.1	48	12.1	86	21.7	397	100

With regard to the first four items on communication content on the topic of condom use, HIV/AIDS and sex in general, 195 (47.0%) respondents disagreed that they felt free to discuss condom use with their parents or any adult member of their families; 149 (36.3%) disagreed that it was culturally acceptable for parents to discuss sex with their children; 134 (33.8%) disagreed that their parents or guardians supported condom use and 137 (33.3%) disagreed that they felt free to discuss HIV/AIDS with their parents or guardians. These first four items had an average of 37.6% 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 taboo and probably 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, 124 (30.9%) disagreed that parents were supposed to talk about sex with their children; 78 (19.3%) disagreed that their parents or guardians were knowledgeable about condom use and 67 (16.4%) disagreed that their parents/guardians were knowledgeable about HIV/AIDS. These findings reveal that some respondents did not feel free to discuss HIV/AIDS, condoms and sexuality with their parents or guardians. No justifications for these

answers were requested from the respondents. As a consequence no conclusions could be drawn based on these findings.

Many parents might be unwilling to discuss sex or might be uncomfortable doing so; or they might lack the knowledge themselves. However most learners stated that their parents were knowledgeable about HIV/AIDS (n=341) (83.6%) and condoms (n=327 (80.8%). Parents' knowledge might be questioned based on the fact that most respondents' parents had limited schooling. Many barriers might prevent open communication between parents and children about sexual issues. Adults might fear that informing young adolescents about sex and teaching them how to HIV infections might make them sexually active (UNICEF/UNAIDS/WHO 2002:26). Moreover. sex in most African societies is a taboo subject between parents and children (see section 3.4.2.2.2 of this thesis). According to Wilbraham (2002:7). parents find it difficult to talk about sexual issues with their children as result of their own sexual socialisation which inhibits such discussions with children. The respondents' opinions that it is culturally unacceptable for parents to discuss sex with their children were correlated with their perceived knowledge levels regarding HIV/AIDS (see table 5.28).

### **5.3.2.7 *Discrimination and stigmatisation against people living with HIV/AIDS (PLWHA)***

This subsection consisted of fifteen items. asking the respondents to indicate their agreement on a four-point Likert scale regarding discrimination and stigmatisation against PLWHA. Of the 480 respondents. only some (as indicated by n= in the total column of table 5.12) provided answers to these items presumably because of the sensitivity of the items. The responses to these items are depicted in table 5.12.

**Table 5.12: Discrimination against people living with HIV/AIDS**

Item	Yes		No		Not sure		Don't know		Total	
	F	%	f	%	F	%	f	%	n	%
Do you believe that the discrimination against HIV/AIDS persons can be controlled?	270	61.5	36	8.2	64	14.6	69	15.7	439	100
Do you believe that HIV/AIDS people deserve being discriminated against?	82	19.1	223	52.0	53	12.4	71	16.6	429	100
Do you believe that the discrimination against HIV/AIDS persons will impact positively on the spread of HIV/AIDS?	176	41.4	95	22.4	60	14.1	94	22.1	425	100
Item	SA		A		DA		SDA		Total	
	F	%	f	%	F	%	f	%	n	%
In Cameroon HIV/AIDS persons are being treated fairly.	69	15.5	175	39.3	116	36.1	85	19.1	445	100
In Cameroon HIV/AIDS persons are being discriminated against.	82	18.8	103	23.6	165	37.8	87	19.9	437	100
I will live closely with someone who has HIV/AIDS.	77	17.0	174	38.4	113	24.9	89	19.6	453	100
I will avoid someone who has HIV/AIDS	49	10.9	84	18.7	195	42.3	122	27.1	450	100
People who have AIDS deserve it.	61	14.0	85	19.5	171	39.2	119	27.3	436	100
HIV/AIDS persons should be treated like any other person.	164	35.7	198	43.0	46	10.0	52	11.3	460	100
People who have HIV/AIDS should be kept in isolation.	42	9.3	70	15.4	167	36.8	175	38.5	454	100
I will drink water from the same cup with someone who has HIV/AIDS.	77	1.0	201	44.4	109	24.1	66	14.6	453	100
I will eat food that someone who has HIV/AIDS has prepared.	96	21.4	207	46.1	93	20.7	53	11.8	449	100
I will hug someone who has HIV/AIDS.	99	22.4	189	42.8	75	17.0	79	17.9	442	100
I will kiss someone who has HIV/AIDS.	53	11.9	147	33.1	153	34.5	91	20.5	444	100
A learner who has HIV/AIDS should be allowed to attend school.	131	28.9	192	42.4	62	13.7	68	15.0	453	100

With regard to the first two items on the discrimination against HIV/AIDS persons, of the respondents, almost half 201 (45.2%) disagreed that in Cameroon HIV/AIDS persons are being treated fairly; while 185 (42.3%) agreed that in Cameroon HIV/AIDS persons are being discriminated against. With regard to the third item on whether they believed that the discrimination against HIV/AIDS persons would impact positively on the spread of HIV/AIDS, most 176 (41.4%) mentioned 'Yes'.

Although most seem to believe that discriminating is wrong (as deduced from the first two items), a much higher percentage believe that this wrongness could serve a positive end (as deduced from the third item).

On whether they believed that the discrimination against HIV+ positive persons can be controlled, most, 270 (61.5%) mentioned 'Yes'. The respondents were also asked if they believed that HIV/AIDS persons deserved being discriminated against. Of the respondents, most, 223 (52.0%) mentioned 'No'.

Stigma is one of the most difficult problems to solve in the fight against HIV/AIDS. Many respondents, 185 (42.3%) felt that in Cameroon, PLWHA were being discriminated against. PLWHA are feared and threatened. Stigmatisation associated with HIV/AIDS is underpinned by many factors including lack of understanding of the illness and misconceptions about how HIV is transmitted; the incurability of AIDS. People fear contact with PLWHA because they are afraid that they might contract the disease (Herek 1999) (see section 3.4.2.2.3 of this thesis).

Learners manifested a degree of empathy, tolerance, acceptance and positive attitudes towards PLWHA, in accordance with studies by Serovich and Greene (1997:440). Of the respondents, 362 (78.7%) stated that HIV/AIDS persons should be treated like any other persons; 342 (75.3%) denied that people who have HIV/AIDS should be kept in isolation; 323 (71.3%) stated that a learner who has HIV/AIDS should be allowed to attend school; 317 (70.4%) denied that they would avoid someone who has HIV/AIDS; 303 (67.5%) stated that they would eat food prepared by someone who has HIV/AIDS ; 290 (66.5%) denied that people who have AIDS deserve it; 288 (65.2%) stated that they would hug someone who has HIV/AIDS; 278 (61.4%) stated that they would drink water from the same cup with someone who has HIV/AIDS and 251 (55.4%) stated that they would live closely to someone who has HIV/AIDS.

However, data from the current study also revealed some unfavourable and unsympathetic attitudes towards PLWHA. This is in accordance with data from a study in Kuwait by AL-Owaish et al (1999:170) who reported that 80% of Kuwaiti participants felt that PLWHA should not be left to live freely in the community: of the respondents in the current study, 244 (55.0%) would not kiss someone who has HIV/AIDS.

Some respondents seemed to have inaccurate knowledge about the transmission of HIV, as the responses indicated a belief that HIV could be spread by kissing, by sharing food and by sharing toilets (see table 5.12). These misconceptions could lead to stigma and discrimination of HIV-positive people as discussed in section 3.4.2.2.3 of this thesis.

**Table 5.13: Cross tabulation of discrimination against PLWHA by gender**

Dependent variables (Discrimination against PLWHA)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
I will live closely to someone who has HIV/AIDS.	7.216	3	0.065	More females, 56,3% than males, 54.6% agreed that they will live closely with someone who has HIV/AIDS. This view did not statistically differ between genders ( $X^2$ : $p>0.05$ ).
I will avoid someone who has HIV/AIDS	11.224	3	<b>0.011</b>	More females, 34.7% than males, 24.5% agreed that they will avoid someone who has HIV/AIDS. This view was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
People who have AIDS deserve it.	1.886	3	0.596	More females, 33.8% than males, 33.1% agreed that people who have AIDS deserve it. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
HIV/AIDS persons should be treated like any other person.	3.193	3	0.363	More females, 80.1% than males, 77.3% agreed HIV/AIDS persons should be treated like any other person. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
People who have HIV/AIDS should be kept in isolation.	3.310	3	0.346	More males, 27.4% than females, 21.9% agreed that people who have HIV/AIDS should be kept in

Dependent variables (Discrimination against PLWHA)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
				isolation. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
I will drink water from the same cup with someone who has HIV/AIDS.	1.523	3	0.677	More females, 61.5% than males, 61.3% agreed that they will drink water from the same cup with someone who has HIV/AIDS. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
I will eat food that someone who has HIV/AIDS has prepared.	5.549	3	0.136	More females, 69.2% than males, 65.8% agreed that they will eat food that someone who has HIV/AIDS has prepared. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
I will hug someone who has HIV/AIDS.	4.500	3	0.212	More females, 67.1% than males, 63.2% agreed that they will hug someone who has HIV/AIDS. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
I will kiss someone who has HIV/AIDS.	1.469	3	0.689	More males, 46.4% than females, 43.7% agreed that they will kiss someone who has HIV/AIDS. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
A learner who has HIV/AIDS should be allowed to attend school.	10.224	3	0.070	More males, 67.6% than females, 75.0% agreed that a learner who has HIV/AIDS should be allowed to attend school. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
In Cameroon HIV/AIDS persons are being treated fairly.	7.746	3	0.052	More females, 58.8% than males, 50.9% agreed that in Cameroon HIV/AIDS persons are being treated fairly. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
In Cameroon HIV/AIDS persons are being discriminated against.	9.910	3	<b>0.019</b>	More females 43.2% than males, 41.1% agreed that in Cameroon HIV/AIDS persons are being discriminated against. This view was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
Do you believe that the discrimination against HIV/AIDS persons can be controlled?	4.269	3	0.234	More males, 64.5% than females, 58.6% believed that the discrimination against HIV/AIDS persons can be controlled. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
Do you believe that HIV/AIDS people deserve being discriminated against?	4.067	3	0.254	More males (19.7%) than females (18.6%) believed that HIV/AIDS people deserve being discriminated against. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).

Dependent variables (Discrimination against PLWHA)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
Do you believe that the discrimination against HIV/AIDS persons will impact positively on the spread of HIV/AIDS?	2.748	3	0.432	More males, 44.4% than females, 38.5% believed that discrimination against HIV/AIDS persons will impact positively on the spread of HIV/AIDS. This view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).

From table 5.13, it can be seen that more females than males indicated that they will avoid someone who has HIV/AIDS. The reason could be that the word “avoid” could have a broader meaning and that females were perhaps more aware of their vulnerability to HIV/AIDS infection. Also more females than males indicated that in Cameroon HIV/AIDS persons were being discriminated against.

### 5.3.2.8 Economic factors/poverty

#### 5.3.2.8.1 Sources of income of parents/guardians

The respondents were asked to indicate their fathers', mothers' and guardians' sources of income. Of the 480 respondents, only some (as indicated by n= in the total column of table 5.14) provided answers to these items presumably because of the sensitivity of the items. The responses to these items are depicted in table 5.14.

**Table 5.14: Sources of income of respondents' fathers, mothers and guardians**

Sources of income	Father		Mother		Guardian	
	f	%	f	%	f	%
Self	8	1.7	19	4.0	20	6.1
Farmer	163	34.5	153	32.4	76	23.1
Business	96	20.3	196	41.5	109	33.1
Civil servant	106	22.4	59	12.5	83	25.2
Pensioner	24	5.1	10	2.1	24	7.3
Other	76	16.1	35	7.4	17	5.2
<b>Total (n)</b>	<b>473</b>	<b>100</b>	<b>472</b>	<b>100</b>	<b>329</b>	<b>100</b>

Of the respondents, 163 (34.5%) indicated that their fathers were farmers; 106 (22.4%) civil servants and 96 (20.3%) business.

Table 5.14 indicates that most of the respondents' fathers were farmers and few were self employed. Of the respondents, most, 196 (41.5%) mentioned business as their mothers' sources of income; 153 (32.4%) mentioned that their mothers were farmers and 59 (12.5%) mentioned that their mothers were civil servants. Most of the respondents' mothers were doing business and few were pensioners (table 5.14). In this area of Kumba, business meant small scale businesses like small shops, selling raw or cooked food items along the road or in market places.

Of the respondents' guardians, most, 109 (33.1%) were doing business; 83 (25.2%) were civil servants and 76 (23.1%) were farmers (table 5.14). As mentioned in section 5.3.2.8.3, some respondents could live with guardians because of easy accessibility to school, but remained financially dependent on their parents. Table 5.20 reveals that only ten guardians were the bread winners of the respondents' household. Sources of income of parents were cross tabulated with their monthly incomes (see tables 5.16 & 5.17).

#### 5.3.2.8.2 Monthly incomes of parents/guardians

The economic status and thus the monthly incomes of parents/guardians could influence the knowledge, attitudes and perceptions regarding HIV/AIDS and condom use; and the sexual behaviours of learners. The respondents in the current study were asked to indicate the monthly incomes of their fathers. Of the 480 respondents, only some (as indicated by n= in the total column of table 5.15) provided answers to these items. The responses to these items are depicted in table 5.15.

**Table 5.15: Monthly income of respondents' fathers, mothers and guardians**

Monthly income	Father		Mother		Guardian	
	f	%	f	%	f	%
More than 300.000.	104	24.9	53	12.3	86	26.8
200.000 – 300.000.	74	17.7	52	12.0	56	17.4
100.000 – 200.000.	94	22.5	91	21.1	58	18.1
Less than 100.000.	146	34.9	236	54.6	121	37.7
<b>Total (n)</b>	<b>418</b>	<b>100</b>	<b>432</b>	<b>100</b>	<b>321</b>	<b>100</b>

Of the respondents' fathers, 146 (34.9%) had monthly incomes of less than 100 000 XAF; 104 (24.9%) had monthly incomes exceeding 300 000 XAF; 94 (22.5%) had monthly incomes of between 100 000 and 200 000 XAF and 74 (17.7%) had monthly incomes of between 200 000 and 300 000 XAF.

From table 5.15, it becomes evident that most of respondents' fathers had monthly incomes of less than 100 000 XAF and few had incomes of between 200 000 and 300 000 XAF per month. In Cameroon, the observed minimum wage is 32 800 XAF per month (Noumba 2002:9). This monthly income translates to approximately 1 000 XAF per day (US\$ 2.00). According to the World Bank (2009), Cameroon, with a gross national income per capita (GNI) of US\$ 1 150.00 is ranked number 158 in the world and is considered to be a low income country. Low economic status of parents may put the respondents at risk of engaging in undesirable sexual behaviours because the learners might not have the financial means to practise safe sex such as buying and using condoms to prevent HIV/AIDS. Economic hardships could increase adolescents' high-risk situations such as HIV/AIDS, pregnancies and drug abuse (Sloane & Zimmer 1993:245; National Hemophilia Foundation 1994) (see sections 3.4.2.2.1 & 3.4.2.2.4 of this thesis).

Table 5.16 depicts the cross tabulation between father's monthly income and father's source of income.

**Table 5.16: Cross tabulation of father's monthly income and father's source of income**

Dependent variable (Father's monthly income)	Independent variable (factor)			Remark
	Source of income			
	Chi-square	df	P value	
Indicate your father's monthly income in XAF.	63.449	18	0.000	Of the respondents who indicated that their fathers were farmers, 43.4% had monthly incomes of less than 100 000XAF, followed by 24.3% whose fathers' monthly incomes were more than 300 000XAF, while 12.5% indicated that their fathers' monthly incomes were between 200 000 and 300 000XAF. There was a statistically significant relationship between father's monthly income and their source of income ( $\chi^2$ : $p < 0.05$ ).

Table 5.16 indicates a statistically significant relationship between father's monthly income and father's source of income. There is a consistent higher or lower payment depending on the type of work done. It could be deduced from table 5.16 that most of the respondents' fathers were poor based on national Cameroonian income figures or if compared to the base line set by the WHO or any other international organisation (GNI of US\$ 1 150.00 & a minimum wage of 32 800 XAF in Cameroon). Another point is that the fathers might not be the sole breadwinners.

Of the respondents' mothers, most, 236 (54.6%) had monthly incomes of less than 100 000 XAF; 91 (21.1%) had monthly incomes of between 100 000 and 200 000 XAF; 53 (12.3%) had monthly incomes exceeding 300 000 XAF and 52 (12.0%) had monthly incomes of between 200 000 and 300 000 XAF (table 5.15).

Table 5.17 depicts the cross tabulation of mother's monthly income and mother's source of income.

**Table 5.17: Crosstab of Mother's monthly income and mother's source of income**

Dependent variable (Mother's monthly income)	Independent variable (factor)			Remark
	Source of income			
	Chi-square	df	P value	
Indicate your mother's monthly income in XAF.	46.613	18	0.001	Of the respondents who indicated that their mothers were doing business, 45.5% mentioned a monthly income of less than 100 000XAF, while 12.8% mentioned a monthly income of between 200 000-300 000 XAF. There was a statistically significant relationship between mothers' monthly incomes and their sources of income ( $\chi^2$ : $p < 0.05$ ).

From table 5.17 it can be seen that there was a statistically significant relationship between mother's monthly income and mother's source of income. In the same vein as the correlation between the father's monthly income and father's source of income, there was a consistent higher or lower payment depending on the type of work done. It could be deduced from table 5.17 that most of the respondents' mothers were poor based on national Cameroonian income figures or if compared to the base line set by the WHO or any other international organisation (GNI of US\$ 1 150.00 & a minimum wage of 32 800 XAF in Cameroon).

Of the respondents' guardians, most, 121 (37.7%) had monthly incomes of less than 100 000 XAF; 86 (26.8%) had monthly incomes of more than 300 000 XAF; 58 (18.1%) had monthly incomes of between 100 000 and 200 000 XAF and 56 (17.4%) had monthly incomes of between 200 000 and 300 000 XAF

But as mentioned in section 5.3.2.8.3 of this thesis, only ten guardians were the bread winners of respondents' households. As such the monthly incomes of the respondents' guardians could have little or no role to play on the learners' social and economic status, with regard to their sexual behaviours, as most of the learners depended on their parents financially.

As mentioned in section 3.4.2.2.4 of this thesis, according to the Country Human Development Report of the UNDP, 40.2% of the population of Cameroon were living below the National poverty line between 1990-2004; and 50.6% of the entire population were living below US\$ 2.00 (1 000 XAF) a day between 1990-2005 (UNDP Cameroon 2008).

As exhibited in tables 5.15, most of the respondents' parents and guardians earned incomes of less than 100 000 XAF a month, supporting the report of earning less than US\$ 2.00 (1 000 XAF) a day published by the UNDP.

Many adolescents therefore come from poverty-stricken homes, with most of their parents on less than 100 000 XAF a month (see tables 5.15; 5.16 & 5.17), and poverty could be a major setback putting adolescents' health at stake. For example, parents could not afford the high cost of education and medical bills. Poor learners might find it difficult to initiate and maintain safer sexual practices such as condom use, or being faithful to one partner even if their risk perception of HIV/AIDS is high.

Poverty might be an important factor working in favour of increased prevalence of HIV/AIDS among learners. Cohen (2001:55) concurs that poverty plays an important role in the dynamics of the HIV epidemic.

Fathers' monthly incomes were correlated with types of residence as depicted in table 5.18.

**Table 5.18: Cross tabulation of fathers' monthly incomes and respondent's type of residence**

Dependent variable (Father's monthly income)	Independent variable (factor)			Remark
	Type of residence			
	Chi-square	df	P value	
Indicate your father's monthly income in XAF.	14.488	12	0.271	Of the respondents whose fathers were on a monthly income of less than 100 000XAF, 41.1% were living in five rooms or more residences, while 7.1% were living in shacks. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).

Mothers' monthly incomes were correlated with the types of residence as depicted in table 5.19

**Table 5.19: Cross tabulation of mothers' monthly incomes and type of residence**

Dependent variable (Mother's monthly income)	Independent variable (factor)			Remark
	Type of residence			
	Chi-square	df	P value	
Indicate your mother's monthly income in XAF.	8.947	12	0.707	Of the respondents whose mothers were on a monthly income of less than 100 000XAF, 46.5% were living in five rooms or more residences, while 5.7% were living in shacks. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).

From table 5.18 and 5.19, it is deduced that respondents' types of residence was not dependent on the monthly incomes of their parents. There might be parents with

monthly incomes of less than 100 000XAF who lived in five rooms or more, or in duplexes. There could be some external sources of finance apart from their monthly incomes.

#### 5.3.2.8.3 Bread winner of household

The respondents were asked to indicate the bread winners of their households. Eleven respondents did not answer this question (n=469). Table 5.20 depicts the results.

**Table 5.20: Bread winner of respondents' households**

Variable	Categories	Frequency (f)	Percent %
Bread winner of your household	Father	142	30.3
	Mother	97	20.7
	Sister	33	7.0
	Brother	30	6.4
	Father and mother	140	29.9
	Relative (Guardian, aunt, uncle, grand mother)	10	2.1
	Others	17	3.6
<b>Total (n)</b>		469	100.0

Of the respondents, 142 (30.3%) mentioned that their fathers were bread winners of their households; 140 (29.9%) mentioned both fathers and mothers and 97 (20.7%) mentioned mothers as the bread winners of their households.

As depicted in table 5.15; 5.16 and 5.17, the most of the respondents mentioned that their parents' monthly incomes were less than 100 000 XAF, which according to UNDP (2008:2), could be classified as poor people. These parents may find it difficult to meet the needs of their children, which could in turn expose the children to risky sexual practices and substance abuse, thus exposing them to HIV/AIDS infection (see section 3.4.2.2.4 of this thesis).

#### 5.3.2.8.4 Number of people in the household

The respondents were asked to indicate the number of people in their households. Of the 480 respondents, only 477 provided answers to this question as depicted in table 5.21.

**Table 5.21: Number of people in respondents' households**

Variable	Categories	Frequency (f)	Valid Percent	Cumulative Percent
Indicate the number of people in your household.	One	8	1.7	1.7
	Two	6	1.3	2.9
	Three	17	3.6	6.5
	Four	36	7.5	14.0
	Five	65	13.6	27.7
	Six	89	18.7	46.3
	Seven and more	256	53.7	100.0
Total (n)		477	100.0	

Of the respondents, 256 (53.7%) mentioned seven or more persons in their households; 89 (18.7%) mentioned six persons in their households while 65 (13.6%) mentioned five persons in their households. Ndjama, Kamgang, Sigha, Ekodeck and Tita (2008:426) report that the average number of individuals per household in Cameroon is high (about six), which is almost the observed number in the current study.

Also as revealed from tables 5.15; 5.16 and 5.17, most of the respondents' parents and guardians had monthly incomes of less than 100 000 XAF. These incomes cannot cater for seven or more persons in a household. Poor social-economic status is associated with higher levels of social-pathology including teen sexual activity, STD and HIV/AIDS (Ndjama, Kamgang, Sigha, Ekodeck and Tita 2008:426).

The number of people in household was cross tabulated with the monthly incomes of parents (see tables 5.22 & 5.23).

**Table 5.22: Cross tabulation of father's monthly income and number of people in household**

Dependent variable (Number of people in household)	Independent variable (factor)			Remark
	Monthly income			
	Chi-square	df	P value	
Indicate the number of people in your household.	27.354	18	0.073	Of respondents who indicated that there were at least seven people in their household, 40.5%, also indicated that their fathers' monthly incomes were less than 100 000 XAF. However there was no statistically significant relationship between fathers' monthly income and number of people per household ( $X^2$ : $p>0.05$ ).

**Table 5.23: Cross tabulation of mother's monthly income and number of people in household**

Dependent variable (Number of people in household)	Independent variable (factor)			Remark
	Monthly income			
	Chi-square	df	P value	
Indicate the number of people in your household	31.332	18	<b>0.026</b>	Of the respondents who indicated seven or more people in the household, 40.5% mentioned that their mother's monthly income was less than 100 000XAF, while 17.1% mentioned a monthly income of between 200 000 and 300 000XAF ( $X^2$ : $p<0.05$ ).

Results from table 5.23 signify that the monthly incomes of respondents' mothers alone could be inadequate to take care for more than seven people in a household. These learners could thus be exposed to HIV/AIDS due to risky sexual practices such as unprotected sexual intercourse because they might not be able to afford condoms, and might have multiple sexual partners for financial gains.

Of the respondents, 135 (58.4%) stated that there were at least seven people in their household, and also that their mothers' monthly incomes were less than 100 000 XAF. There was a statistically significant relationship between mother's monthly income and the number of people in household at the 0.05 level of significance (Chi Sq=31.332; df=18; P=0.026).

### 5.3.2.8.5 Persons with whom respondents lived

Figure 5.2 depicts the learners' responses regarding with whom they lived. They were free to choose more than one answer from the options given. Five respondents did not answer the question presumably because they did not want to disclose the persons with whom they lived. Thus 475 respondents answered the question with a total of 699 responses. The bar chart depicted in figure 5.2 exhibits the percentage of the total responses and not of respondents.

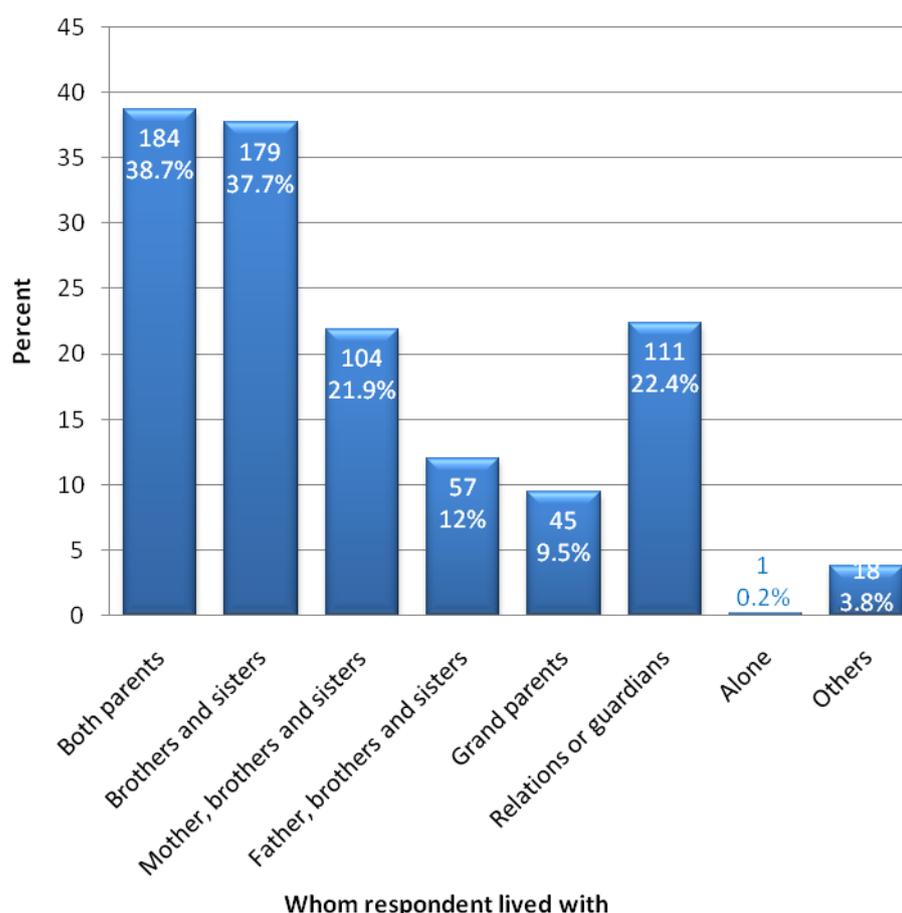


Figure 5.2: Proportions of those with whom respondents lived (n=475)

From 475 respondents, 699 responses were gathered. Out of these 699 responses, 184 (38.7%) lived with both parents, while 179 (37.7%) lived with both brothers and sisters; 111 (22.4%) lived with their relatives or guardians and 104 (21.9%) lived with their mothers, brothers and sisters. As can be seen from table 5.19, eight

respondents mentioned that they were alone in their household, while in figure 5.2 only one respondent mentioned that hr/she was living alone. This discrepancy could result from the fact that the eight respondents who mentioned that they were living alone in table 5.19 might have referred to living places during school periods, especially rented places.

Staying with parents could facilitate or hinder young people's knowledge, attitudes and perceptions regarding HIV/AIDS and condom; and their sexual behaviours. Parents are expected to provide sexuality education and guidance to their children. As depicted in figure 5.2, most of the respondents lived with their parents or guardians, which should provide opportunities of discussing HIV transmission and other HIV/AIDS related issues with their parents or guardians. Adolescents especially, need to be equipped with accurate information on HIV transmission and risk behaviours that can expose them to HIV transmission, and parents and guardians have an important role in this regard. However many parents do not fulfil this role in Cameroon where many parents see it as a taboo to discuss sexual issues with children (see sections 3.4.2.2.2; 5.3.2.6 & table 5.11 of this thesis).

### **5.3.3 Structural variables**

In terms of the HBM, there are many structural variables affecting learners' perceptions of HIV/AIDS and their sexual behaviours. Knowledge was identified as the main structural variable in the current study.

#### **5.3.3.1 Knowledge of HIV status**

The respondents were asked to indicate whether they knew their HIV status and that of their sex partners. This subsection consisted of two items as depicted in table 5.24a and table 5.24a. Of the 480 respondents, 472 provided answers to the first item and only 453 answered the second item.

**Table 5.24a: Responses to “do you know your HIV status”**

Variable	Categories	Frequency (f)	Percent (%)
Do you know your HIV status?	No	286	60.6
	Yes	186	39.4
Total (n)		472	100.0

As indicated by table 5.24a, of the respondents (n=472), most, 286 (60.6%) had no knowledge of their HIV status as compared to only 186 (39.4%) who had knowledge of their HIV status. Knowledge of respondents’ HIV status was cross tabulated with their sexual experience (see table 5.24b).

**Table 5.24b: Cross tabulation of knowledge of HIV status by sexual experience**

Dependent variable (Sexual experience)	Independent variable (factor)			Remark
	Knowledge of HIV status			
	Chi-square	df	P value	
Have you ever had sexual intercourse with a male/female partner?	3.825	1	<b>0.05</b>	Of the respondents who indicated that they know their HIV status, 58.5% have had sex, while 41.5% have never had sex ( $X^2$ : $p<0.05$ ).

As indicated in table 5.24b, there was a statistically significant relationship between respondents’ knowledge about their HIV status and their sexual experience. Respondents, who did not know their HIV status and had sex, could be at high risk of transmitting HIV/AIDS to their partners.

Table 5.25a explicates the respondents’ responses about their knowledge of their sex partners’ HIV status.

**Table 5.25a: Responses to “do you know your partner’s HIV status”**

Variable	Categories	Frequency (f)	Percent (%)
Do you know your partner's HIV status?	No	335	74.0
	Yes	118	26.0
Total (n)		453	100.0

Of the respondents (n=453), 335 (74.0%) lacked knowledge about their partners' HIV status, compared to only 118 (26.0%) who knew their sex partners' HIV status.

Knowledge of partners' HIV status was cross tabulated with respondents' sexual experience (see table 5.25b).

**Table 5.25b: Cross tabulation of knowledge of partners' HIV status by sexual experience**

Dependent variable (Sexual experience)	Independent variable (factor)			Remark
	Knowledge of partner's HIV status			
	Chi-square	df	P value	
Have you ever had sex with a male/female partner?	3.369	1	0.067	Of the respondents who indicated that they do not know their partners' HIV status, 58.5% have had sex, while 41.5% have never had sex. However difference was not statistically significant ( $\chi^2$ : p>0.05).

As can be seen from table 5.25b, of respondents who do not know their partners' HIV status 58.5% had sex. These respondents could be at high risk of contracting HIV/AIDS from their partners. However there was no statistically significant relationship between knowledge of partners' HIV status and sexual experience.

As mentioned in section 3.4.2.3.1 of this thesis, Voluntary Counselling and Testing (VCT) is regarded as an important tool for preventing HIV and for providing care among people living with AIDS. People who are HIV negative could take definite steps to avoid becoming infected. Knowledge of HIV status is the gateway to behavioural change, treatment, care and support. The findings of the current study thus emphasise the necessity to encourage learners to know their HIV status, as up to 49.1% of sexually active learners in the current study did not know their HIV status and 51.6% of sexually active learners did not know their partners' HIV status.

### 5.3.3.2 Knowledge on HIV/AIDS

The Collins English Dictionary (1991:860) defines knowledge as the facts, feelings or experiences known by a person or groups of people; awareness, consciousness, or familiarity gained by experience or learning; specific information about a subject. Section B of the questionnaire examined the respondents' knowledge regarding HIV/AIDS. A total of seven subsections covering knowledge levels regarding HIV/AIDS; conceptual knowledge on HIV/AIDS; sources providing HIV/AIDS knowledge; knowledge regarding transmission of HIV/AIDS; knowledge regarding prevention of HIV/AIDS and knowledge regarding sexual risk behaviours, were used.

#### 5.3.3.2.1 Perceived knowledge level regarding HIV/AIDS

The respondents were asked to indicate their knowledge levels regarding HIV/AIDS. Table 5.26 depicts the respondents' answers. The researcher wished to determine the respondents' knowledge level regarding HIV/AIDS in order to identify any gaps in their knowledge regarding HIV/AIDS. Of the 480 respondents, 473 provided answers to this item.

**Table 5.26: Respondents' knowledge levels of HIV/AIDS**

Variable	Categories	Frequency (f)	Percent (%)
Please indicate your knowledge level on HIV/AIDS.	No knowledge	20	4.2
	Very little knowledge	251	53.1
	Sufficient knowledge	202	42.7
Total (n)		473	100.0

Of the 473 respondents that provided answers to this item, 20 (4.2%) indicated that they had no knowledge regarding HIV/AIDS; 251 (53.1%) had very little knowledge regarding HIV/AIDS and 202 (42.7%) had sufficient knowledge regarding HIV/AIDS. Overall, 271 (57.3%) indicated that they do not have sufficient knowledge regarding HIV/AIDS. The data thus revealed a perceived gap in the knowledge level regarding

HIV/AIDS. These responses are respondents' personal opinions, but the actual measures of their level of knowledge might be different. The perceived sufficient knowledge of the 42.7% respondents might imply false security. As much as 271 (57.3%) learners perceive themselves as not having the necessary knowledge. The respondents' responses regarding their perceived knowledge level in table 5.26 were correlated with their actual scores on all the other knowledge items collectively.

At this stage of their development, youths need to be well equipped with accurate information on HIV/AIDS and risk behaviours that can expose them to HIV/AIDS transmission, because, as UNAIDS (2008:33, 96) reports, young people aged 15-24 account for 45% of all new HIV infections, and many young people still lack accurate information on how to avoid exposure to the virus..The respondents' perceived HIV/AIDS knowledge levels were correlated with their knowledge of transmission of HIV/AIDS (see table 5.31); knowledge on the prevention of HIV/AIDS (table 5.33); knowledge on sexual risk behaviours (table 5.36); their number of sexual encounters per month (table 5.111); their regular use of condoms (table 5.124); their present area of residence (table 5.27); their opinions that it was not allowed for parents to discuss sex with adolescents (table 5.28) and their awareness of contracting HIV/AIDS before their first sexual encounter (table 5.54).

Table 5.27 depicts the correlation between perceived knowledge levels regarding HIV/AIDS and residential area.

**Table 5.27: Cross tabulation of perceived knowledge level regarding HIV/AIDS and present area of residence.**

Dependent variable (Area of residence)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
Please indicate your present area of residence.	36.491	8	<b>0.000</b>	Of the respondents who indicated that they had very little knowledge regarding HIV/AIDS 40.2% lived in the township, followed by 36.1% who lived in the city, 4.0% lived in suburbs, while 0.4% lived in informal settings The difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

Perceived knowledge level regarding HIV/AIDS was correlated with respondents' opinions that it was not allowed for parents to discuss sex with adolescents as depicted in table 5.28.

**Table 5.28: Cross tabulation of perceived knowledge level regarding HIV/AIDS and respondents' opinion that it is not allowed for parents to discuss sex with adolescents.**

Dependent variable (Respondents' opinion)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
It is culturally unacceptable for parents to discuss sex with children.	4.796	6	0.570	Of the respondents who indicated that they had little knowledge regarding HIV/AIDS 67.0% agreed that it is culturally unacceptable for parents to discuss sex with children while 33.0% disagreed. However the difference was not statistically significant ( $\chi^2$ : p>0.05).

It is deduced from table 5.28 that perceived knowledge level regarding HIV/AIDS is not statistically dependent on the opinion that parents were not supposed to discuss sex with their children.

#### 5.3.3.2.2 Declarative knowledge on HIV/AIDS

This subsection consisted of two items covering conceptual knowledge regarding HIV/AIDS, asking the respondents to indicate their level of agreement on a four-point Likert scale (Burns & Grove 2005:404). Of the 480 respondents, only the respondents indicated by 'n' in the 'total' column of table 5.29 provided answers to these items. The responses are depicted in table 5.29.

**Table 5.29: Declarative knowledge on HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	<i>f</i>	%	<i>F</i>	%	<i>f</i>	%	<i>f</i>	%	<i>n</i>	%
HIV strengthens the human immune system.	61	14.1	89	20.6	110	25.4	173	40.0	432	100
I am sufficiently informed about HIV/AIDS.	137	30.0	175	38.3	85	18.6	60	13.1	457	100

The result of the current study reveals some gaps in the knowledge of learners regarding HIV/AIDS. As revealed by table 5.29, 150 (34.8%) of the respondents believed that HIV strengthens the human immune system and 145 (31.7%) believed that they were not sufficiently informed about HIV/AIDS. However in table 5.26, 241 (57.3%) respondents indicated that they were not sufficiently informed about HIV/AIDS as opposed to the 145 (31.7%) in table 5.29. This disparity could be explained by the fact that the response options in the two tables were not the same and the total number of responses in table 5.26, 473 is more than that in table 5.29, 457 responses. As purported by the WHO (1995:43), true knowledge and understanding of HIV/AIDS is a necessary condition for behavioural change.

#### *5.3.3.2.3 Knowledge regarding transmission of HIV/AIDS*

This subsection examined the respondents' knowledge regarding the transmission of HIV/AIDS. It consisted of eleven items asking the respondents to indicate their agreement on a four-point Likert. Not all 480 respondents provided answers to the items in this section as indicated in table 5.30.

**Table 5.30: Knowledge regarding the transmission of HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>F</i>	%	<i>f</i>	%	<i>n</i>	%
HIV/AIDS can be transmitted through unprotected sexual intercourse.	290	62.8	152	32.9	6	1.3	14	3.0	462	100
HIV/AIDS can be transmitted through infected blood.	304	66.5	132	28.9	15	3.3	6	1.3	457	100
HIV/AIDS can be transmitted through injection needles during usage.	224	49.3	184	40.5	34	7.5	12	2.6	454	100
HIV/AIDS can be transmitted through toilet seats.	33	7.3	65	14.4	191	42.4	161	35.8	450	100
HIV/AIDS can be transmitted through kissing an infected person.	66	14.7	95	21.1	166	36.9	123	27.3	450	100
Drunkenness predisposes you to HIV transmission.	46	10.3	94	21.1	144	32.4	161	36.2	445	100
HIV/AIDS can be transmitted through using the same eating utensils as an infected person.	26	5.8	56	12.5	155	34.6	211	47.1	448	100
HIV/AIDS can be transmitted through mosquito bite.	86	19.2	86	19.2	103	23.0	173	38.6	448	100
HIV/AIDS can be transmitted through shaking hands with an infected person.	14	3.2	9	2.1	128	29.2	287	65.5	438	100
HIV/AIDS can be transmitted through saliva.	34	8.0	64	15.0	175	41.0	154	36.1	427	100
Drug abuse predisposes one to HIV infection.	63	14.8	83	19.5	170	39.9	110	25.8	426	100

PLWHA may suffer isolation and discrimination because the transmission of HIV/AIDS is believed by some people to include social aspects of life as reflected by the items in table 5.30 (also see section 3.4.2.2.3 of this thesis).

The results revealed that most of the respondents were aware of the three main modes of transmission of HIV infection (through unprotected sexual intercourse, 442 (95.7%); through infected blood, 436 (95.4%) and through injection needles during usage, 408 (89.9%) (see section 3.4.1 of this thesis). Misconceptions about the spread of HIV are reflected by the following beliefs: that HIV/AIDS can be transmitted through mosquito bite, 172 (38.4%); that HIV/AIDS can be transmitted through kissing an infected person, 141 (35.8%); that HIV/AIDS can be transmitted through saliva. 98 (23.0%) that HIV/AIDS can be transmitted through toilet seats, 98 (21.8%); that HIV/AIDS can be transmitted through using the same eating utensils as an

infected person, 82 (18.3%) and that HIV/AIDS can be transmitted through shaking hands with an infected person, 23 (5.3%).

These misconceptions revealed a gap in knowledge about the mechanism of transmission of HIV/AIDS. Not only can inaccurate information about transmission of HIV/AIDS expose the respondents and others to the risk of HIV transmission, it can also promote stigma and discrimination of PLWHA. HIV/AIDS can be transmitted through unprotected sex, through infected blood and through injection needles during usage (see section 3.4.1 of this thesis). HIV is not spread by sharing utensils, toilet seats, shaking hands, hugging, casual kissing or mosquito bites (CDC 2007b). Inaccurate information can expose the respondents and others to the risk of HIV transmission. The misconception that HIV/AIDS can be transmitted through mosquito bite is life alarming. Sharing such inaccurate information with friends and peers could lead to misperception of risk and feeling of helplessness and failure to take preventive measures against the risk of HIV transmission.

Of the respondents, most, 305 (68.5%) did not agree that drunkenness predisposes one to HIV/AIDS infection. In the same vein, most, 280 (65.7%) of the respondents did not agree that drug abuse predisposes one to HIV/AIDS infection. However, these two items were poorly formulated; they should have read: Alcohol/Drug abuse could impair one's better judgement when it comes to sexual gratification. Alcohol and drugs can impair individual's ability to reason and youths who take drugs and alcohol could be at risk of HIV transmission as they may engage in unprotected sex (UNFPA 2003:7; see section 3.4.1 of this thesis). These findings emphasise the necessity of providing sexuality education, with respect to transmission of HIV/AIDS, for youths in senior secondary schools in Cameroon. Perceived knowledge level regarding HIV/AIDS was correlated with items comprising knowledge regarding the transmission of HIV/AIDS as depicted in table 5.31.

**Table 5.31: Cross tabulation of perceived knowledge level regarding HIV/AIDS and knowledge regarding transmission of HIV/AIDS**

Dependent variables (Knowledge regarding transmission of HIV/AIDS)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	Of the respondents with little knowledge regarding HIV/AIDS:
HIV/AIDS can be transmitted through unprotected sexual intercourse.	7.779	6	0.255	96.3% agreed that HIV/AIDS can be transmitted through unprotected sexual intercourse, while 3.7% disagreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be transmitted through infected blood.	16.845	6	<b>0.010</b>	95.5% agreed that HIV/AIDS can be transmitted through infected blood, while 4.5% disagreed. The difference was statistically significant ( $X^2$ : $p<0.05$ ).
HIV/AIDS can be transmitted through injection needles during usage.	4.869	6	0.561	89.1% agreed that HIV/AIDS can be transmitted through injection needles during usage, while 10.9% disagreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be transmitted through toilet seats.	11.252	6	0.081	74% disagreed that HIV/AIDS can be transmitted through toilet seats, while 26% agreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be transmitted through kissing an infected person.	9.554	6	0.145	61.7% disagreed that HIV/AIDS can be transmitted through kissing an infected person, while 38.3% agreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
Drunkenness predisposes you to HIV transmission.	10.170	6	0.118	72.9% disagreed that drunkenness predisposes one to HIV transmission, while 27.1% agreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be transmitted through using the same eating utensils as an infected person.	12.018	6	0.062	80.3% disagreed that HIV/AIDS can be transmitted through using the same eating utensils as an infected person, while 19.7% agreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be transmitted through mosquito bite.	22.355	6	<b>0.001</b>	54.8% disagreed that HIV/AIDS can be transmitted through mosquito bite, while 45.2% agreed. The difference was statistically significant ( $X^2$ : $p<0.05$ ).
HIV/AIDS can be transmitted through shaking hands with an infected person.	12.757	6	<b>0.047</b>	93.2% disagreed that HIV/AIDS can be transmitted through shaking hands with and infected person, while 6.8% agreed and the difference was statistically significant ( $X^2$ : $p<0.05$ ).
HIV/AIDS can be transmitted through saliva.	5.410	6	0.492	75.6% disagreed that HIV/AIDS can be transmitted through saliva, while 24.4% agreed. However the difference was not statistically significant.
Drug abuse predisposes one to HIV transmission.	6.442	6	0.376	69.2% disagreed that drug abuse predisposes one to HIV transmission, while 30.8% agreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).

From table 5.31 it is deduced that irrespective of their perceived knowledge level regarding HIV/AIDS the respondents knew that HIV/AIDS could be transmitted through infected blood. Having such knowledge might encourage the respondents to protect themselves from this route of transmission. Of the respondents who had little knowledge of HIV/AIDS, most had adequate knowledge that HIV/AIDS cannot be transmitted through mosquito bites nor through shaking hands with an infected person.

#### 5.3.3.2.4 Knowledge regarding prevention of HIV/AIDS

This subsection examined the respondents' knowledge regarding the prevention of HIV/AIDS. As mentioned in section 3.4.1 of this thesis, adoption and maintenance of preventive behaviours are the only protection against HIV/AIDS infection. This subsection of four items on the prevention of HIV spread requested respondents to indicate their agreement on a four-point Likert scale. Of the 480 respondents, only some as indicated by "n" in the "Total" column of table 5.32 provided answers to these items. Table 5.32 depicts the respondents' responses.

**Table 5.32: Knowledge regarding the prevention of HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
HIV/AIDS can be prevented by correctly and consistently using condoms with multiple partners	118	26.3	193	43.0	78	17.4	60	13.4	449	100
HIV/AIDS can be prevented by abstaining from sex.	288	63.4	126	27.8	21	4.6	19	4.2	454	100
HIV/AIDS can be prevented by being faithful to one sexual partner.	165	36.4	204	45.0	57	12.6	27	6.0	453	100

As mentioned in section 3.4.2.3.4 of this thesis, researchers increasingly emphasise the need for greater awareness and practice of a three-pronged strategy to prevent HIV infection. The strategy is known as ABC–approach, signifying, *abstinence, being faithful to a single partner and condom use* (Akinrinola et al 2003:12), although the 2006 international AIDS conference indicated that this does not really bear fruit (see section 3.3.8 of this thesis).

As can be seen from table 5.32, as many as 138 (30.7%) respondents did not believe that HIV/AIDS could be prevented by correctly and consistently using condoms during sexual intercourse; 84 (18.5%) denied that being faithful to one sexual partner could prevent transmission of HIV/AIDS infection and 40 (8.8%) denied that HIV/AIDS could be prevented by abstaining from sex.

As mentioned in section 3.4.2.3.2 of this thesis, full knowledge of the options available for adolescents to prevent HIV/AIDS infection, from abstinence to safe sex is important in empowering young people, influencing their choices about sex and preventing HIV infections. Abstinence programmes focus exclusively on abstaining from sexual activities until after they are married.

Perceived knowledge level regarding HIV/AIDS was correlated with the items comprising knowledge regarding the prevention of HIV/AIDS as depicted in table 5.33.

**Table 5.33: Cross tabulation of perceived knowledge level regarding HIV/AIDS and knowledge regarding prevention of HIV/AIDS**

Dependent variable (Knowledge regarding prevention of HIV/AIDS)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
HIV/AIDS can be prevented by correctly and consistently using condoms with multiple partners	15.623	6	<b>0.016</b>	Of the respondents with little knowledge regarding HIV/AIDS: 75.5% agreed that HIV/AIDS can be prevented by correctly and consistently using condoms during sex with multiple partners, while 24.5% disagreed and the difference was statistically significant ( $X^2$ : $p < 0.05$ ).
HIV/AIDS can be prevented by abstaining from sex.	14.346	6	<b>0.026</b>	92.9% agreed that HIV/AIDS can be prevented by abstaining from sex, while 7.1% disagreed and the difference was statistically significant ( $X^2$ : $p < 0.05$ ).
HIV/AIDS can be prevented by being faithful to one sexual partner.	10.336	6	0.111	81.3% agreed that HIV/AIDS can be prevented by being faithful to one sexual partner, while 18.7% disagreed. However the difference was not statistically significant ( $X^2$ : $p > 0.05$ ).

From table 5.33 it is deduced that though most of the respondents indicated that they had little knowledge regarding HIV/AIDS, and most of them had adequate knowledge

regarding the prevention of HIV/AIDS. Therefore, irrespective of perceived knowledge level regarding HIV/AIDS, respondents in the current study had adequate knowledge regarding the prevention of HIV/AIDS.

The respondents were asked to indicate whether they had knowledge about the prevention of HIV/AIDS before they became sexually active. Twelve respondents failed to respond to this item. Table 5.34 portrays the results of how the respondents responded.

**Table 5.34: Knowledge of prevention of HIV/AIDS before sexual initiation**

Variable	Categories	Frequency (f)	Percent (%)
Did you have knowledge of prevention of HIV/AIDS when you became sexually active?	No	83	17.7
	Yes	215	45.9
	I have never had sex	170	36.3
<b>Total (n)</b>		468	100.0

Of the 298 respondents who had sex, 83 (27.9%) indicated that they had no HIV/AIDS knowledge when they became sexually active. Respondents who were sexually active and who did not know how to prevent of HIV/AIDS could be at risk of HIV/AIDS infection (see section 3.4.2.3.8). However, 215 (72.1%), indicated that they knew about prevention of HIV/AIDS before sexual initiation. This could mean that they had the opportunity to prevent sexual transmission of HIV/AIDS by using condoms during their first sexual encounter.

#### *5.3.3.2.5 Knowledge regarding sexual risk behaviours*

This subsection examined the respondents' knowledge regarding sexual risk behaviours. Of the 480 respondents, only some provided answers to these items. Table 5.35 depicts the respondents' responses.

**Table 5.35: Knowledge regarding sexual risk behaviours**

Item:	SA		A		DA		SDA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>F</i>	%	<i>f</i>	%	<i>N</i>	%
Sexual risk behaviours include:										
Early sexual debut.	117	29.8	153	39.0	75	19.1	47	12.0	392	100
Unprotected sexual intercourse.	180	43.8	144	35.0	45	10.9	42	10.2	411	100
Multiple sexual partners.	169	41.7	124	30.6	60	14.8	52	12.8	405	100
Coerced or forced sex.	133	34.1	116	29.7	73	18.7	68	17.4	390	100

Sexual risk behaviours include early sexual initiation, unprotected sexual intercourse, multiple sexual partners and coerced or forced sex (see sections 3.4.2.3.8 of this thesis). The data reveal that most of the respondents were aware of what constituted risk behaviours regarding HIV transmission, as evident by the 324 (78.8%) respondents who indicated that unprotected sexual intercourse; 293 (72.3%) who indicated multiple sexual partners; 270 (68.9%) who indicated early sexual debut and 249 (63.8%) who indicated forced or coerced sex to be risk behaviours.

The data however reveal that up to 141 (36.2%) denied that coerced or forced sex was a sexual risk behaviour; 122 (31.1%) respondents denied that early sexual debut was a sexual risk behaviour; 112 (27.7%) denied that having multiple sexual partners was a sexual risk behaviour and 87 (21.2%) denied that unprotected sexual intercourse was a sexual risk behaviour. These findings reveal inadequate knowledge of what constitutes sexual risk behaviours among this group of learners in the city of Kumba.

HIV/AIDS knowledge included modes of transmission and preventive measures Peoples' health seeking behaviours depend to a large extent on their understanding and interpretation of the causes of illness, in this regard, the causes of HIV/AIDS. The WHO (1995:43) states that true knowledge and understanding of HIV/AIDS is a necessary condition for behavioural change. Many young people do not consider their behaviours or that of their sexual partners to be risky (see table 5.35). Risk perception may be based on insufficient knowledge and information. Kiragu and Zabin (1995:113) state that young peoples' sexual activities are based on insufficient knowledge and misconceptions. Data from the current study also revealed a gap in the respondents' knowledge regarding HIV/AIDS (see tables 5.30 & 5.32). Not only can inaccurate information expose respondents and others to the risk of HIV

transmission, it also promotes stigma and discrimination against PLWAs (see table 5.12). A person, who is infected with HIV, may look and feel healthy for many years but can transmit the virus. Adolescents need to be aware of this fact so that they do not expose themselves to the risk of HIV transmission.

The current study established that some adolescents had no idea of how HIV/AIDS is transmitted (table 5.30), or how to protect themselves from the disease (table 5.32) or knowledge of sexual risk behaviours (table 5.35), or perceived sufficient knowledge on HIV/AIDS (table 5.26). These findings were supported by UNICEF/UNAIDS/WHO (2002:13) in their survey from SSA countries including Cameroon that indicate that more than 50% of young people aged 15-24 harboured serious misconceptions about how HIV/AIDS is transmitted and how it can be avoided.

Perceived knowledge level regarding HIV/AIDS was correlated with the items comprising knowledge regarding sexual risk behaviours as depicted in table 5.36

**Table 5.36: Cross tabulation of perceived knowledge level regarding HIV/AIDS and knowledge regarding sexual risk behaviours.**

Dependent variable (Knowledge regarding sexual risk behaviours). Sexual risk behaviours include:	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
Early sexual debut.	7.559	6	0.272	Of the respondents with little knowledge regarding HIV/AIDS, 72% agreed that early sexual debut is sexual risk behaviour while 28% disagreed. However the difference was not statistically significant ( $\chi^2$ : $p>0.05$ ).
Unprotected sexual intercourse.	5.229	6	0.515	82% agreed that unprotected sexual intercourse is a sexual risk behaviour, while 18% disagreed. However the difference was not statistically significant ( $\chi^2$ : $p>0.05$ ).
Multiple sexual partners.	7.741	6	0.258	76.6% agreed that multiple sexual partners is a sexual risk behaviour, while 23.4% disagreed. However the difference was not statistically significant ( $\chi^2$ : $p>0.05$ ).
Coerced or forced sex.	6.001	6	0.423	69.6% agreed that coerced or forced sex is a sexual risk behaviour, while 30.4% disagreed. However the difference was not statistically significant ( $\chi^2$ : $p>0.05$ ).

It can be seen from table 5.36 that knowledge of sexual risk behaviours was not statistically dependent of perceived knowledge level regarding HIV/AIDS. However irrespective of their perceive knowledge level, learners did not perceived these sexual risk behaviours as explicated in table 5.35 as an important issue with regard to HIV/AIDS.

### 5.3.3.2.6 Fallacies about HIV/AIDS

This subsection examined the respondents' fallacies about HIV/AIDS. Table 5.37 depicts the respondents' responses.

**Table 5.37: Fallacies about HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	F	%	f	%	N	%
HIV/AIDS can be linked to witchcraft.	53	11.7	45	9.9	137	30.2	219	48.2	454	100
HIV/AIDS is due to sin.	60	13.5	91	20.4	117	26.3	177	39.8	445	100

Of the respondents, 151 (33.9%) believed that HIV/AIDS was due to sin; and 98 (21.6%) believed that HIV/AIDS could be linked to witchcraft. These findings are in accordance with that of UNICEF/UNAIDS/WHO (2002:13) stating that fallacies regarding HIV/AIDS vary from one culture to another, and might be particularly rumourous in some populations both on how HIV is spread (by mosquito bites or witchcraft) and on how it can be avoided (by eating certain fish, or having sex with a virgin); and Kinge (2003:145-146), who state that the HIV/AIDS epidemic is sometimes blamed on witchcraft. Poison and witchcraft are widely believed to be the main causes of ill health (AIDS). The ultimate end of such misconceptions may be a disintegrated society characterised by over caution and suspicion of one another, such as the misconception that HIV/AIDS can be linked to witchcraft, while the true spread of the disease is not realised and unwittingly advanced (see section 3.4.2.3.5.1 of this thesis).

### 5.3.3.2.7 Knowledge needs regarding HIV/AIDS

The respondents were asked to indicate the areas in which they required more knowledge about HIV/AIDS. This item was answered only by respondents who perceived that they were not sufficiently informed about HIV/AIDS (item B1.5.7) (see table 5.29). They were free to mark more than one answer.. Ninety four (n=94) respondents provided answers to the set of items item.

**Table 5.38: Knowledge needs regarding HIV/AIDS**

If you disagree or strongly disagree on item B 1.5.7 what would you want to know more about HIV/AIDS? ( You may mark more than one box).	Yes		No		Total	
	f	%	f	%	n	%
Mode of transmission.	49	52.1	45	47.9	94	100
Preventive measures.	65	69.1	29	30.9	94	100
Safe sexual behaviours.	44	46.8	50	53.2	94	100
Sexual risk behaviours.	34	36.2	60	63.8	94	100
Other	15	16.0	79	84.0	94	100

Table 5.38 indicates that, 65 (69.1%) learners stated that they wanted more knowledge on the prevention of HIV/AIDS; 49 (52.1%) stated that they wanted more knowledge on the transmission of HIV/AIDS; 44 (46.8%) stated that they wanted more knowledge on safe sexual behaviours; 34 (36.2%) stated that they wanted more knowledge on sexual risk behaviours while 15 (16.0%) stated that they wanted other unspecified knowledge regarding HIV/AIDS, presumably because the areas in which they wanted more knowledge were not among the options given and they did not bother to specify the areas.

Most learners, (f=65; n=94; 69.1%) who perceived themselves to be insufficiently informed about HIV/AIDS, had the desire to acquire more knowledge regarding prevention of HIV/AIDS followed by 49 (52.1%) needing information closely related to prevention of spread, namely the mode of spread of HIV/AIDS thus emphasising the necessity of providing them with accurate knowledge regarding transmission and

prevention of HIV/AIDS. Knowledge needs on HIV/AIDS was correlated with respondents' knowledge on transmission of HIV/AIDS, knowledge on prevention of HIV/AIDS and knowledge on sexual risk behaviours (see tables 5.39; 5.40 & 5.41 respectively).

**Table 5.39: Cross tabulation of knowledge needs on transmission of HIV/AIDS by knowledge on transmission of HIV**

Dependent variable (Knowledge needs on transmission of HIV/AIDS)	Independent variable (factor)			Remark
	Knowledge on transmission of HIV/AIDS			
	Chi-square	Df	P value	
I want more knowledge on mode of transmission of HIV/AIDS	16.165	11	0.135	There was no statistically significant relationship between knowledge on the transmission of HIV/AIDS and wanting more knowledge on the mode of transmission of HIV/AIDS ( $\chi^2$ : $p>0.05$ ).

**Table 5.40: Cross tabulation of knowledge needs on prevention of HIV/AIDS by knowledge of prevention of HIV/AIDS**

Dependent variable (Knowledge needs on prevention of HIV/AIDS)	Independent variable (factor)			Remark
	Knowledge of prevention of HIV/AIDS			
	Chi-square	Df	P value	
I want more knowledge on prevention of HIV/AIDS	8.412	5	0.135	There was no statistically significant relationship between wanting more knowledge on prevention of HIV/AIDS and knowledge of prevention of HIV/AIDS ( $\chi^2$ : $p>0.05$ ).

**Table 5.41: Cross tabulation of knowledge needs on sexual risk behaviours by knowledge of sexual risk behaviours**

Dependent variable (knowledge needs on sexual risk behaviours)	Independent variable (factor)			Remark
	Knowledge of sexual risk behaviours			
	Chi-square	Df	P value	
I want more knowledge on sexual risk behaviours	7.939	4	0.094	There was no statistically significant relationship between wanting more knowledge on sexual risk behaviours and knowledge of sexual risk behaviours ( $\chi^2$ : $p>0.05$ ).

From tables 5.39; 5.40 and 5.41 it is deduced that the respondents were just answering hazardously as no statistically significant relationship was established among the factors involved in the calculation. There is thus the need to determine what learners' knowledge deficits are and to focus on these.

#### 5.3.3.2.8 Sources providing HIV/AIDS related knowledge

The respondents were asked to indicate the sources providing them with information on HIV/AIDS, and they were free to select more than one option. Their responses are depicted in table 5.42.

**Table 5.42: Sources providing HIV/AIDS related knowledge**

From where did you learn most of what you know about HIV/AIDS?	Yes		No		Total	
	N	%	N	%	N	%
Parents.	109	23.1	363	76.9	472	100
Teachers.	205	43.4	267	56.6	472	100
Peers.	27	5.7	445	94.3	472	100
Magazines or newspapers.	227	48.1	245	51.9	472	100
Hospital or clinic.	122	25.8	350	74.2	472	100
Bill board.	19	4.0	453	96.0	472	100
Peer educators.	36	7.6	436	92.4	472	100
I don't have knowledge on HIV/AIDS.	10	2.1	462	97.9	472	100
TV/Radio.	13	2.8	459	97.2	472	100
Other.	10	2.1	462	97.9	472	100

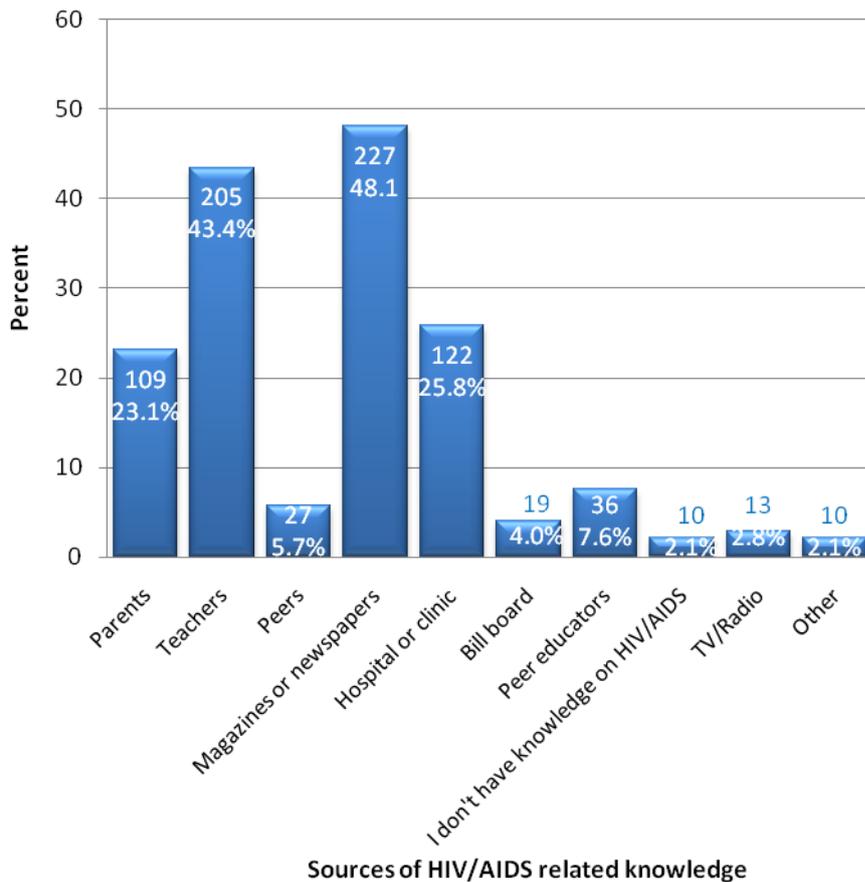


Figure 5.3: Sources providing HIV/AIDS related knowledge (n=472)

It is clear from table 4.42 and figure 5.3 that of the 778 responses to this item, produced by 472 respondents, most, 227 (48.1%) mentioned magazines or newspapers, as the source providing them with HIV/AIDS knowledge, followed by teachers 205 (43.4%), hospital or clinics 122 (25.8%) and parents 109 (23.1%). Few mentioned other unspecified sources 10 (2.1%), followed by TV/radio 13 (2.8%), then billboard 19 (4.0%).

Teachers were the second most popular source of information regarding HIV/AIDS for respondents. Teachers spend a greater part of the day with learners on a weekly basis, and are expected to teach them about HIV/AIDS. Although teachers are accessible, they may not be always available as they teach a number of subjects or they may be busy in other classes, or may lack accurate knowledge about HIV/AIDS.

As some respondents lived with their parents, 138 (38.7%) (see figure 5.1), it could be expected that they would find their parents a source of information. However in

the current study, the number of respondents that did not indicate their parents as source of information is perhaps significant (See table 5.42). Although parents should play a significant role in providing accurate knowledge regarding HIV/AIDS to their children many learners found it difficult to discuss HIV/AIDS with their parents due to a communication of barriers (see sections 3.4.2.2.2 & 5.3.2.6). Sources providing HIV/AIDS related knowledge were correlated with gender (see table 5.43).

**Table 5.43: Cross tabulation of sources providing HIV/AIDS knowledge by gender**

Dependent variables (Sources providing HIV/AIDS knowledge)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
Parents	1.325	1	0.250	More females, 60 (25.3%) than males, 49 (20.9%) stated that they received information on HIV/AIDS from their parents. Knowledge from this source was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).
Teachers	5.771	1	<b>0.016</b>	More males, 115 (48.9%) than females, 90 (38.0%) stated that they received information on HIV/AIDS from their teachers, and knowledge from this source was statistically influenced by gender ( $\chi^2$ : $p<0.05$ ).
Magazine/newspapers	1.214	1	0.270	More males, 119 (50.6%) than females, 108 (45.6%) stated that they received information on HIV/AIDS from Magazines or newspapers. However knowledge from this source was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).
Hospitals/clinics	0.226	1	0.635	More males, 63 (26.8%) than females, 59 (24.9%) stated that they received information on HIV/AIDS from hospitals or clinics. However knowledge from this source was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).

From figure 5.3 it can be seen that teachers were ranked second among the sources providing HIV/AIDS knowledge, and from table 5.43 it is deduced that more males than females received information on HIV/AIDS from their teachers.. In Kumba there are more male than female teachers in the schools. Receiving knowledge from this source was significantly influenced by gender.

### **5.3.3.3 Knowledge regarding condoms**

The Collins English Dictionary (1991:860) defines knowledge as the facts, feelings or experiences known by a person or groups of people; awareness, consciousness,

or familiarity gained by experience or learning; specific information about a subject. This section of the questionnaire examined the respondents' knowledge regarding condoms. A total of three subsections covering knowledge on condom, where respondents store condoms and accurate facts about condoms were used.

### 5.3.3.3.1 *Knowing about condoms*

This subsection consisted of two items, asking the respondents direct questions:

- Knowing about condoms and
- Sexual experience.

To establish what exactly learners knew about condoms, the researcher first established whether they in fact did know about condoms. Their responses are depicted in table 5.44a.

**Table 5.44a: Knowledge about condoms**

<b>Variables</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>Do you know about condoms?</b>	<b>No</b>	65	14.0	14.0
	<b>Yes</b>	399	86.0	100.0
<b>Total</b>		464	100.0	

Of the respondents, 399 (86.0%) indicated that they knew about condoms, while 65 (14.0%) indicated that they did not know about condoms. The respondents' knowledge about condoms was correlated with their sexual experience (see table 5.44b).

**Table 5.44b: Cross tabulation of knowledge about condoms by sexual experience**

Dependent variable (Sexual experience)	Independent variable (factor)			Remark
	Knowledge about condoms			
	Chi- square	df	P value	
Have you ever had sexual intercourse with a male/female partner?	24.352	1	<b>0.000</b>	Of the respondents who indicated that they knew about condoms, 217 (56.5%) have had sex before, while 167 (43.5%) have never had sex. Of the respondents who did not know about condoms, 46 (78.0%) have never had sex, while 13 (22.0%) have had sex. There was a statistically significant relationship between knowledge about condoms and sexual experience ( $\chi^2$ : $p < 0.05$ ).

From table 5.44b it is deduced that most of the respondents who were sexually active, knew about condoms. There was a statistically significant relationship between knowledge about condoms and sexual experience. These respondents could be expected to use condoms during sex to prevent HIV/AIDS.

The respondents were also asked if they knew about condoms before sexual initiation. Their responses are depicted in table 5.45a.

**Table 5.45a: Knowledge about condoms before first sex**

Variable	Categories	Frequency	Percent	Cumulative Percent
When you and a boy/girl friend had sex for the first time, did you know about condoms?	No	89	19.3	19.3
	Yes	178	38.7	58.0
	I have never had sex	193	42.0	100.0
<b>Total</b>		460	100.0	

Of the respondents who had sex, 178 (66.7%) indicated that they had knowledge, while 89 (33.3%) indicated that they had no knowledge about condoms before they initiated sex. Such respondents might have had unprotected sex, which could have exposed them to the risk of contracting HIV/AIDS. This implies that by the time most of the respondents in the current study initiated sex, they already had knowledge about condoms.

Knowledge about condoms before first sex was correlated with sexual experience (see table 5.45b) and condom use during first sexual encounter (see table 5.46).

**Table 5.45b: Cross tabulation of knowledge about condoms before first sex by sexual experience**

Dependent variable (Knowledge about condoms before first sex)	Independent variable (factor)			Remark
	Sexual experience			
	Chi-square	df	P value	
When you and your partner had sex for the first time, did you know about condoms?	24.109	2	<b>0.000</b>	Of the respondents who have had sex 146 (68.5%) knew about condoms before first sex, while 67 (31.5%) did not know about condoms before first sex ( $\chi^2$ : p<0.05).

From table 5.45b it can be seen that most of respondents who were sexually active, knew about condoms before first sexual encounter. Such respondents should be expected to use condoms during their first sexual encounters. There was a statistically significant relationship between knowledge about condoms before first sex and sexual experience.

The respondents' knowledge about condoms before first sex was correlated with their use of condoms during their first sexual encounters. Table 5.46 depicts the result.

**Table 5.46: Cross tabulation of knowledge about condoms before first sex by condom use in first sex**

Dependent variable (Knowledge about condoms before first sex)	Independent variable (factor)			Remark
	Condom use during first sex			
	Chi-square	df	P value	
When you and your partner had sex for the first time, did you know about condoms?	319.178	4	<b>0.000</b>	Of the 167 respondents who indicated that they knew about condoms before first sex, 86 (51.5%) did not use a condom during first sex, while 69 (41.3%) used a condom during first sex. The difference was statistically significant ( $\chi^2$ : p<0.05).

From table 5.46 it can be seen that of the respondents who knew about condoms before first sex, only 41.3% used condoms during their first sexual encounters. Most, 51.5% who did not use condoms during their first sex could have been at risk of

contracting HIV/AIDS through unprotected sexual intercourse. There was a statistically significant relationship between knowledge about condoms before first sex and condom use in first sex.

Youths who lack the awareness that condoms are effective in preventing HIV would less likely use them (Bankole, Singh, Woog & Wulf 2004:13). The knowledge of HIV prevention through condom use during sexual intercourse is very important for the respondents who are sexually active to protect themselves from sexual transmission of HIV/AIDS.

#### 5.3.3.3.2 Accurate facts about condoms

This subsection consisted of fifteen items requesting the respondents to give their responses to items regarding accurate facts about condoms.

**Table 5.47(a): Accurate facts about condoms**

Item	True		False		Don't know		Total	
	N	%	N	%	N	%	N	%
Latex condoms become brittle from changes in temperature.	93	21.2	61	13.9	284	64.8	438	100
Latex condoms become brittle from rough handling.	145	34.0	54	12.7	227	53.3	426	100
Damaged condoms could be used.	23	5.3	354	80.8	61	13.9	438	100
Discoloured condoms could be used.	61	14.2	170	39.4	200	46.4	431	100
Sticky condoms could be used.	49	11.6	203	48.2	169	40.1	421	100
Condoms have expiry dates.	219	71.4	43	9.6	85	19.0	447	100
I use my teeth to open a condom packet.	42	9.9	260	61.5	121	28.6	423	100
I use my finger nail to open a condom packet.	185	43.6	105	24.8	134	31.6	424	100
Condom package should be opened carefully following the lines on the package.	310	70.3	18	4.1	113	25.6	441	100

**Table 5.47(b): Accurate facts about condoms**

Item	SA		A		DA		SDA		Total	
	N	%	N	%	N	%	N	%	N	%
Oily lubricants should be used with condoms.	82	20.6	134	33.7	104	26.1	78	19.6	398	100
A condom can be reused.	16	4.0	50	12.5	151	37.8	182	45.6	399	100
A condom is put on by pinching the reservoir tip and unrolling it all the way down the shaft of the penis from the head to the base.	126	30.1	180	43.0	70	16.7	43	10.3	419	100
A condom is put on before the penis is erected	54	13.3	75	18.4	123	30.2	155	38.1	407	100
The condom is put on before the penis touches any part of my body.	136	31.9	160	37.5	82	19.2	49	11.5	427	100
After intercourse with condom, the penis should be left in the vagina for some time before withdrawing.	41	9.8	64	15.3	138	33.1	174	41.7	417	100

From table 5.47(a) it is clear that 319 (75.2%) of the respondents did not know that one should not use the finger nails to open a condom packet; 261 (60.6%) were not aware that discoloured condoms could not be used; 218 (51.7%) were not aware that sticky condoms could not be used; 163 (38.5%) did not know that one should not use the teeth to open a condom packet; 145 (34.0%) did not know that latex condoms become brittle from rough handling; 131 (29.7%) did not know that a condom package should be opened carefully following the lines on the package; 128 (28.6%) were not aware that condoms have expiry dates; 93 (21.2%) did not know that latex condoms become brittle from changes in temperature and 84 (19.2%) did not know that damaged condoms should not be used.

A latex condom becomes dry, sticky, or stiff from changes in temperature or from rough handling or when it has passed its expiry date and as such should be thrown away and a new one used instead. A used condom should be thrown in the garbage, not down the toilet. A condom should be handled carefully, and it should not be torn with a finger nail or tooth (Patient Update 2003:1-2; Hirsch 2007).

The current results revealed some gaps in the knowledge regarding accurate facts about condoms among learners in the city of Kumba. Lack of accurate knowledge regarding condoms could lead to wrong storage and usage. Learners with knowledge of the benefit of condom use during sexual intercourse to prevent HIV/AIDS, must have accurate knowledge regarding condom usage, so that they can effectively use them to prevent HIV/AIDS during sexual intercourse. Learners who lack accurate knowledge on condoms could also lack the self-efficacy for condom use during sex.

From table 5.47, it is clear that 216 (54.3%) respondents did not know that oily lubricants should not be used with condoms; 129 (31.7%) did not know that a condom is put on when the penis is erected; 131 (30.7%) did not know that a condom is put on before the penis touches any part of the female partner's body; 113 (27.0%) did not know that a condom is put on by pinching the reservoir tip and unrolling it all the way down the shaft of the penis from the head to the base; 105 (25.2%) did not know that after intercourse with a condom, the penis should be withdrawn from the vagina immediately and 66 (16.5%) did not know that a condom could not be reused.

Once a condom is used, it cannot be reused. A new condom should be used each time a couple has sex and it must be used from start to finish each time to protect against pregnancy and HIV/AIDS. An expired condom should not be used as it may become brittle and defective. It is important not to use oil-based lubricants (such as mineral oil, petroleum jelly, or baby oil) with condoms because they can break down the rubber. A condom should be removed carefully from the package. The reservoir tip is pinched and the condom is rolled down on the erect penis, avoiding an air pocket in the tip. After intercourse, but before the penis gets soft, the rim of the condom is firmly grasped at the base of the penis. The penis is withdrawn from the vagina while holding onto the rim of the condom. The condom is then removed and disposed (Patient Update 2003; Hirsch 2007).

Learners might perceive condoms as beneficial in preventing HIV/AIDS but may lack knowledge on correct condom usage. Wrong usage of condom can reduce its

effectiveness to prevent HIV/AIDS transmission during sexual intercourse. Knowing how to correctly use condoms and using them consistently during sex are among the major actions necessary for the prevention of sexual transmission of HIV. Thus there is a dire need for accurate knowledge regarding correct condom usage for learners in Kumba.

### 5.3.3.3.3 Sources providing knowledge on condoms

The respondents were asked to indicate the sources providing them with knowledge regarding condoms. They were free to choose more than one answer from the options given. There were 759 responses to this question, as depicted in figure 5.4.

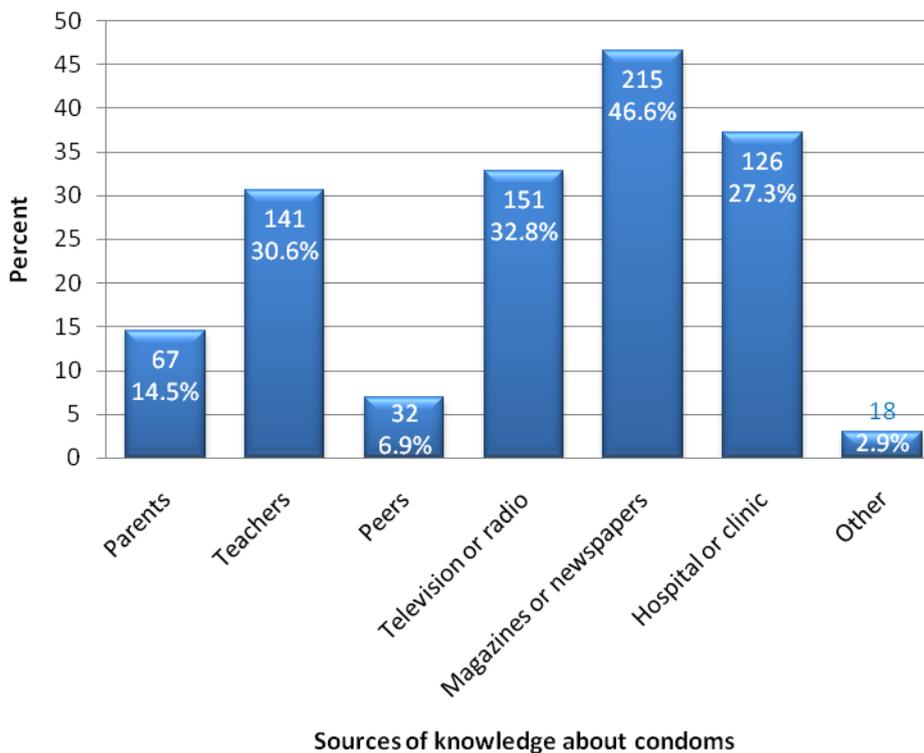


Figure 5.4: Sources providing knowledge of condoms (n=461)

Of the 461 respondents 759 responses were gathered of which 215 (46.6%) mentioned magazines or newspapers followed by television or radio, 151 (32.8%); teachers, 141 (30.6%), then hospitals or clinics, 126 (27.3%). Only 9 (2.9%) mentioned other unspecified sources, preceded by peers, 32 (6.9%), then parents, 67 (14.5%).

Most of the respondents (138) (38.7%) lived with their parents, (see figure 5.2). However, the number of respondents who that did not indicate their parents as sources of information might indicate communication barriers (see 5.11 of this thesis). Television and radio sets are also available in most urban homes and they are influential in disseminating information on condoms. Teachers spend a greater part of the day with learners during the week and could be expected to teach them about condoms. It is possible that although teachers are accessible, they may not be always available, or may lack accurate knowledge about condoms to impart to learners. Newspapers and magazines are also easily accessible in most urban areas like Kumba and they were the most popular sources of knowledge regarding condoms for the respondents. The respondents' sources of information regarding HIV/AIDS as depicted in section 5.3.3.2.7 of this thesis were similar to the sources providing them with condom knowledge in that the most popular sources (magazines/newspapers, teachers & hospital/clinic staffs) were the same for both cases.

#### *5.3.3.3.4 Where respondents stored condoms*

The respondents were asked to indicate where they stored condoms. The respondents were free to choose more than one option. Figure 5.5 depicts the respondents' responses. Of the respondents 446 gave 610 responses.

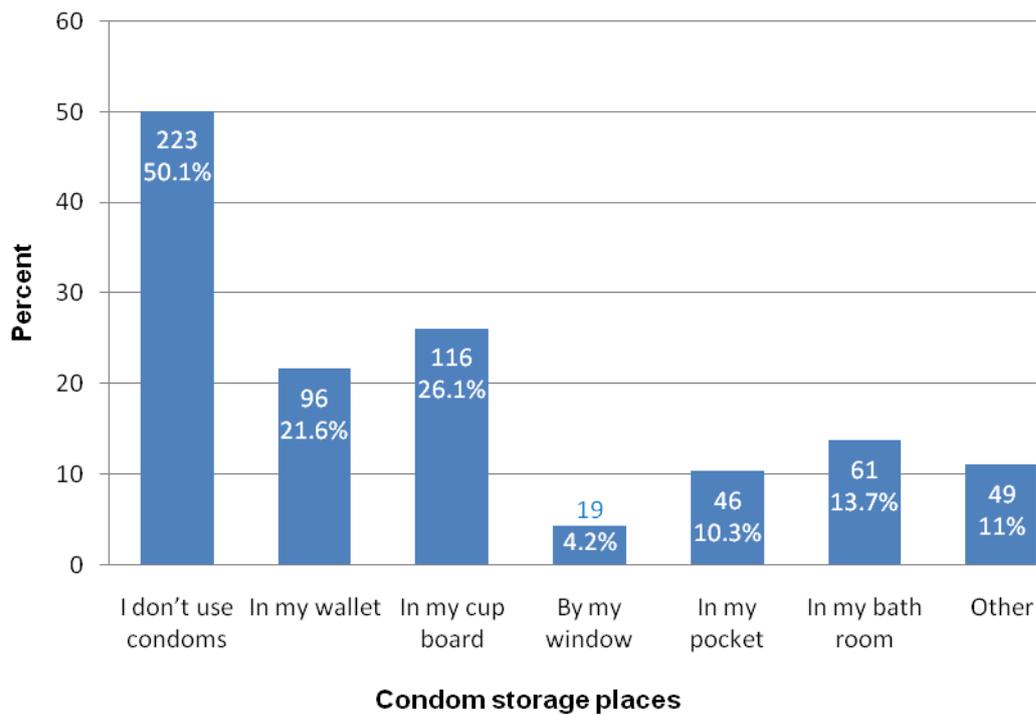


Figure 5.5: Respondents' places of storing condoms (n=445)

Of the respondents 223 (50.1%) indicated that they don't use condoms; 116 (26.1%) stored condoms in their cupboard; 96 (21.6%) stored condoms in their wallets; 61 (13.7%) stored condoms in their bathrooms; 49 (11.0%) stored condoms in other unspecified places; 46 (10.3%) stored condoms in their pockets and few 19 (4.2%) stored condoms by their windows.

Condoms should be stored in cool, dry places. Like other rubber products, latex condoms may be damaged if exposed to heat. A condom should not be carried in hip pocket or wallet, or stored in a glove compartment as heat may damage it (Patient Update 2003:2). Condoms stored in hot or humid places can become brittle and break easily and cannot be used.

## 5.4 INDIVIDUAL PERCEPTIONS REGARDING HIV/AIDS

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” (Onega 2000:271-275). In the current study, individual perceptions concern learners’ beliefs about their susceptibility to HIV/AIDS and their perceived severity of HIV/AIDS (see section 3.4.1 of this thesis).

### 5.4.1 Perceived susceptibility to HIV/AIDS

Perceived susceptibility refers to an individual’s estimated probability of encountering a specific health problem; such as HIV/AIDS (see section 2.3.2.5.1 of this thesis). This subsection consisted of seven items requesting the respondents to indicate their agreement on a four-point Likert scale on items pertaining to perceptions of susceptibility to HIV/AIDS.

**Table 5.48: Perceived susceptibility to HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	f	%	F	%	f	%	f	%	n	%
HIV/AIDS really exists.	325	69.7	126	27.0	2	0.4	13	2.8	466	100
Youths are prone to HIV/AIDS.	159	36.6	219	50.5	39	9.0	17	3.9	434	100
HIV/AIDS is a serious threat in Cameroon.	136	31.1	183	41.9	78	17.8	40	9.2	437	100
A healthy looking person can be HIV positive.	229	50.7	173	38.3	24	5.3	26	5.8	452	100
An HIV positive person on ART can transmit HIV/AIDS.	60	15.1	173	43.5	100	25.1	65	16.3	398	100
It is safe to have unprotected sex with an HIV positive person on ART.	32	7.9	54	13.4	143	35.4	175	43.3	404	100
Certain Cameroon tribes are immune to HIV/AIDS.	74	16.7	121	27.3	132	29.7	117	26.4	444	100

Of the respondents, 195 (43.9%) believed that certain Cameroon tribes were immune to HIV/AIDS; 118 (27.0%) disagreed that HIV/AIDS was a serious threat in Cameroon; 56 (12.9%) disagreed that youths were prone to HIV/AIDS; 50 (11.1%) disagreed that a healthy looking person could be HIV positive and 15 (3.2%) disagreed that HIV/AIDS really existed. These answers revealed some misunderstandings and inadequate knowledge of HIV/AIDS which could decrease their perceived susceptibility to HIV/AIDS, and in turn increase their risk of contracting HIV/AIDS.

Of the respondents, 165 (41.5%) did not believe that an HIV positive person on ART could transmit HIV/AIDS and 86 (21.3%) believed it was safe to have unprotected sex with an HIV positive person on ART. These misconceptions regarding ART could lead learners to unsafe sexual practices, such as having unprotected sex with an HIV positive person. This might increase their exposure to HIV/AIDS with the belief that an HIV positive person on ART could not transmit HIV/AIDS, and therefore it was safe to have unprotected sexual intercourse with such a person.

ART aims to maximise the life expectancy of HIV positive people. Adherence to ART results in a decreased viral load, morbidity, mortality and increased in CD4 lymphocyte counts (Simpson, Whipper-Lewis, Mazyck 2006: South Africa 2003:2) (see section 3.3.1.2). A fall in viral load is associated with a steady increase in CD4 cell count (Anabwani & Jimbo 2005:3). ART does not cure HIV/AIDS, so an HIV positive person on ART can transmit HIV/AIDS and it is therefore unsafe to have unprotected sex with such a person..

Items comprising perceived susceptibility to HIV/AIDS were correlated with respondents' gender. Table 5.49 depicts the result.

**Table 5.49: Perceived susceptibility to HIV/AIDS by gender**

Dependent variables (perceived susceptibility to HIV/AIDS)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
HIV/AIDS really exist.	0.071	3	0.995	More females, 97.0% than males, 96.6% agreed that HIV/AIDS really exists. However, gender had no statistically significant influence on the belief of the existence of HIV ( $X^2$ : $p>0.05$ ) by the youth.
Youths are prone to HIV/AIDS.	0.451	3	0.929	More males, 193 (87.3%) than females, 185 (86.8%) agreed that youths are prone to HIV/AIDS. However this view did not significantly differ between gender ( $X^2$ : $p>0.05$ ).
HIV/AIDS is a serious threat in Cameroon.	2.142	3	0.544	More females, 166 (75.8%) than males, 153 (70.2%) agreed that HIV/AIDS is a serious threat in Cameroon. However, independently of gender, youths believe that HIV is a serious threat in Cameroon ( $X^2$ : $p>0.05$ ).
A healthy looking person can be HIV positive.	2.755	3	0.431	More males, 208 (91.3%) than females, 194 (86.6%) agreed that a healthy looking person can be HIV positive. However this view did not significantly differ between gender ( $X^2$ : $p>0.05$ ).
An HIV positive person on ART can transmit HIV/AIDS.	11.573	3	<b>0.009</b>	More males, 37 (18.6%) than females, 23 (11.6%) strongly agreed that an HIV positive person on ART can transmit HIV/AIDS, and belief was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
It is safe to have unprotected sex with an HIV positive person on ART.	24.664	3	<b>0.000</b>	More females, 21 (10.0%) than males, 11 (5.7%) strongly agreed that it is safe to have unprotected sex with an HIV positive person on ART, and this belief was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
Certain Cameroonian tribes are immune to HIV.	10.154	3	<b>0.017</b>	More females, 41 (18.82%) than males 33 (14.6%) strongly agreed that certain Cameroonian tribes are immune to HIV, and this belief was statistically influenced by gender ( $X^2$ : $p<0.05$ ).

From table 5.49, it can be seen that more females than males had misconceptions that an HIV positive person on ART can not transmit HIV/AIDS; that it is safe to have unprotected sex with an HIV positive person on ART, and that certain Cameroon tribes are immune to HIV/AIDS. These misconceptions differed significantly between genders. These misconceptions could increase the susceptibility of respondents, especially females to HIV/AIDS.

Items comprising perceived susceptibility to HIV/AIDS were also correlated with respondents' ages to see if there were significant differences. Table 5.50 depicts the results.

As can be seen from table 5.50 the knowledge that a healthy looking person can be HIV positive increases as the respondents get older.

**Table 5.50: Perceived susceptibility to HIV/AIDS by age**

Dependent variables (perceived susceptibility to HIV/AIDS)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
HIV/AIDS really exists.	13.215	12	0.354	The perception by learners that HIV/AIDS really exists was not dependent of age. Across the various age groups, the proportion of respondents who agreed that HIV/AIDS really exists did not differ significantly, ranging from 91.6% among those in the 22-23 years age group, to 97.6% among those in the 20-21 years age group ( $X^2$ : $p>0.05$ ).
Youths are prone to HIV/AIDS.	11.757	12	0.465	The belief that youths are prone to HIV/AIDS was not statistically dependent of age. Across the various age groups the proportion of respondents who agreed that youths are prone to HIV/AIDS did not differ significantly, ranging from 85.7% among those in the 22-23 years age group, to 88.2% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
HIV/AIDS is a serious threat in Cameroon.	15.226	12	0.229	The perception by respondents that HIV/AIDS is a serious threat in Cameroon was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that HIV/AIDS is a serious threat in Cameroon did not differ significantly, ranging from 68.0% among respondents in the 16-17 years age group, to 83.2% among those in the 20-21 years age group ( $X^2$ : $p>0.05$ ).
A healthy looking person can be HIV positive.	23.104	12	<b>0.027</b>	Across the various age groups, the proportion of respondents who agreed that a healthy looking person could be HIV positive differed significantly. Respondents in the 20-21 years age group had the highest proportion (97.6%), while those in the 16-17 years age group had the lowest (81.4%). The belief that a healthy looking person could be HIV positive was statistically dependent of age ( $X^2$ : $p<0.05$ ).
An HIV positive person on ART can transmit HIV/AIDS.	10.944	12	0.534	The perception that an HIV positive person on ART can transmit HIV/AIDS was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that an HIV positive person on ART can transmit HIV/AIDS did not differ significantly, ranging from 50.0% among respondents in the 22-23 years age group, to 69.7% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
It is safe to have unprotected sex with an HIV positive person on ART.	3.152	12	0.994	The perception that it is safe to have unprotected sex with an HIV positive person on ART was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that it is safe to have unprotected sex with an HIV positive person on ART did not differ significantly, ranging from 19.7% among respondents in the 20-21 years age group, to 28.2% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
Certain Cameroon	10.459	12	0.576	The perception that certain Cameroon tribes are immune to HIV was not statistically dependent of age. Across the

tribes are immune to HIV.				various age groups, the proportion of respondents who agreed that certain Cameroon tribes are immune to HIV did not differ significantly, ranging from 35.0% among respondents in the 22-23 years age group, to 60.6% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
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Items comprising perceived susceptibility to HIV/AIDS were also correlated with respondents' religious affiliations to see if there were significant differences. Table 5.51 depicts the result.

**Table 5.51: Perceived susceptibility to HIV/AIDS by religion**

Dependent variables (perceived susceptibility to HIV/AIDS)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
HIV/AIDS really exists.	0.265	3	0.967	More Muslims, 100.0% than Christians, 96.9% agreed that HIV/AIDS really exists. However, religion had no statistically significant influence on the belief of the existence of HIV ( $X^2$ : $p>0.05$ ) by the youth.
Youths are prone to HIV/AIDS.	3.809	3	0.283	More Christians, 86.9% than Muslims, 80.0% agreed that youths are prone to HIV/AIDS. However this view did not significantly differ between religion ( $X^2$ : $p>0.05$ ).
HIV/AIDS is a serious threat in Cameroon.	2.340	3	0.505	More Christians, 73.9% than Muslims, 60.0% agreed that HIV/AIDS is a serious threat in Cameroon. However, independently of religious affiliation, youths believed that HIV is a serious threat in Cameroon ( $X^2$ : $p>0.05$ ).
A healthy looking person can be HIV positive.	2.286	3	0.515	More Muslims, 100.0% than Christians, 87.7% agreed that a healthy looking person can be HIV positive. However this view did not significantly differ between religion ( $X^2$ : $p>0.05$ ).
An HIV positive person on ART can transmit HIV/AIDS.	1.107	3	0.775	More Muslims, 60.0% than Christians, 58.8% agreed that an HIV positive person on ART can transmit HIV/AIDS. However this view did not significantly differ between religion ( $X^2$ : $p>0.05$ ).
It is safe to have unprotected sex with an HIV positive person on ART.	4.981	3	0.173	More Christians, 21.8% than Muslims, 16.7% agreed that It is safe to have unprotected sex with an HIV positive person on ART. However this view did not significantly differ between religion ( $X^2$ : $p>0.05$ ).
Certain Cameroonian tribes are immune to HIV.	4.711	3	0.194	More Christians, 43.5% than Muslims 16.7% agreed that certain Cameroonian tribes are immune to HIV. However this view did not significantly differ between religion ( $X^2$ : $p>0.05$ ).

As can be seen from table 5.51, perceived susceptibility to HIV/AIDS was not statistically influenced by religion. All learners irrespective of religious affiliations had similar perceived susceptibility to HIV/AIDS

Items comprising perceived susceptibility to HIV/AIDS were correlated with respondents' social group affiliations to see if there were significant differences. Table 5.52 depicts the result.

**Table 5.52: Perceived susceptibility to HIV/AIDS by social group affiliations**

Dependent variables (perceived susceptibility to HIV/AIDS)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
HIV/AIDS really exists.	19.476	12	0.078	Of the respondents, who agreed that HIV/AIDS really exist, 100.0% did not belong to any social group, while 93.2% belonged to a social club. However, social group affiliation had no statistically significant influence on the belief of the existence of HIV ( $\chi^2$ : $p>0.05$ ) by the youth.
Youths are prone to HIV/AIDS.	19.636	12	0.074	Of the respondents who agreed that youths are prone to HIV/AIDS, 100.0% did not belong to any social group, while some, 78.8% belonged to a social club. However the belief that youths are prone to HIV/AIDS, did not significantly differ between the various social groups ( $\chi^2$ : $p>0.05$ ).
HIV/AIDS is a serious threat in Cameroon.	13.903	12	0.307	Of the respondents who agreed that HIV/AIDS is a serious threat in Cameroon, 83.7% belonged to a sports club, while 65.0% did not belong to any social group. However, independently of social group, youths believe that HIV is a serious threat in Cameroon ( $\chi^2$ : $p>0.05$ ).
A healthy looking person can be HIV positive.	22.994	12	<b>0.028</b>	Of the respondents who agreed that a healthy looking person can be HIV positive, 94.4% belonged to a sports club, and 75.0% did not belong to any social group. The belief that a healthy looking person can be HIV positive was statistically influenced by social group ( $\chi^2$ : $p<0.05$ ).
An HIV positive person on ART can transmit HIV/AIDS.	19.861	12	0.070	Of the respondents who agreed that an HIV positive person on ART can transmit HIV/AIDS, 69.9% belonged to a social club, while 55.3% belonged to a church youth club. However, the belief that an HIV positive person on ART can transmit HIV/AIDS, was not statistically influenced by social group ( $\chi^2$ : $p>0.05$ ).
It is safe to have unprotected	15.532	12	0.214	Of the respondents who agreed that it is safe to have unprotected sex with an HIV positive person on ART, 33.4% did not belong to any social group, while

Dependent variables (perceived susceptibility to HIV/AIDS)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
sex with an HIV positive person on ART.				17.5% belonged to a church youth club. However the belief that it is safe to have unprotected sex with an HIV positive person on ART was not statistically influenced by social group ( $\chi^2$ : $p>0.05$ ).
Certain Cameroonian tribes are immune to HIV.	23.748	12	<b>0.022</b>	Of the respondents who believed that certain Cameroonian tribes are immune to HIV, 47.2% belonged to a church youth club, while 25.0% did not belong to any youth group, and the belief that certain Cameroonian tribes are immune to HIV was statistically influenced by social group ( $\chi^2$ : $p<0.05$ ).

From table 5.52, it can be seen that more respondents who belonged to a sports club believed that a healthy looking person can be HIV positive than those who did not belong to any social group ( $\chi^2$ :  $p<0.05$ ). This could be explained by the fact that youths who belonged to a sports club might be more aware of their physique and health and this might contribute towards this finding. These learners who did not believe that a healthy looking person could be HIV positive, could be exposed to the risk of HIV/AIDS infection.

#### 5.4.1.1 Awareness of contracting HIV/AIDS before first sexual encounter

The respondents were asked whether they were aware that they could contract HIV/AIDS before they became sexually active. Eleven (11) did not provide answers to this question.

Table 5.53: Awareness of contracting HIV/AIDS before first sexual encounter

Variable	Categories	Frequency	Percent	Cumulative Percent
When you had sexual intercourse with your partner for the first time, were you aware that you could contract HIV/AIDS?	No	68	14.5	14.5
	Yes	166	35.4	49.9
	Not sure	61	13.0	62.9
	I have never had sex	174	37.1	100.0
<b>Total</b>		469	100.0	

Of the 295 respondents who had had sex before, 166 (56.3%) indicated that they were aware that they could contract HIV/AIDS; 68 (23.1%) indicated that they were not aware and 61 (20.6%) indicated that they were unsure.

Awareness of contracting HIV/AIDS before first sexual encounter was correlated with perceived knowledge level regarding HIV/AIDS as depicted in table 5.54.

**Table 5.54: Cross tabulation of perceived knowledge level regarding HIV/AIDS and awareness of contracting HIV/AIDS before first sexual encounter**

Dependent variable (Awareness of contracting HIV/AIDS before first sexual encounter)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
When you had sexual intercourse with your partner for the first time, were you aware that you could contract HIV/AIDS?	14.419	4	<b>0.006</b>	Of the respondents with little HIV/AIDS knowledge 45.3% were aware before their first sexual experience that they could contract HIV/AIDS while 17.6% were not aware. The difference was statistically significant ( $X^2$ : $p < 0.05$ ).

From table 5.54 it is deduced that learners in the city of Kumba should be equipped with adequate knowledge regarding HIV/AIDS before their first sexual encounters. By the age of 16, 62.1% of the sexually active respondents had already experienced sexual intercourse. Such knowledge regarding HIV/AIDS should be provided before the respondents enter secondary school.

#### **5.4.1.2 Perception of risk of HIV/AIDS**

The respondents were asked to indicate the perceptions of their own risk of contracting HIV/AIDS. Twenty four respondents failed to provide answers to this section. The results are depicted in table 5.55.

**Table 5.55: Perception of risk of contracting HIV/AIDS**

Variable	Categories	Frequency	Percent	Cumulative Percent
How at risk of contracting HIV/AIDS are you?	Not at risk	159	34.9	34.9
	Small risk	62	13.6	48.5
	Moderate risk	41	9.0	57.5
	High risk	194	42.5	100.0
<b>Total</b>		456	100.0	

Of the 456 respondents, 194 (42.5%) mentioned high risk; 159 (34.9%) mentioned not at risk; 62 (13.6%) mentioned small risk and 41 (9.0%) mentioned moderate risk of contracting HIV/AIDS. Less than half (194; 42.5%) of the respondents perceived themselves to be at high risk of contracting HIV/AIDS.

The socio-psychological literature on health-related behaviours emphasises the perception of being at risk of infection as one of the necessary conditions for behavioural change. Moreover, the degree of perceived risk seems to affect individuals' actual control in adopting preventive measures (Bernardi 2002). Sensitivity to risk depends on factors other than knowledge of infection mechanisms; it also depends on behaviour, such as individual awareness of the illness (its prevalence, the severity of its symptoms, its lethality) and the perception of the general health status (Renne 1997). Sensitivity to risk was correlated with the various components of the HBM (see table 5.126).

Rosenstock (1974) who developed the HBM suggested that preventative action is more likely among those who feel vulnerable to a disease. This suggests that people have to perceive themselves to be at risk of infection in order to take actions to practise safer sexual behaviour such as fidelity and condom use.

A considerable number of respondents (199) (42.5%) considered themselves to be at high risk, while 159 (34.9%) did not consider themselves to be at risk of HIV/AIDS. These findings should be viewed in the light of the fact that more than 50.0% of the

respondents reported being sexually active (see figure 5.17). These findings are in accordance with the findings of Pettifor et al (2004:54) in South Africa. This study conducted among young people aged 15-24, reported that 36.0% respondents believed they were not at any risk of contracting HIV, 35.0% reported being at small risk, and 12.0% at moderate risk while 14.0% reported being at high risk. Munthali et al (2004:15 & 29) in a study conducted in Malawi in 1997, where it was reported that only 45.0% of young people felt they were at risk of contracting HIV.

According to the HBM, adolescents have to perceive themselves to be at high risk of contracting HIV/AIDS before they could be motivated to take preventive measures against the disease (see sections 2.3.2.3 & 2.3.2.5.1 of this thesis). More than 50% of respondents who did not perceive themselves to be at high risk of contracting HIV/AIDS, might not be motivated to take preventive measures against the disease. One explanation for low perceived HIV/AIDS risk might be that youths may exhibit optimistic bias, tending to underestimate risks in general due to feelings of invulnerability. Additionally, HIV/AIDS is a highly stigmatised disease (Maughan-Brown 2006; Kalichman et al 2005). Acknowledging one's own risk implies putting oneself at risk of being stigmatised. Thus youths might avoid self-disclosure, by downplaying their own personal risk, leading to further low risk perceptions (Macintyre et al 2004).

Individuals who deny the presence of HIV/AIDS in their community do not perceive themselves to be vulnerable to the disease. Although only 3.2% of the respondents denied the existence of HIV/AIDS; 12.9% denied that youths were prone to HIV/AIDS; and 27.0% denied that HIV/AIDS is a serious threat in Cameroon (see table 5.48). As a consequence, such individuals might perceive themselves as not being at risk of HIV/AIDS.

These findings emphasise the necessity of strategies to minimise HIV/AIDS related stigma. This could in turn increase the perception of risk of HIV/AIDS among learners. Perception of risk of HIV/AIDS was cross tabulated with gender to see if there was a significant difference. Table 5.56 depicts the result.

**Table 5.56: Cross tabulation of perception of risk of contracting HIV/AIDS by gender**

Dependent variables (Perception of risk)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
How at risk of contracting HIV/AIDS are you?	10.984	3	<b>0.012</b>	More females, 93 (40.8%) than males, 66 (29.3%) perceived themselves not to be at risk of contracting HIV/AIDS ( $\chi^2$ : $p < 0.05$ ).

Table 5.56 indicates that perception of risk of contracting HIV/AIDS was statistically influenced by gender, with more females than males believing that they were not at risk of contracting HIV/AIDS. UNAIDS (2004a:40) posits that the epidemic in SSA affects more women than men, as women are 30% more likely to be infected than men. These differences in infection rates are due to a combination of factors. Women and girls are commonly discriminated against in terms of access to education, employment and land inheritance. With increasing levels of poverty in Cameroon women have found themselves in casual relationships with men for financial gains. Women therefore find it difficult to demand safe sex, as they become subordinates or dependent on mainly older men; women are also biologically prone to infection, and HIV is more easily transmitted from men to women than the reverse (UNAIDS 1997b:3). The context of gender inequalities places women at a greater risk of being infected by HIV/AIDS. Women and girls lack power over their bodies; and their sexual lives, social and economic inequalities increase their vulnerability for contracting and living with HIV/AIDS. The implication of this low perception of the risk of contracting HIV/AIDS among female learners is that they may not see the need to practise safe sex such as the consistent use of condoms to prevent the sexual transmission of HIV/AIDS.

Perception of risk of contracting HIV/AIDS was correlated with regularity of condom use as depicted in table 5.57.

**Table 5.57: Cross tabulation of perception of risk of HIV/AIDS by regularity of condom use**

Dependent variables (Regularity of condom use)	Independent variable (factor)			Remark
	Perception of risk			
	Chi-square	df	P value	
How often do you use a condom with a male/female partner during sexual intercourse?	31.765	12	<b>0.002</b>	Of the respondents who indicated that they are not at risk of contracting HIV/AIDS, 48.6% have never had sex, while 4.8% seldom used condoms, and this difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

From table 5.57 it could be deduced that regularity of condom use by respondents during sexual intercourse was statistically dependent of their perception of risk of contracting HIV/AIDS. Respondents with high perception of risk of contracting HIV/AIDS will use condom more regularly during sexual intercourse than those with low perception.

Perception of risk of contracting HIV/AIDS was correlated with number of sexual partners as depicted in table 5.58.

**Table 5.58: Cross tabulation of perception of risk of HIV/AIDS by number of sexual partners**

Dependent variables (Number of sexual partners)	Independent variable (factor)			Remark
	Perception of risk			
	Chi-square	df	P value	
How many sexual partners have you had within the past one year?	19.459	9	<b>0.022</b>	Of the respondents who indicated that they were not at risk of contracting HIV/AIDS, 58.3% did not have any sexual partner in the past one year prior to the current study, while 5.3% had two sexual partners, and this difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

It can be seen from table 5.58 that perception of risk of contracting HIV/AIDS was statistically dependent of the number of sexual partners. Respondents who had more than one sexual partner within the past one year perceived themselves to be at a higher risk of contracting HIV/AIDS than those with no sexual partner.

#### 5.4.2 Perceived severity of HIV/AIDS

As mentioned in section 2.3.2.5.2 of this thesis, the second concept of the HBM is perceived severity. This refers to one's beliefs of how serious a condition and its consequences are (ReCAPP 2007:3-4; Groenewold et al 2006:3-4).

Perceived severity of a specific health problem implies the degree of concern created by the thought of the disease or problems associated with the given health condition; such as HIV/AIDS (see section 2.3.2.5.2). Attitudes regarding HIV/AIDS could be seen as perceived severity to HIV/AIDS (see section D of both the male and female questionnaires).

This subsection consisted of nine items requesting the respondents to indicate their agreement on a four-point Likert scale on their perceptions regarding the severity of HIV/AIDS.

**Table 5.59: Perceived severity of HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>n</i>	%
HIV/AIDS can be prevented.	265	58.2	180	39.6	3	0.7	7	1.5	455	100
HIV/AIDS can be cured.	54	11.8	86	18.8	156	34.1	162	35.4	458	100
The consequences of having HIV/AIDS are so serious that I may want to avoid it.	264	57.0	159	34.3	14	3.0	26	5.6	463	100
If I became HIV positive before finishing school it will interfere with the continuation of my schooling.	195	43.0	140	30.9	59	13.0	59	13.0	453	100
HIV/AIDS is a disease like any other.	101	22.3	158	34.9	89	19.6	105	22.2	453	100
The last stage of sexually transmissible disease (STD) is AIDS.	129	29.6	165	35.8	87	20.0	55	12.6	436	100
Some traditional healers can cure AIDS.	34	7.4	45	9.8	147	32.0	234	50.9	460	100
Some antibiotics can cure AIDS.	28	6.2	64	14.2	171	37.9	188	41.7	451	100
Anti Retroviral Therapy (ART) can cure AIDS.	27	6.1	59	13.3	187	42.3	169	38.2	442	100

From table 5.59, it is clear that some respondents did not perceive HIV/AIDS to be a serious infection: of the respondents, 140 (30.6%) believed HIV/AIDS can be cured; 118 (26.0%) believed that if one became HIV/AIDS positive before finishing school it will not interfere with the continuation of one's schooling; 40 (8.6%) believed that the

consequences of having HIV/AIDS are not so serious that one may want to avoid it and 10 (2.2%) did not believe that HIV/AIDS could be prevented.

The data also reveal widespread misconceptions regarding HIV/AIDS among learners. Of the respondents, 294 (67.4%) believed that AIDS was the last stage of sexually transmitted disease (STD); 194 (42.8%) did not believe HIV/AIDS is a disease like any other disease;

Table 5.59 reveals misconceptions regarding the cure of HIV/AIDS. Of the respondents, 92 (20.4%) believed some antibiotics could cure AIDS; 86 (19.5%) believed ART could cure AIDS and 79 (17.2%) believed some traditional healers can cure AIDS. Such misconceptions revealed a gap in knowledge regarding the cure of HIV/AIDS among young people. HIV/AIDS has no cure. Such misconceptions could give rise to risky sexual behaviours among learners, with the belief that if they contract HIV/AIDS as a result of such risky sexual practices, they could be cured.

When one recognises one's susceptibility to a certain problem or condition, it does not necessarily motivate one to take the necessary preventive actions against the problem or condition unless one realises that getting the condition would have serious physical and social implications. ReCAPP (2005:2) posits that it is when one realises the magnitude of the negative consequences of a condition, that one could take the necessary actions to avoid these negative consequences.

The items comprising perceived severity of HIV/AIDS were correlated with gender to see if there were significant differences as depicted in table 5.60.

**Table 5.60: Cross tabulation of perceived severity of HIV/AIDS by gender**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
HIV/AIDS is a disease like any other.	2.707	3	0.439	More males, 133 (58.1%) than females 126 (56.3%) agreed that HIV/AIDS is a disease like any other. However, views on this specific notion on HIV/AIDS was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
The last stage of sexually transmissible disease (STD) is AIDS.	9.205	3	<b>0.027</b>	More females, 76 (35.2%) than males, 53 (24.1%) strongly agreed that the last stage of sexually transmissible disease is AIDS. This view was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
HIV/AIDS can be cured.	3.413	3	0.332	Of those that agreed that HIV/AIDS can be cured were females, 72 (32.0%) while few were males, 68 (29.1%). However the misconception that HIV/AIDS can be cured was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
The consequences of having HIV/AIDS are so serious that I may want to avoid it.	4.094	3	0.252	More males, 212 (92.2%) than females, 211 (90.5%) agreed that the consequences of having HIV/AIDS are so serious that they may want to avoid it. However this belief was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
If I became HIV positive before finishing school it will interfere with the continuation of my schooling.	8.638	3	<b>0.035</b>	More females, 178 (78.8%) than males, 157 (69.2%) agreed that if they become HIV positive before finishing school, it will interfere with the continuation of their schooling. This perception was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
HIV/AIDS can be prevented.	0.549	3	0.908	Of those who agreed that HIV/AIDS can be prevented were males, 224 (97.8%), while few were females, 221 (97.7%). However the knowledge that HIV/AIDS can be prevented was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
Some traditional healers can cure AIDS.	5.689	3	0.128	More females, 196 (85.6%) than males, 185 (80.1%) disagreed that some traditional healers can cure AIDS. However this view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).
Some antibiotics can cure AIDS.	2.275	3	0.517	More females, 182 (82.0%) than males, 177 (77.3%) disagreed that some antibiotics can cure AIDS. However this view was not statistically influenced by gender ( $X^2$ : $p>0.05$ ).

**Table 5.60: Cross tabulation of perceived severity of HIV/AIDS by gender**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
				p>0.05).
Anti Retroviral Therapy (ART) can cure AIDS.	5.395	3	0.145	More males, 182 (80.9%) than females, 174 (80.2%) disagreed that ART can cure AIDS. However this view was not statistically influenced by gender ( $\chi^2$ : p>0.05).

Table 5.60 indicates that more females than males had the misconception that the last stage of STD is AIDS. This portrays a lack of knowledge on transmission of HIV/AIDS among females. This misconception differed significantly between gender. On the other hand, more females than males believed that if they became HIV positive before finishing school, it will interfere with the continuation of their schooling. This shows that female learners perceived the severity of HIV/AIDS more than male learners. This perception differed significantly between genders.

The items comprising perceived severity of HIV/AIDS was correlated with age group as depicted in table 5.61.

**Table 5.61: Cross tabulation of perceived severity of HIV/AIDS by age**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
HIV/AIDS is a disease like any other.	4.227	12	0.979	The perception that HIV/AIDS is a disease like any other was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that HIV/AIDS is a disease like any other, did not differ significantly, ranging from 54.7% among respondents in the 18- 19 years age group, to 65.0% among respondents in the 22-23 years age group ( $\chi^2$ : p>0.05).
The last stage of sexually transmissible disease (STD) is AIDS.	8.791	12	0.721	The belief that the last stage of sexually transmissible disease is AIDS was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that the last stage of STD is AIDS did

**Table 5.61: Cross tabulation of perceived severity of HIV/AIDS by age**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
				not differ significantly, ranging from 50.0% among respondents in the 22-23 years age group, to 72.0% among those in the 16-17 years age group ( $\chi^2$ : $p>0.05$ ).
HIV/AIDS can be cured.	21.573	12	<b>0.043</b>	The belief that HIV/AIDS can be cured was statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that HIV/AIDS could be cured differed significantly. Respondents in the 20-21 years age group had the highest proportion (35.8%), while those in the 11-15 years age group had the lowest (26.4%) ( $\chi^2$ : $p<0.05$ ).
The consequences of having HIV/AIDS are so serious that I may want to avoid it.	7.228	12	0.842	The perception by respondents that the consequences of having HIV/AIDS are so serious that they may want to avoid it was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that the consequences of having HIV/AIDS were so serious that they may want to avoid it did not differ significantly, ranging from 86.4% among respondents in the 22-23 years age group, to 92.8% among those in the 18-19 years age group ( $\chi^2$ : $p>0.05$ ).
If I became HIV positive before finishing school it will interfere with the continuation of my schooling.	15.261	12	0.227	The perception by respondents that if they became HIV positive before finishing school, it will interfere with the continuation of their schooling, was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 70.0% among respondents in the 22-23 years age group, to 88.2% among those in the 11-15 years age group ( $\chi^2$ : $p>0.05$ ).
HIV/AIDS can be prevented.	19.735	12	0.072	The belief by respondents that HIV/AIDS can be prevented was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that HIV/AIDS can be prevented did not differ significantly, ranging from 94.3% among respondents in the 11-15 years age group, to 98.5% among those in the 16-17 years age group ( $\chi^2$ : $p>0.05$ ).

**Table 5.61: Cross tabulation of perceived severity of HIV/AIDS by age**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
Some traditional healers can cure AIDS.	9.994	12	0.616	The belief that some traditional healers can cure AIDS was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that some traditional healers can cure AIDS, did not differ significantly, ranging from 8.8% among respondents in the 11-15 years age group, to 19.8% among those in the 16-17 years age group ( $\chi^2$ : $p>0.05$ ).
Some antibiotics can cure AIDS.	4.151	12	0.981	The belief that some antibiotics can cure AIDS was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that some antibiotics can cure AIDS did not differ significantly, ranging from 11.7% among respondents in the 11-15 years age group, to 25.0% among those in the 22-23 years age group ( $\chi^2$ : $p>0.05$ ).
Anti Retroviral Therapy (ART) can cure AIDS.	11.333	12	0.501	The belief that ART can cure AIDS was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that ART can cure AIDS did not differ significantly, ranging from 11.7% among respondents in the 11-15 years age group, to 25.3% among those in the 20-21 years age group ( $\chi^2$ : $p>0.05$ ).

From table 5.61 it can be seen that most of learners who believed that HIV/AIDS can be cured, were in the younger age groups, and this perception was statistically influenced by age.

The items comprising perceived severity of HIV/AIDS was correlated with religious affiliations as depicted in table 5.62.

**Table 5.62: Cross tabulation of perceived severity of HIV/AIDS by religion**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
HIV/AIDS is a disease like any other.	7.819	3	<b>0.050</b>	More Christians, 57.8% than Muslims 0.00% agreed that HIV/AIDS is a disease like any other. This view was statistically influenced by religion ( $X^2$ : $p < 0.05$ ).
The last stage of sexually transmissible disease (STD) is AIDS.	1.407	3	0.704	More Muslims, 80.0% than Christians, 67.0% agreed that the last stage of sexually transmissible disease is AIDS, but this view did not statistically differ between religion ( $X^2$ : $p > 0.05$ ).
HIV/AIDS can be cured.	6.160	3	0.953	Of those that agreed that HIV/AIDS can be cured were Christians, 29.9% while few were Muslims, 0.00%. However the misconception that HIV/AIDS can be cured was not statistically influenced by religion ( $X^2$ : $p > 0.05$ ).
The consequences of having HIV/AIDS are so serious that I may want to avoid it.	1.326	3	0.723	More Christians, 91.5% than Muslims, 83.3% agreed that the consequences of having HIV/AIDS are so serious that they may want to avoid it. However this belief was not statistically influenced by religion ( $X^2$ : $p > 0.05$ ).
If I became HIV positive before finishing school it will interfere with the continuation of my schooling.	0.272	3	0.965	More Christians, 73.9% than Muslims, 66.6% agreed that if they become HIV positive before finishing school, it will interfere with the continuation of their schooling. This perception was not statistically influenced by religion ( $X^2$ : $p > 0.05$ ).
HIV/AIDS can be prevented.	0.338	3	0.953	Of those who agreed that HIV/AIDS can be prevented most were Muslims, 100.0% while the minority were Christians, 97.8% However the knowledge that HIV/AIDS can be prevented was not statistically influenced by religion ( $X^2$ : $p > 0.05$ ).
Some traditional healers can cure AIDS.	1.438	3	0.697	More Christians, 18.0% than Muslims, 0.00% agreed that some traditional healers can cure AIDS. However this view was not statistically influenced by religion ( $X^2$ : $p > 0.05$ ).
Some antibiotics can cure AIDS.	5.545	3	0.136	More Christians, 21.0% than Muslims, 16.7% agreed that some antibiotics can cure AIDS. However this view was not statistically influenced by religion ( $X^2$ : $p > 0.05$ ).
Anti Retroviral Therapy (ART) can cure AIDS.	1.927	3	0.588	More Christians, 19.6% than Muslims, 16.7% agreed that ART can

**Table 5.62: Cross tabulation of perceived severity of HIV/AIDS by religion**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
				cure AIDS. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).

Table 5.62, it indicates that more Christians than Muslims believed that HIV/AIDS is a disease like any other, and this perception differed significantly between religions. The perception among Muslims that HIV/AIDS is not a disease like any other might lead to stigmatisation and discrimination against PLWHA.

The items comprising perceived severity of HIV/AIDS was correlated with social group affiliation as depicted in table 5.63.

**Table 5.63: Cross tabulation of perceived severity of HIV/AIDS by social group affiliation**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
HIV/AIDS is a disease like any other.	12.325	12	0.420	Of the respondents, 60.0% who agreed that HIV/AIDS is a disease like any other did not belong to any social group, while 51.4% belonged to a social club. However, views on this specific notion on HIV/AIDS was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).
The last stage of sexually transmissible disease (STD) is AIDS.	13.984	12	0.302	Of the respondents, 70.0% who agreed that the last stage of sexually transmissible disease is AIDS belonged to a church youth club, while 50.0% did not belong to a social group. However this view was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be cured.	5.486	12	0.940	Of those that agreed that HIV/AIDS can be cured, 35.0% did not belong to a social group, while 28.8% belonged to a church youth club. However this view was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).

**Table 5.63: Cross tabulation of perceived severity of HIV/AIDS by social group affiliation**

Dependent variables (perceived severity of HIV/AIDS)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
The consequences of having HIV/AIDS are so serious that I may want to avoid it.	15.885	12	0.197	Of those who agreed that the consequences of having HIV/AIDS are so serious that they may want to avoid it, 95.2% did not belong to social group, while 89.3% belonged to a church youth club. However this belief was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).
If I became HIV positive before finishing school it will interfere with the continuation of my schooling.	11.090	12	0.521	Of those who agreed that if they become HIV positive before finishing school, it will interfere with the continuation of their schooling, 77.1% belonged to church youth club, while 75.0% did not belong to a social group. However this belief was not statistically influenced by group ( $X^2$ : $p>0.05$ ).
HIV/AIDS can be prevented.	17.974	12	0.116	Of those who agreed that HIV/AIDS can be prevented, 100.0% did not belong to a social group, while 96.7% belonged to a church youth club. However the knowledge that HIV/AIDS can be prevented was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).
Some traditional healers can cure AIDS.	10.819	12	0.545	Of those who agreed that some traditional healers can cure AIDS, 28.5% did not belong to a social group, while 13.7% belonged to a church youth club. However this view was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).
Some antibiotics can cure AIDS.	7.124	12	0.849	Of those who agreed that some antibiotics can cure AIDS, 23.8% did not belong to a social group, while 18.0% belonged to church youth club. However this view was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).
Anti Retroviral Therapy (ART) can cure AIDS.	10.661	12	0.558	Of those who agreed that ART can cure AIDS, 20.2% belonged to a church youth club, while 14.3% did not belong to a social group. However this view was not statistically influenced by social group ( $X^2$ : $p>0.05$ ).

Table 5.63 indicates that perceived severity of HIV/AIDS was not dependent of social group affiliation. The perception that HIV/AIDS is serious did not differ among the respondents irrespective of whether they belong to a social group or not.

#### 5.4.2.1 Knowledge regarding Anti Retroviral Therapy (ART)

This subsection consisted of one item, asking the respondents if they knew what ART is. Only 456 respondents provided answers to this question.

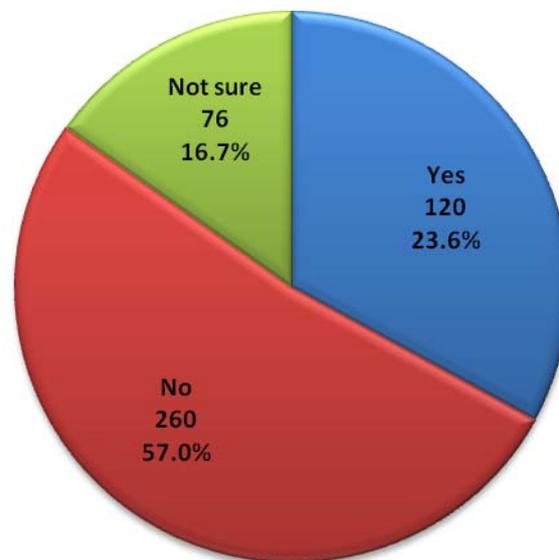


Figure 5.6: Knowledge regarding anti retroviral therapy (n=456)

Of the respondents, 260 (57.0%) indicated that they did not know what ART is; 120 (26.3%) indicated that they knew what ART is, while 76 (16.7%) indicated that they were not sure.

#### 5.4.2.2 Factors contributing to teenagers having sex at an early age

This subsection consisted of seven items, asking the respondents to indicate their agreement on a four-point Likert scale, regarding their perceptions of factors that contribute to teenagers having sex at an early age.

**Table 5.64: Factors that contribute to teenagers having sex at an early stage**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
Sex is considered a way of life by teenagers.	93	21.5	177	41.0	78	18.1	84	19.4	432	100
Teenagers do what their friends do.	100	23.0	197	45.4	94	21.7	43	9.9	434	100
Teenagers want to experiment with sex.	88	21.0	202	48.2	78	18.6	51	12.2	429	100
Teen sexual behaviour is influenced by television	126	29.4	197	45.9	61	14.2	45	10.5	429	100
Teen sexual behaviour is influenced by movies.	140	32.3	219	50.5	40	9.2	35	8.1	434	100
Teen sexual behaviour is influenced by what they read from magazines.	106	24.8	195	45.6	71	16.6	56	13.1	428	100
Teenagers do not know much about the dangers of early sexual debut.	157	36.1	174	40.0	53	12.2	51	11.7	427	100

As revealed by table 5.64, some of the respondents, 359 (82.7%) believed teen sexual behaviour is influenced by movies; 297 (78.3%) that teenagers do what their friends do; 331 (76.1%) that teenagers do not know much about the dangers of early sexual initiation; 323 (75.3%) that teen sexual behaviour is influenced by television; 301 (70.3%) that teen sexual behaviour is influenced by what they read from magazines; 290 (69.2%) that teenagers want to experiment with sex and 270 (62.5%) that sex is considered a way of life by teenagers.

According to Steyn, Myburgh and Poggenpoel (2005:10), the influence of peers on individual decision-making is one of the main reasons why teenagers engage in sex as they may be afraid of rejection by their peers if they do not conform to the peer group norms. The data reveal that 297 (78.3%) of respondents believed that teenagers do what their friends do.

These findings emphasise a dire need to involve peers in providing accurate information regarding the dangers of early sexual initiation, to their friends.

#### **5.4.2.3 Perceptions of teenagers' sexual activities**

This subsection consisted of four items asking the respondents to indicate their agreement on a four-point Likert scale regarding their perceptions of teenagers' sexual activities.

**Table 5.65: Perceptions of teenagers' sexual activities**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
There is nothing wrong in having sex as long as you are in love.	66	15.2	109	25.2	136	21.4	122	28.2	433	100
Teenagers can engage in sex irrespective of age.	53	12.5	120	28.3	128	30.2	123	29.0	424	100
Teenagers can have sex with as many partners as they want.	45	10.6	65	15.3	123	29.0	191	45.0	424	100
Sex before marriage is right.	43	9.9	48	11.0	132	30.3	212	48.5	435	100

Table 5.65 indicates that most of the respondents were opposed to teenagers sexual activities. Of the respondents, 344 (79.1%) disagreed that sex before marriage is right; 314 (74.1%) disagreed that teenagers can have sex with as many partners as they want; 256 (59.6%) disagreed that there is nothing wrong in having sex as long as one is in love and 251 (59.2%) disagreed that teenagers can engage in sex irrespective of age.

Some respondents agreed that there is nothing wrong in having sex as long as one is in love 175 (40.4%); teenagers can engage in sex irrespective of age (173) (40.8%); teenagers can have sex with as many partners as they want (110) (25.9%) and that sex before marriage is right (91) (20.9%).

Learners with such perceptions could engage in risky sexual practises which might expose them to HIV/AIDS infection.

#### **5.4.2.4 Perceptions of gender equality (male questionnaire)**

This subsection consisted of four items, asking the respondents to indicate their agreement on a four-point Likert scale, regarding their perceptions of gender equality. This subsection appeared only on the male questionnaire (see Annexure H). Of the 480 respondents, only some (as indicated by n= in the total column of table 5.66) provided answers to these items. The responses to these items are depicted in table 5.66 according to each item. Perception of gender equality was important in the current study in order to identify manifestations of gender inequality among male respondents.

**Table 5.66: Perceptions of gender equality (male questionnaire)**

Item	SA		A		DA		SDA		Total	
	F	%	f	%	f	%	f	%	n	%
Males and females should be treated as equals in society.	64	29.6	103	47.7	32	14.8	17	7.9	216	100
There is nothing wrong for a man to have more than one sexual partner at the same time.	13	6.1	42	19.6	92	42.9	67	31.3	214	100
A woman is supposed to please her man sexually even at the expense of her own pleasure and wellbeing.	39	18.5	97	46.0	48	22.7	27	12.8	211	100
A man should beat the female partner when she refuses sex.	19	9.0	26	12.3	86	40.6	81	38.2	212	100

Table 5.66 indicates that most respondents manifested a positive perception of gender equality. Of the respondents, 163 (78.7%) disagreed that a man should beat the female partner when she refuses sex; 167 (77.3%) agreed that males and females should be treated as equals in the society and 159 (74.3%) disagreed that there is nothing wrong for a man to have more than one sexual partner at the same time

Of the respondents, 136 (64.5%) were of the opinion that a woman should please her man sexually, even at the expense of her own pleasure and wellbeing. The agreement to this item, even though it may be culturally inspired, indicates oppression, chauvinism, transgression and ignorance of the woman's person. Such aspects of inequality could pose major obstacles to women protecting themselves against HIV infection. This implies that even if the woman knows that her man is at a very high risk of contracting HIV/AIDS, such as having unprotected sex with multiple sexual partners, she must still please her man by having unprotected sex with him. This practice puts the woman at risk of contracting HIV/AIDS. This aspect of gender inequality as manifested by male learners, works in favour of HIV spread.

As mentioned in section 3.4.2.1.2 of this thesis, gender refers to the economic, social and cultural attributes and opportunities associated with being female or male. As such it encompasses a set of qualities and behaviours expected by society from female and males. The context of gender inequalities places women at a greater risk of being infected by HIV/AIDS. Women and girls lack power over their bodies; and

their sexual lives, social and economic inequalities increase their vulnerability for contracting and living with HIV/AIDS.

Pelser (2002:34) purported that the vulnerability of girls and women to HIV include social norms that deny them sexual health, as well as cultural practices that prevent them from controlling their bodies or deciding upon the terms on which they have sex. Women are still brought up to be subservient to men, especially in sexual relationships. “Men often beat their female partners when the latter refuse intercourse or request the use of condoms. Real men do not use condoms, so women who want their partners to use condoms, often have to fight deeply ingrained taboos even when women know their partners are at high risk of HIV” (Pelser 2002:35).

Generally, women lack complete control over their lives and are taught from early childhood to be obedient and submissive to males, particularly males who command power such as a father, uncle, husband, elder brother, or guardian. In sexual relations, a woman is expected to please her male partner, even at the expense of her own pleasure and wellbeing, Dominance of male interests and lack of self-assertiveness on the part of women puts them at higher risk of contracting HIV or STIs. Gender inequalities are major driving forces behind the spread of HIV. It is inequalities in relationships that often make women unable to act on what they know, such as using condoms to prevent HIV/AIDS, even when they are aware that their male partners are at high risk of contracting HIV/AIDS.

## **5.5 VARIABLES AFFECTING LIKELIHOOD OF INITIATING AND MAINTAINING CONDOM USE AGAINST HIV/AIDS INFECTION**

“Variables affecting the likelihood of initiating and maintaining condom use against HIV/AIDS” is a neutral statement and as such includes both perceived benefits of using condoms and perceived barriers to condom usage. In the current study variables affecting the likelihood of initiating and maintaining condom use against HIV/AIDS refer to a learner’s perceptions of possible benefits of practising safer sex as well as respondents’ perceptions of being able to use male condoms effectively

minus the perceived barriers to taking action (accessibility, affordability and acceptability of condoms); this equals the likelihood of taking actions to change behaviours (see figure 2.1) (Onega 2000:253). The favourable perception is that consistent use of condoms during sexual intercourse could prevent the transmission of HIV/AIDS.

### 5.5.1 Perceived benefits of utilising male condoms

In this subsection, the respondents were asked to indicate their agreement on a four-point Likert scale regarding the perceived benefits of condom use to prevent the transmission of the HI-virus. Of the 480 respondents, only 442 respondents answered this item. The responses to this item are depicted in table 5.67.

**Table 5.67: Perceived benefits of condom use**

Item	SA		A		DA		SDA		Total	
	F	%	f	%	f	%	f	%	n	%
Correct and consistent use of condoms during sexual intercourse could prevent transmission of HIV/AIDS.	176	39.8	176	39.8	47	10.6	43	9.7	442	100

It can be deduced from table 5.67 that only 90 (20.4%) respondents did not believe in the effectiveness of condom use during sexual intercourse to prevent HIV/AIDS infection. This aspect could deter these learners from using condoms consistently during sexual intercourse to prevent the transmission of HIV/AIDS.

The existing disagreement on the benefit of condom use manifested by respondents could be attributed to awareness that although condoms provide a highly effective barrier against HIV/AIDS, they could be defective and are therefore not 100% effective in preventing HIV. Adolescents, who lack perception of the effectiveness of condom use to prevent HIV/AIDS, might be less likely to use them during sexual intercourse to prevent transmission of HIV/AIDS. In addition to the perception of the effectiveness of condom use to prevent HIV/AIDS, youths need to know how to use condoms effectively and also need to perceive condoms as not lowering sexual pleasure nor imposing any other barriers on the use of condoms.

According to the HBM, perceived benefits are one's beliefs in the efficacy of condom use to prevent HIV/AIDS (see sections 2.3.2.5.3 & 3.4.3.1 of this thesis). In the current study, 79.6% of the learners believed in the efficacy of condom use (table 5.67), but only 30.0% of the respondents who were sexually active were using condoms regularly (figure 5.26), while only 49.3% had ever used condoms (irrespective of whether they have ever had sex or not) (see figure 5.24c). This shows that condom use among learners in Kumba is relatively low, compared to the findings of Meekers and Calves (1999:51) and Van Rossem and Meekers (2000:383) on condom use in urban Cameroon which posit that the percentage of urban youths who have used condoms is high; exceeding 60% for youths aged 18-22. According to the HBM, individuals must perceive themselves to be highly susceptible to HIV/AIDS and believe in the efficacy of condom use in preventing HIV/AIDS transmission, before it would be likely that they would use condoms prevent HIV/AIDS (see section 3.4.1 of this thesis). In the current study, only 42.5% of the respondents perceived themselves to be at high risk of HIV/AIDS infection (see table 5.55). This could be the reason why regularity of condom use was low among sexually active learners in the current study (see figure 5.26).

Any obstacles to the use of condoms can interfere with their consistent usage as a means of preventing HIV/AIDS (Adeh & Alexander 1999; Estrin 1999; Meekers 1998). Thus when young people do have sex, they must be able to protect themselves by using condoms, and good quality condoms have to be readily available and free or affordable and accessible.

These findings emphasise the necessity of providing learners in the city of Kumba with accurate facts about condoms so as to enhance their effective usage.

Perceived benefit of condom use was correlated with gender. Table 5.68 depicts the result.

**Table 5.68: Cross tabulation of perceived benefit of condom use by gender**

Dependent variables (perceived benefit of condom use)	Independent variable (factor)			Remark
	Gender			
	Chi-square	Df	P value	
Correct and consistent use of condoms during sexual intercourse could prevent transmission of HIV/AIDS.	8.466	3	<b>0.037</b>	More males, 80.2%, than females, 79.1%, agreed that correct and consistent condom usage could prevent sexual transmission of HIV/AIDS. Perceived benefit of condom use was statistically influenced by gender ( $\chi^2$ : $p < 0.05$ ).

Table 5.68 indicates that more male learners perceived condoms as beneficial than female learners and these perceptions differed statistically significantly between genders. Learners who do not perceive the benefits of condom use to prevent HIV/AIDS during sex, may be less likely use them. Female learners should thus be empowered with knowledge that will increase their perception of the benefits of condom use to prevent HIV/AIDS. Although the percentage difference between the two genders is so minute, the actual emphasis is on gender and gender per se with all its subtle implications should be taken into consideration when implementing sexuality curricula and condom use.

Perceived benefit of condom use was correlated with age as depicted in table 5.69.

**Table 5.69: Cross tabulation of perceived benefit of condom use by age**

Dependent variables (perceived benefit of condom use)	Independent variable (factor)			Remark
	Age			
	Chi-square	Df	P value	
Correct and consistent use of condoms during sexual intercourse could prevent transmission of HIV/AIDS.	11.269	12	0.506	The perception that correct and consistent condom usage could prevent sexual transmission of HIV/AIDS was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 70.6% among respondents in the 11-15 years age group, to 86.9% among those in the 22-23 years age group ( $\chi^2$ : $p > 0.05$ ).

From table 5.69 it is deduced that perceived benefit of condom use to prevent sexual transmission of HIV/AIDS was not statistically dependent of age group of

respondents. Respondents, independent of age group perceived condoms as beneficial in preventing HIV/AIDS.

Perceived benefit of condom use was correlated with religious affiliations as depicted in table 5.70.

**Table 5.70: Cross tabulation of perceived benefit of condom use by religion**

Dependent variables (perceived benefit of condom use)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
Correct and consistent use of condoms during sexual intercourse could prevent transmission of HIV/AIDS.	25.251	3	<b>0.000</b>	More Christians, 80.0%, than Muslims, 20.0%, agreed that correct and consistent condom usage could prevent sexual transmission of HIV/AIDS. Perceived benefit of condom use was statistically influenced by religion ( $\chi^2$ : p<0.05).

From table 5.70 it can be seen that more Christians than Muslims believed that correct and consistent use of condoms during sex could prevent transmission of HIV/AIDS ( $\chi^2$ :P<0.05).

Perceived benefit of condom use was correlated with social group affiliations as depicted in table 5.71.

**Table 5.71: Cross tabulation of perceived benefit of condom use by social group affiliation**

Dependent variables (perceived benefit of condom use)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
Correct and consistent use of condoms during sexual intercourse could prevent transmission of HIV/AIDS.	27.256	12	<b>0.007</b>	Across the various social groups, the proportion of respondents who agreed that correct and consistent condom usage could prevent sexual transmission of HIV/AIDS differed significantly. Respondents who belonged to a social club had the highest proportion (87.7%), while those who belonged to a Church youth group had 75.7% ( $\chi^2$ : p<0.05).

From table 5.71 it can be seen that of the 87% who agreed that consistent condom use during sex could transmission of HIV/AIDS belonged to a social club, while few belonged to church youth club. Some churches discourage the use of condoms (see section 3.4.2.1.3 of this thesis), so youths who belong to a church group might not perceive the benefit of condom use during sex to prevent transmission of HIV/ADS.

### **5.5.2 Perceived barriers to condom use**

Perceived barriers refer to one's belief in the tangible and psychological costs of the advised behaviours against a condition or problem (Groenewold et al 2006:4; ReCAPP 2007:4). There could be several barriers that affect people's decision to take particular actions against a problem or condition. 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. Agha, Karlyn and Meekers (2001:149) 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 (1999:128) 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. Receptiveness to condom use is plagued by barriers including embarrassment or timidity to obtain condoms from sources that require person-to-person contact (UNFPA 2006:1). Any obstacles in the use of condoms can interfere with their frequent and consistent employment as a means of preventing HIV/AIDS and for family planning purposes (Adih & Alexander 1999; Estrin 1999; Ford & Koetsawang 1999). 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 condom use to prevent HIV/AIDS were identified in the current study.

This section of the questionnaire examined the respondents' attitudes regarding condoms. Attitudes regarding condoms could be seen as perceived barriers to condom use (see sections F of both the male and female questionnaires).

This subsection consisted of eighteen items asking the respondents to indicate their agreement using a four-point Likert scale regarding perceived barriers to condom use. Of the 480 respondents, only some (as indicated by n= in the "total" column of table 5.72) provided answers to these items. The responses are depicted in table 5.72.

**Table 5.72: Perceived barriers to condom use**

Item	SA		A		DA		SDA		Total	
	F	%	f	%	f	%	f	%	n	%
Condoms decrease sexual sensation, making sex less enjoyable for either partner.	110	26.0	167	39.5	80	18.9	66	15.6	423	100
Condom use reduces sexual urge.	62	15.4	190	47.1	98	24.3	53	13.2	403	100
Condom use makes partner feel untrusted.	112	26.4	180	42.5	74	17.5	58	13.7	424	100
Should a condom slip off during sexual intercourse it will land up in the stomach of female partner.	44	10.8	84	20.6	128	31.4	151	37.1	407	100
Latex condoms cause itching.	36	22.9	62	39.5	41	26.1	18	11.5	157	100
I am allergic to lubricants used in condoms.	21	14.2	50	33.8	47	31.8	30	20.3	148	100
Due to religious beliefs I feel guilty using a condom	94	23.1	132	32.4	98	24.1	83	20.4	407	100
I feel embarrassed to buy condoms.	87	20.9	143	34.4	105	25.2	81	19.5	416	100
I feel embarrassed to use condoms.	75	18.6	116	28.7	120	29.7	93	23.0	404	100
I feel embarrassed to ask my partner to use condoms	67	16.6	108	26.8	121	30.0	107	26.6	403	100
I feel embarrassed to throw away a condom after use.	58	14.4	101	25.1	132	32.8	111	27.6	402	100
I lack knowledge on correct condom use.	98	23.6	146	35.2	99	23.9	72	17.3	415	100
Clinic staff not being friendly when handing out condoms.	60	15.2	103	26.1	139	35.2	93	23.5	395	100
Nearest clinic to obtain condoms is far.	57	14.0	100	24.6	140	34.4	110	27.0	407	100
Condoms are not available at the clinics.	28	7.4	68	18.0	163	43.2	118	31.3	377	100
Long waiting time exists at the clinics.	73	19.6	154	41.4	95	25.5	50	13.4	372	100
Condoms are too expensive to buy from the clinics.	36	9.9	54	14.9	158	43.6	114	31.5	362	100
No specific time for young people to attend the clinics.	75	19.4	119	30.7	112	28.9	81	20.9	387	100

As the data reveal, some learners perceived certain barriers in accessing and using condoms. Of the respondents, 244 (58.8%) lacked knowledge on correct condom usage; 226 (55.5%) due to religious beliefs they felt embarrassed to use condoms; 230 (55.3%) stated that they felt embarrassed to buy condoms; 191 (47.3%) embarrassed to use condoms; 175 (43.4%) embarrassed to ask their partners to use condoms; 163 (41.3%) clinic staffs are no being friendly when handing out condoms; 157 (38.6%) stated that the nearest clinic to obtain condoms is far.

Adolescents might also hold different views about condoms, influencing their perceptions regarding condom usage. In the current study, 292 (68.9%) respondents believed that condom use could make partner feel un-trusted; 277 (65.5%) believed that condom usage decreases sexual sensations, making sex less enjoyable for either partner; 252 (62.5%) believed that condom use reduces sexual urges; 227 (61%) believed that there were long waiting times at the clinics supplying condoms; 194 (50.1%) believed there was no specific clinic time for young people; 127 (33%) believed that the environment was unhygienic; 96 (25.4%) believed condoms were not available and 90 (24.8%) believed condoms were expensive to buy. These findings are in agreement with that of Nicholas (1998:893). Some respondents, 128 (31.4%) believed that should a condom slip off during intercourse, it could land up in the stomach of the female partner. This is in agreement with the report from Amazigo et al (1997:28-33) in Nigeria, which stated that some teens were afraid that condom usage was unsafe, and they believed that condoms could break away and go into the stomach of the female partner and cause difficulty in breathing.

There should be no embarrassment in using or buying condoms. A condom can be bought or used at any age (Tina 2008). Learners who perceive themselves susceptible to HIV/AIDS and who perceive HIV/AIDS to be a very serious infection might not feel embarrassed to buy or use condoms.

Using a condom does not decrease sensation or make sex less enjoyable. It can cause some men to take longer before they ejaculate which could be good for both partners. There are many different sizes, shapes, textures and flavours of condoms; partners should fine the combination that suits them best. Using a condom should

not make partner feel untrusted. Insisting on condom use suggests that one knows how to take care of oneself. It also shows that one is aware of the benefits of condom use during sex. Condoms do not break or slip off during sex, unless they are being used incorrectly. To avoid a condom breaking, one needs to put it on carefully, ensuring there is no air bubble at the end and be careful of sharp nails, jewellery or teeth (Hirsch 2007).

Most learners had negative attitudes regarding condoms which could act as a barrier to impair their use of condoms during sex.

Most men and women should have no problems using condoms. The side effects that can occasionally occur include:

- Allergy to latex condoms
- Irritation of the penis or vagina from lubricants with which some condoms are treated with.

For people who may have an allergic skin reaction to latex, male condoms made of polyurethane are available (Hirsch 2007).

These side effects could act as barriers deterring learners from using condoms correctly and consistently during sexual intercourse to prevent sexual transmission of HIV/AIDS, even when they perceive themselves as being susceptible to the disease.

Adolescents' attitudes of embarrassment about condom use, lack of knowledge of condom use, attitudes of clinic staff, lack of privacy, non availability of condoms, the expensive nature of condoms and distance to the nearest clinic to obtain condoms, all posed possible barriers to adolescents' utilisation of condoms during sexual intercourse to prevent HIV/AIDS.

Perceived barriers to condom use were correlated with gender as depicted in table 5.73.

**Table 5.73: Cross tabulation of perceived barriers to condom use by gender**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
Condoms decrease sexual sensation, making sex less enjoyable for either partner.	8.617	3	<b>0.035</b>	More males, 152 (69.4%) than females, 125 (61.3%) agreed that condom use decreases sexual sensation, making sex less enjoyable for either partner, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
Condom use reduces the sexual urge.	7.598	3	0.055	More females, 63.1% than males, 61.9% agreed that condom use reduces sexual urge, and this view was not statistically influenced by gender ( $X^2$ : $p > 0.05$ ).
Condom use makes a partner feel un-trusted.	15.005	3	<b>0.002</b>	More males, 108 (50.7%) than females, 72 (34.1%) simply agreed that condom use makes a partner feel untrusted, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
Should a condom slip off during sexual intercourse it will land up in the stomach of the female partner.	3.591	3	0.309	More females, 70 (34.8%) than males, 58 (28.1%) agreed that should a condom slip off during sexual intercourse, it will land up in the stomach of the female partner. However, this view was not statistically influenced by gender ( $X^2$ : $p > 0.05$ ).
Latex condoms cause itching.	3.442		0.328	More males, 98 (55.4%) than females, 86 (52.7%) agreed that latex condoms cause itching. However, this view was not statistically influenced by gender ( $X^2$ : $p > 0.05$ ).
I am allergic to lubricants used in condoms.	4.401	3	0.221	More males, 73 (43.2%) than females, 62 (39.3%) agreed that they are allergic to lubricants used in condoms. However, this view was not statistically influenced by gender ( $X^2$ : $p > 0.05$ ).
Due to religious beliefs I feel guilty using a condom	8.944	3	0.030	More males, 55.6% than females, 55.4% agreed that due to religious beliefs they felt guilty using a condom, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
I feel embarrassed to buy condoms.	9.440	3	<b>0.024</b>	More females, 118 (56.2%) than males, 112 (54.3%) agreed that they felt embarrassed to buy condoms, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
I feel embarrassed to use condoms.	7.651	3	0.054	More females, 99 (47.4%) than males, 92 (47.2%) agreed that they felt embarrassed to use condoms. However this view was not statistically influenced by gender ( $X^2$ : $p > 0.05$ ).
I feel embarrassed to ask my partner to use condoms	20.416	3	<b>0.000</b>	More males, 93 (47.5%) than females, 82 (39.6%) agreed that they felt embarrassed to ask their partners to use condoms, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).

**Table 5.73: Cross tabulation of perceived barriers to condom use by gender**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
I feel embarrassed to throw away condoms after use.	4.960	3	0.175	More males, 82 (42.2%) than females, 77 (37.0%) agreed that they felt embarrassed to throw away condoms after use. However this view was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).
I lack knowledge on correct condom usage.	11.830	3	<b>0.008</b>	More females, 137 (63.7%) than males, 107 (53.8%) agreed that they lacked knowledge on correct condom usage, and this view was statistically influenced by gender ( $\chi^2$ : $p<0.05$ ).
Clinic staff not being friendly when receiving condoms.	7.659	3	0.054	More females, 85 (42.3%) than males, 78 (40.3%) agreed that clinic staff is not being friendly when handing out condoms. However this view was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).
Nearest clinic to obtain condoms is far.	4.833	3	0.184	More males, 85 (42.5%) than females, 72 (34.8%) agreed that distance to the nearest clinic to obtain condoms is far. However this view was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).
Condoms are not available at the clinics.	10.783	3	<b>0.013</b>	More females, 25.9% than males, 25.2% agreed that condoms are not available at the clinics, and this view was statistically influenced by gender ( $\chi^2$ : $p<0.05$ ).
Long waiting time exists at the clinics.	8.313	3	<b>0.040</b>	More males, 118 (61.5%) than females, 109 (60.6%) agreed that long waiting time exists at the clinics, and this view was statistically influenced by gender ( $\chi^2$ : $p<0.05$ ).
Condoms are too expensive to buy from the clinics.	1.488	3	0.685	More males, 48 (26.0%) than females, 42 (23.7%) agreed that condoms were too expensive to buy from the clinics. However this view was not statistically influenced by gender ( $\chi^2$ : $p>0.05$ ).
No specific time for young people to attend the clinics.	8.630	3	<b>0.035</b>	More females, 103 (53.9%) than males, 91 (46.4%) agreed that there was no specific time for young people to attend the clinics, and this view was statistically influenced by gender ( $\chi^2$ : $p<0.05$ ).

From table 5.73 it can be seen that more males than females believed that condom use decreases sexual sensation, making sex less enjoyable for either partners. Conversely, more males than females believed that condom use made partner feel un-trusted; more males than females believed that their partners supported condom

use; more males than females agreed that due to religious beliefs, they felt guilty using condoms; more males than females felt embarrassed to ask their partners to use condoms; more males than females believed that long waiting times existed at the clinics providing condoms. These perceived barriers by males could be explained by the fact that the current study concerning male condoms which requires male application only. So males should perceive such barriers rather than females. On the other hand, more females than males believed that they felt embarrassed to buy condoms; more females than males believed that they lacked knowledge on correct condom usage; more females than males believed that condoms were not available at the clinics; more females than males believed that there was no specific time for young people to attend the clinic providing condoms. These perceptions differed significantly between gender. These perceived barriers by female respondents could also be explained by the fact that the current study was on male condoms which requires male application only.

The items comprising perceived barriers to condom use were correlated with age as depicted in table 5.74.

**Table 5.74: Cross tabulation of perceived barriers to condom use by age**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
Condoms decrease sexual sensation, making sex less enjoyable for either partner.	11.455	12	0.490	The perception that condom use decreases sexual sensation, making sex less enjoyable for either partner was not statistically dependent of age. Across the various age groups the proportion respondents who agreed with this perception did not differ significantly, ranging from 56.2% among respondents in the 20-21 years age group, to 75.1% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
Condom use reduces sexual urge.	2.343	12	0.999	The perception that condom use reduces sexual urge was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 58.0% among respondents in the 20-21 years age group, to 65.0% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Condom use makes partner feel untrusted.	17.909	12	0.118	The perception that condom use makes partner feel untrusted was not statistically dependent of age. Across the various age groups, the

**Table 5.74: Cross tabulation of perceived barriers to condom use by age**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
				proportion of respondents who agreed with this perception did not differ significantly, ranging from 61.8% among respondents in the 16-17 years age group, to 90.9% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
Should a condom slip off during sexual intercourse it will land up in the stomach of the female partner	10.939	12	0.534	The perception that should a condom slip off during sexual intercourse, it will land up in the stomach of the female partner was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 28.0% among respondents in the 18-19 years age group, to 38.9% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Latex condoms cause itching.	8.171	12	0.772	The perception that latex condoms cause itching was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 53.1% among respondents in the 20-21 years age group, to 56.3% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
I am allergic to lubricants used in condoms.	19.624	12	0.075	The belief by respondents that they were allergic to lubricants used in condoms was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that they were allergic to lubricants used in condoms, did not differ significantly, ranging from 37.0% among respondents in the 11-15 years age group, to 56.3% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Due to religious beliefs I feel guilty using a condom	8.312	12	0.760	The perception by respondents that due to religious beliefs they felt guilty using a condom was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 42.1% among respondents in the 22-23 years age group, to 57.2% among those in the 20-21 years age group ( $X^2$ : $p>0.05$ ).
I feel embarrassed to buy condoms.	24.163	12	<b>0.019</b>	The belief by respondents that they felt embarrassed to buy condoms was statistically dependent of age. Across the various age groups, the proportion of respondents who agreed that they felt embarrassed to buy condoms differed significantly. Respondents in the 11-15 years age group had the highest proportion (64.7%), those in the 22-23 years age group had the lowest (31.6%) ( $X^2$ : $p<0.05$ ).

**Table 5.74: Cross tabulation of perceived barriers to condom use by age**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
I feel embarrassed to use condoms.	12.514	12	0.405	The perception by respondents that they felt embarrassed to use condoms was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 22.2% among respondents in the 22-23 years age group, to 50.0% among those in the 15-17 years age group ( $X^2$ : $p>0.05$ ).
I feel embarrassed to ask my partner to use condoms	9.354	12	0.672	The perception by respondents that they felt embarrassed to ask their partners to use condoms was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 28.6% among respondents in the 22-23 years age group, to 50.0% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
I feel embarrassed to throw away condoms after use.	23.860	12	<b>0.021</b>	The perception by respondents that they felt embarrassed to throw away condoms after use was statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception differed significantly. Respondents in the 11-15 years age group had the highest proportion (57.5%), while those in the 22-23 years age group had the lowest (15.8%) ( $X^2$ : $p<0.05$ ).
I lack knowledge on correct condom usage.	17.834	12	0.121	The perception by respondents that they lacked knowledge on correct condom usage was not statistically dependent of age. Across the various age groups the proportion of respondents who agreed with this perception did not differ significantly, ranging from 38.1% among respondents in the 22-23 years age group, to 63.2% among those in the 16-17 years age group. ( $X^2$ : $p>0.05$ ).
Clinic staff being unfriendly when handing out condoms to youths.	15.576	12	0.211	The perception that clinic staff is not being friendly when handing out condoms was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 36.3% among respondents in the 18-19 years age group, to 56.3% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
Nearest clinic to obtain condoms is far.	10.313	12	0.589	The perception that distance to the nearest clinic to obtain condoms is far was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 34.2% among respondents in the 18-19 years age

**Table 5.74: Cross tabulation of perceived barriers to condom use by age**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
				group, to 50.0% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Condoms are not available at the clinics.	13.347	12	0.344	The perception that condoms are not available at the clinics was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 16.6% among respondents in the 20-21 years age group, to 39.4% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
Long waiting time exists at the clinics.	10.444	12	0.577	The perception that long waiting time exists at the clinics was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 57.0% among respondents in the 18-19 years age group, to 68.8% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Condoms are too expensive to buy from the clinics.	16.026	12	0.190	The perception that condoms are too expensive to buy from the clinics was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 16.4% among respondents in the 20-21 years age group, to 36.7% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
No specific time for young people to attend the clinic	13.574	12	0.329	The perception that there was no specific time for young people to attend the clinic was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 43.1% among respondents in the 16-17 years age group, to 66.6% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).

From table 5.74, it can be seen that more respondents of the younger age group felt embarrassed to buy condoms, and to throw away condoms after use than those of the older age group ( $X^2$ :  $P<0.05$ ).

The items comprising perceived barriers to condom use were correlated with religious affiliations as depicted in table 5.75.

**Table 5.75: Cross tabulation of perceived barriers to condom use by religion**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
Condoms decrease sexual sensation, making sex less enjoyable for either partner.	0.537	3	0.911	More Christians, 65.8% than Muslims, 50.0% agreed that condom use decreases sexual sensation, making sex less enjoyable for either partner, but this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Condom use reduces sexual urge.	2.354	3	0.502	More Christians, 64.2% than Muslims, 50.0% agreed that condom use reduces sexual urge, but this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Condom use makes partner feel untrusted.	3.256	3	0.354	More Muslims, 100.0% than Christians, 68.7% agreed that condom use makes partner feel un-trusted, but this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Should a condom slip off during sexual intercourse it will land up in the stomach of the female partner?	2.676	3	0.444	More Muslims, 40.0% than Christians, 32.3% agreed that should a condom slip off during sexual intercourse, it will land up in the stomach of the female partner. But this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Latex condoms cause itching.	1.071	3	0.784	More Muslims, 75.0% than Christians, 54.0% agreed that latex condoms cause itching. But, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
I am allergic to lubricants used in condoms.	2.884	3	0.410	More Christians, 41.6% than Muslims, 0.00% agreed that they are allergic to lubricants used in condoms. But, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Due to religious beliefs I feel guilty using a condom	2.384	3	0.497	More Muslims, 83.3% than Christians, 55.2% agreed that due to religious beliefs they felt guilty using a condom. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
I feel embarrassed to buy condoms.	3.367	3	0.338	More Muslims, 66.7% than Christians, 55.3% agreed that they feel embarrassed to buy condoms. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
I feel embarrassed to use condoms.	7.241	3	0.065	More Muslims, 80.0% than Christians, 46.3% agreed that they feel embarrassed to use condoms. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
I feel embarrassed to ask my partner to use condoms	4.932	3	0.177	More Muslims, 60.0% than Christians, 42.6% agreed that they feel embarrassed to ask their partners to use condoms. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).

**Table 5.75: Cross tabulation of perceived barriers to condom use by religion**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
I feel embarrassed to throw away condoms after use.	1.854	3	0.603	More Muslims, 40.0% than Christians, 37.6% agreed that they feel embarrassed to throw away condoms after use. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
I lack knowledge on correct condom usage.	4.279	3	0.233	More Muslims, 83.3% than Christians, 60.5% agreed that they lacked knowledge on correct condom usage. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Clinic staff not being friendly when receiving condoms.	1.284	3	0.733	More Christians, 40.7% than Muslims, 40.0% agreed that clinic staff is unfriendly when handing out condoms. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Nearest clinic to obtain condoms is far.	1.987	3	0.575	More Muslims, 40.0% than Christians, 39.4% agreed that the distance to the nearest clinic to obtain condoms was far. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Condoms are not available at the clinics.	3.165	3	0.367	More Muslims, 33.3% than Christians, 27.2% agreed that condoms were not available at the clinics. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Long waiting time exists at the clinics.	0.889	3	0.828	More Muslims, 66.6% than Christians, 61.1% agreed that long waiting time exists at the clinics. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Condoms are too expensive to buy from the clinics.	1.197	3	0.754	More Christians, 26.0% than Muslims, 0.00% agreed that condoms were too expensive to buy from the clinics. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
No specific time for young people to attend the clinics.	0.863	3	0.834	More Christians, 50.5% than Muslims, 33.3% agreed that there was no specific time for young people to attend the clinics. However, this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).

From table 5.75 it is clear that perceived barriers to condom use was not statistically dependent of religion. Independent of religious affiliations, Muslims and Christians perceived the same barriers to condom use.

The items comprising perceived barriers to condom use were correlated with social group affiliation as depicted in table 5.76.

**Table 5.76: Cross tabulation of perceived barriers to condom use by social group affiliation**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
Condoms decrease sexual sensation, making sex less enjoyable for either partner.	9.899	12	0.625	The perception that condom use decreases sexual sensation, making sex less enjoyable for either partner was not statistically dependent of social group affiliation. Across the various groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 62.7% among respondents who belonged to a church youth group, to 75.0% among those who did not belong to any social group ( $\chi^2$ : $p>0.05$ ).
Condom use reduces sexual urge.	14.845	12	0.250	The perception that condom use reduces sexual urge was not statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 57.1% among respondents who belonged to a church youth group, to 81.0% among those who did not belong to any social group ( $\chi^2$ : $p>0.05$ ).
Condom use makes partner feel untrusted.	14.006	12	0.300	The perception that condom use makes partner feel untrusted, was not statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 64.7% among respondents who belonged to a church youth club, to 70.2% among those who belonged to a social club ( $\chi^2$ : $p>0.05$ ).
Should a condom slip off during sexual intercourse it will land up in the stomach of the female partner.	23.230	12	<b>0.026</b>	The perception that should a condom slip off during sexual intercourse, it will land up in the stomach of the female partner was statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception differed significantly. Respondents who did not belong to any social group had the highest proportion (47.4%), while those who belonged to a sports group had the lowest (17.1%) ( $\chi^2$ : $p<0.05$ ).
Latex condoms cause itching.	23.273	12	<b>0.025</b>	The perception that latex condoms cause itching was statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception differed significantly. Respondents who did not belong to any social group had the highest proportion (62.6%), while those who belonged to a sports club had the lowest (51.6%) ( $\chi^2$ : $p<0.05$ ).
I am allergic to lubricants used in condoms.	16.379	12	0.175	The perception by respondents that they are allergic to lubricants used in condoms was not statistically dependent of social group. Across the various groups, the proportion of respondents

**Table 5.76: Cross tabulation of perceived barriers to condom use by social group affiliation**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
				who agreed with this perception did not differ significantly, ranging from 25.1% among respondents who did not belong to a social group, to 50.9% among those who belonged to a social club ( $X^2$ : $p>0.05$ ).
Due to religious beliefs I feel guilty using a condom	16.000	12	0.191	The perception by respondents that due to religious beliefs they felt guilty using a condom was not statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 45.0% among respondents who did not belong to a social group, to 58.5% among those who belonged to a sport club ( $X^2$ : $p>0.05$ ).
I feel embarrassed to buy condoms.	23.427	12	<b>0.024</b>	The perception by learners that they felt embarrassed to buy condoms was statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception differed significantly, ranging from 42.7% among respondents who belonged to a sports club, to 57.9% among those who did not belong to any social group ( $X^2$ : $p<0.05$ ).
I feel embarrassed to use condoms.	23.492	12	<b>0.024</b>	Across the various social groups, the proportion of respondents who agreed that they felt embarrassed to use condoms differed significantly. Respondents who, did not belong to any social group had the highest proportion (57.1%), while those who belonged to a social club had the lowest (39.4%) ( $X^2$ : $p<0.05$ ).
I feel embarrassed to ask my partner to use condoms	12.005	12	0.445	Across the various social groups, the proportion of respondents who agreed that they felt embarrassed to ask their partners to use condoms did not differ significantly, ranging from 34.7% among respondents who belonged to a sports club, to 50.0% among those who did not belong to any social group ( $X^2$ : $p>0.05$ ).
I feel embarrassed to throw away condoms after use.	10.023	12	0.614	Across the various social groups, the proportion of respondents who agreed that they felt embarrassed to throw away condoms after use did not differ significantly, ranging from 30.5% among respondents who belonged to a sports club, to 50.0% among those who did not belong to any social group ( $X^2$ : $p>0.05$ ).
I lack knowledge on correct condom usage.	12.657	12	0.394	Across the various social groups, the proportion of respondents who agreed that they lacked knowledge on correct condom usage did not differ significantly, ranging from 55.9% among respondents who belonged to a social club, to 65.0% among those who did not belong to any social group ( $X^2$ : $p>0.05$ ).

**Table 5.76: Cross tabulation of perceived barriers to condom use by social group affiliation**

Dependent variables (perceived barriers to condom use)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
Clinic staff not being friendly when handing out condoms.	25.502	12	<b>0.032</b>	Across the various social groups, the proportion of respondents who agreed that clinic staff were not being friendly when handing out condoms differed significantly. Respondents who did not belong to any social group had the highest proportion (55.0%), while those who belonged to a social club had the lowest (38.8%) ( $\chi^2$ : $p < 0.05$ ).
Nearest clinic to obtain condoms is far.	15.710	12	0.205	Across the various social groups, the proportion of respondents who agreed that distance to the nearest clinic to obtain condoms is far did not differ significantly, ranging from 32.7% among respondents who belonged to a church youth club to 65.0% among those who did not belong to any social group ( $\chi^2$ : $p > 0.05$ ).
Condoms are not available at the clinics.	7.822	12	0.799	Across the various social groups, the proportion of respondents who agreed that condoms were not available at the clinics did not differ significantly, ranging from 21.8% among respondents who belonged to a church youth group, to 32.8%, among those who belonged to a social club ( $\chi^2$ : $p > 0.05$ ).
Long waiting time exists at the clinics.	22.325	12	<b>0.034</b>	Across the various social groups, the proportion of respondents who agreed that long waiting times exists at the clinics differed significantly. Respondents who belonged to a sports club had the highest proportion (71.5%), while those who did not belong to any social group had the lowest (38.1%) ( $\chi^2$ : $p < 0.05$ ).
Condoms are too expensive to buy from the clinics.	16.717	12	0.161	Across the various social groups, the proportion of respondents who agreed that condoms are too expensive to buy from the clinics did not differ significantly, ranging from 14.3% among respondents who did not belong to a social group, to 28.0% among those who belonged to a Church youth group ( $\chi^2$ : $p > 0.05$ ).
No specific time for young people to attend the clinics.	14.732	12	0.256	Across the various social groups, the proportion of respondents who agreed that there is no specific time for young people to attend the clinics did not differ significantly, ranging from 41.9% among respondents who belonged to a sports club, to 59.1% among those who belonged to a social club ( $\chi^2$ : $p > 0.05$ ).

From table 5.76 it can be seen that most of respondents who had the misconception that should a condom slip off during sex it landed up in the stomach of the female partner; that latex condoms caused itching; that they felt embarrassed to buy condoms; that they felt embarrassed to use condoms; that clinic staff members were

unfriendly when handing out condoms and that the clinic environment was unhygienic, did not belong to any social group ( $\chi^2:P<0.05$ ). This could be explained by the fact that belonging to a social group could provide adolescents with opportunities of discussing condom use with their peers.

### 5.5.2.1 Knowledge about side effects of condoms

The side effects that can occasionally occur include:

- Allergy to latex condoms
- Irritation of the penis or vagina from lubricants used to treat some condoms with (see items in table 5.72 of this thesis).

The respondents were asked whether they had knowledge about the side effects of using condoms. Of the 480 respondents, only 461 answered this question. The respondents' answers are depicted in table 5.77.

**Table 5.77: Knowledge about side effects of condoms**

Variable	Categories	Frequency	Percent	Cumulative Percent
Do you know about any side effects of using condoms?	No	111	24.1	24.1
	Yes	182	39.5	63.6
	Not sure	36	7.8	71.4
	Don't know	132	28.6	100.0
<b>Total</b>		461	100.0	

Of the 461 respondents, 182 (39.5%) responded 'yes'; 132 (28.6%) mentioned 'don't know'; 111 (24.1%) mentioned 'no' while 36 (7.8%) responded 'not sure'. The side effects of using condoms are discussed in the literature review (see section 3.4.2.3.7.2 of this thesis).

### 5.5.2.2 Sources of information about the side effects of using condoms

The respondents who mentioned that they knew about the side effects of condoms, were asked to indicate their sources of information and they were free to select more than one option. Figure 5.7 depicts the responses.

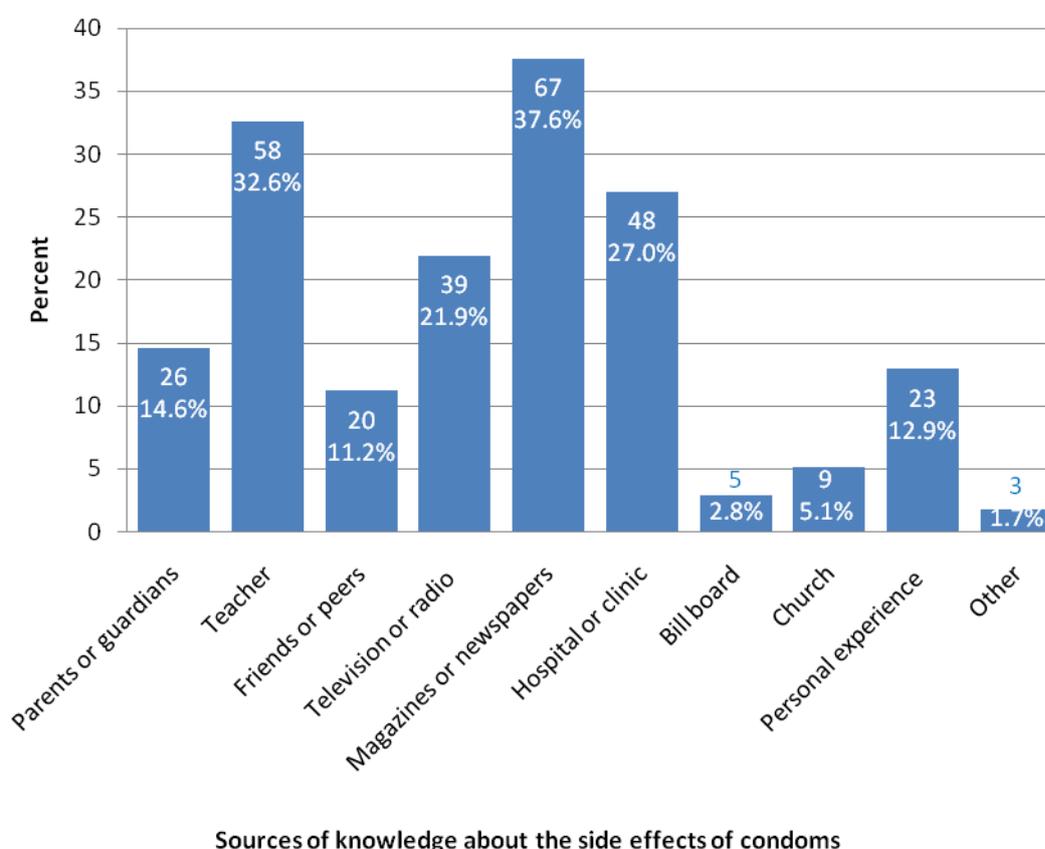


Figure 5.7: Sources of knowledge about the side effects of condoms (n=178)

Of the 259 responses to this question, 67 (37.6%) mentioned magazines or newspapers; followed by teachers, 58 (32.6%); hospital or clinic, 48 (27.0%); television/radio, 39 (21.9%); parents or guardians, 26 (14.6%). Billboard 5 (2.8%); followed by church, 9 (5.1%) and friends or peers, 20 (11.2%) were indicated least. Magazines/newspapers, teachers and hospitals/clinics were the most popular sources of information on HIV/AIDS, condoms and side effects of condoms (see figures 5.3, 5.4 & 5.7 of this thesis respectively).

Youths have a variety of sources where they can obtain information about the side effects of condoms. It could be expected that since most of the respondents lived

with their parents/guardians, 295 (66.1%) (see figure 5.1), most would find their parents a source of information. However, the number of respondents that did not indicate their parents as source of information is perhaps significant. Magazines and newspapers were also available in most urban areas and they could be important in disseminating information about the side effects of condoms to youths. Teachers spend the greater part of the day with youths during the week and are expected to teach them about condoms. However the teachers might not always be available as they teach other subjects or may be busy in other classes, or may lack knowledge regarding side effects of condoms.

Side effects of condoms could be seen as perceived as barriers deterring learners from using condoms. Learners need strategies to minimise these barriers so that their use of condoms could be enhanced.

### 5.5.2.3 Reasons for condom non-use

The respondents were asked to indicate their reasons for not using condoms. They were free to select more than one answer.

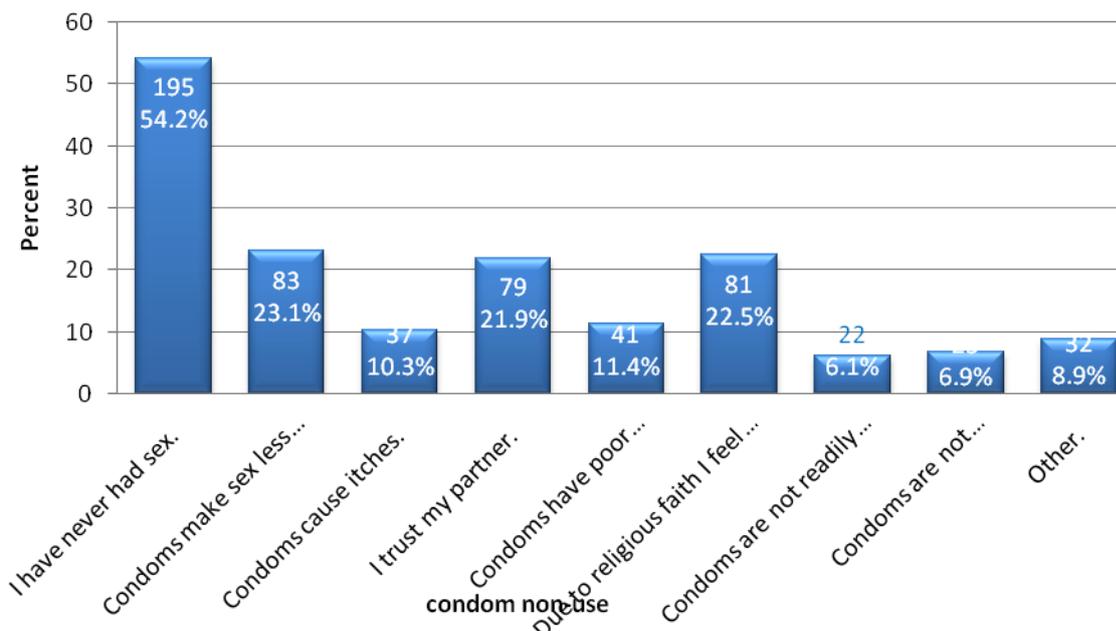


Figure 5.8: Reasons for non-use of condoms (n=360)

Of the 595 responses, 195 (54.2%) stated that they had never had sex; 83 (23.1%) stated that condoms make sex less enjoyable; 81 (22.5%) that due to religious faith, they felt guilty using condoms; 79 (21.9%) that they trusted their partners; 37 (10.3%) that condoms caused itching; 41 (11.4%) that condoms had a poor reputation; 22 (6.1%) that condoms were not readily available; 25 (6.9%) condoms were not affordable to them; while 32 (8.9%) mentioned other unspecified reasons for not using condoms. Trusting one's partner does not provide protection against HIV/AIDS transmission, as the partners might be involved in risky sexual practices such as multiple sexual partners. Youths who believe this could expose themselves to the risk of HIV infection by underestimating their vulnerability to HIV transmission (Amuyunzu-Nyamongo et al 2005:6, 24).

The respondents were also asked about their reasons for not always using condoms as depicted in figure 5.9. They were free to choose more than one option

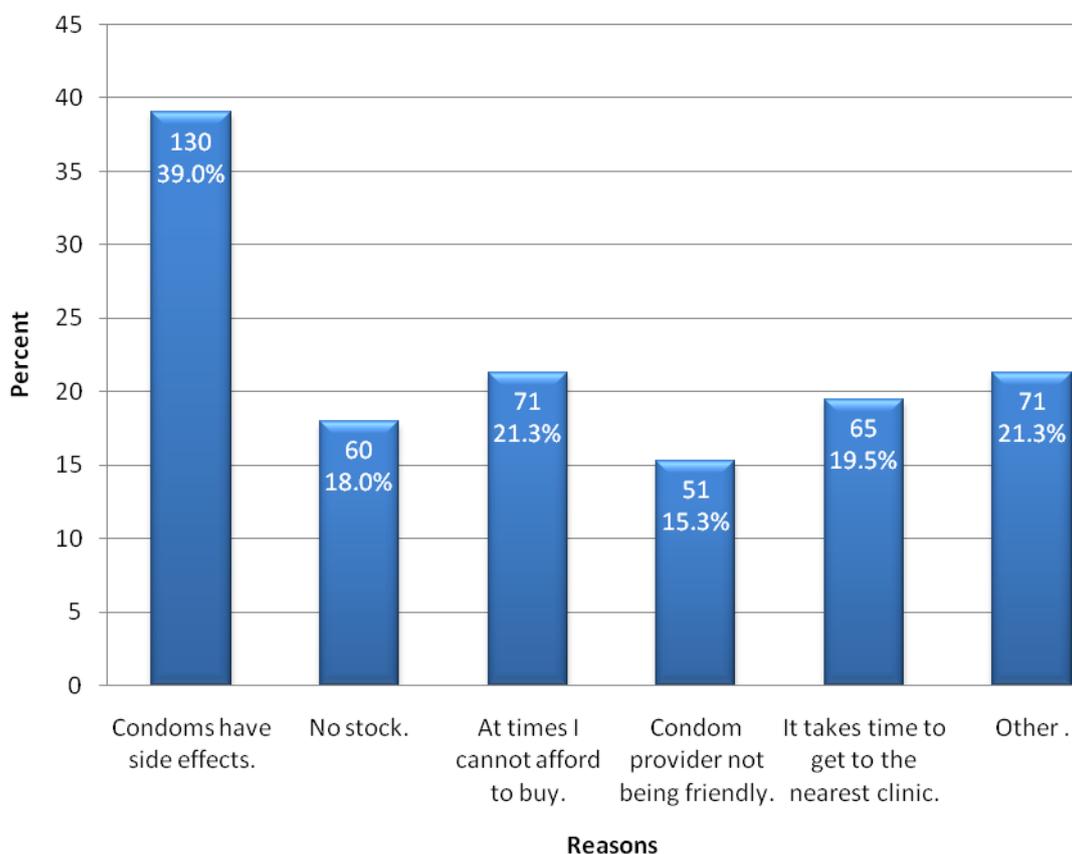
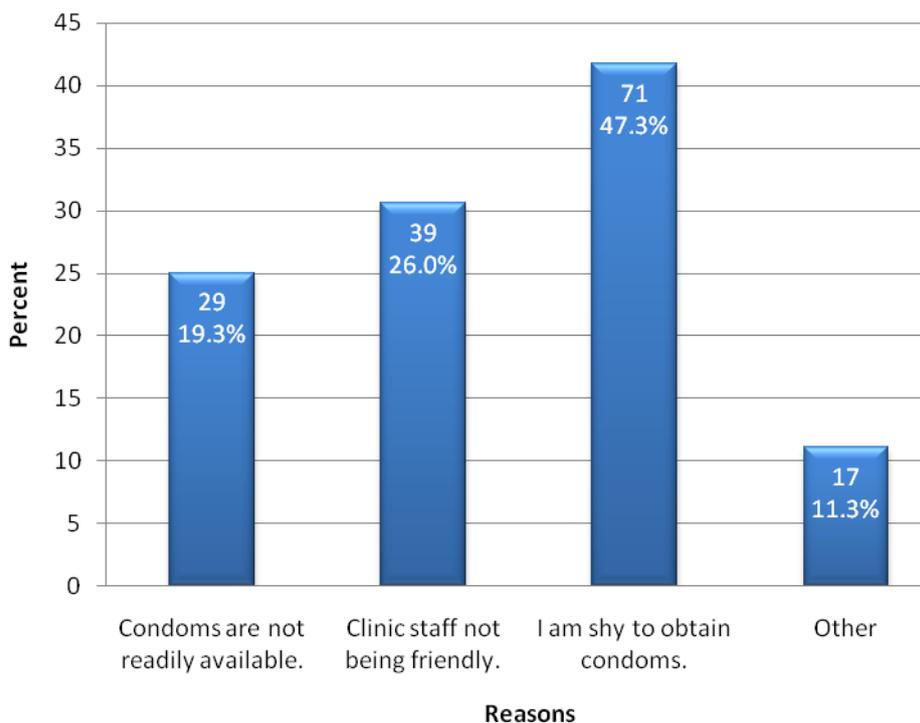


Figure 5.9: Reasons for not using condoms always (n=333)

Of the 448 responses produced by 333 respondents, 130 (39.0%) indicated that condoms had side effects; 60 (18.0%) stated that there are no stocks of condoms; 71 (21.3%) they could not afford to buy condoms; 51 (15.3%) condom providers were unfriendly; 65 (19.5%) it took time to get to nearest clinic to get condoms; while 71 (21.3%) mentioned other unspecified reasons for not using condom always.

Respondents stated various reasons for not always receiving condoms from clinics as depicted by figure 5.10. They were free to select more than one option.



**Figure 5.10: Reasons for not receiving condoms from the nearest clinic (n=150)**

Of the responses, 71 (47.3%) stated that they were shy to obtain condoms; 39 (26.0%) clinic staffs are not being friendly; 29 (19.3%) condoms are not readily available; and 17 (11.3%) mentioned other unspecified reasons.

Only 33.8% of the respondents felt that they could always receive condoms from the nearest clinic (figure 5.13).

Some respondents 71 (43.7%) mentioned shyness to obtain condoms and clinic staff members being unfriendly as their main reasons for not always receiving condoms from clinics. According to Amuyunzu-Nyamango et al (2005:39), shyness is one of the barriers faced by youths in accessing health services and condoms.

The findings emphasise the necessity of strategies for youths to overcome the barrier of shyness so that they could easily access condoms and use them consistently to prevent HIV/AIDS infection. The other barriers of negative attitudes of clinic staff members and non availability of condoms are external to the respondents; having no control over them.

#### **5.5.2.4 Clinic operating days in Kumba**

The respondents were asked to indicate the clinic operating days in Kumba. Of the 480 respondents, only 422 provided answers to the question.

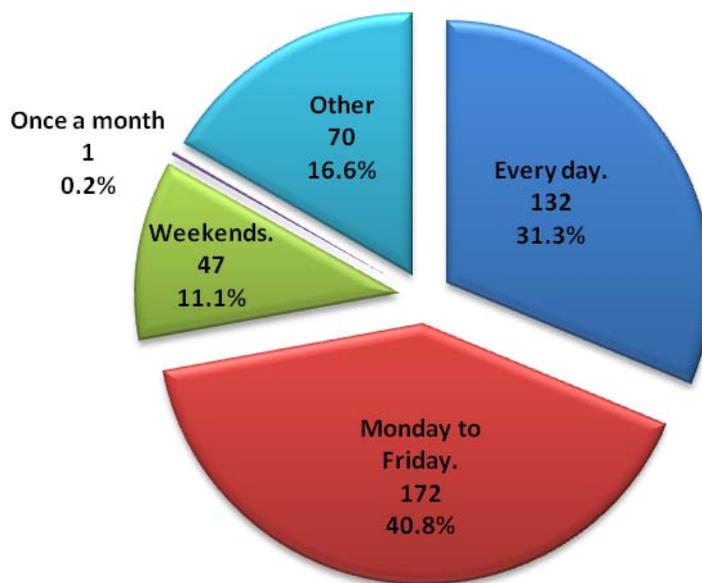


Figure 5.11: Clinic operating days (n=422)

Of the respondents, 132 (31.3%) stated everyday; 172 (40.8%) mentioned from Monday to Friday; 47 (11.1%) mentioned weekends; 70 (16.6) mentioned other unspecified days probably because the operating days were not included among the

options given, while 1 (0.2%) mentioned once a month. In practice, clinics in Kumba operate on a daily basis, except the ante-natal clinics which operate mostly from Mondays to Fridays. From the data, only 132 (31.3%) of the respondents were aware of the exact operating days of clinics in Kumba.

Most learners stated that clinics in Kumba were operating only on week days (that is from Monday to Friday).

#### **5.5.2.5 Clinics' operating times in Kumba**

The respondents were asked to indicate the clinic operating time in Kumba. Of the 480 respondents, only 416 provided answers.

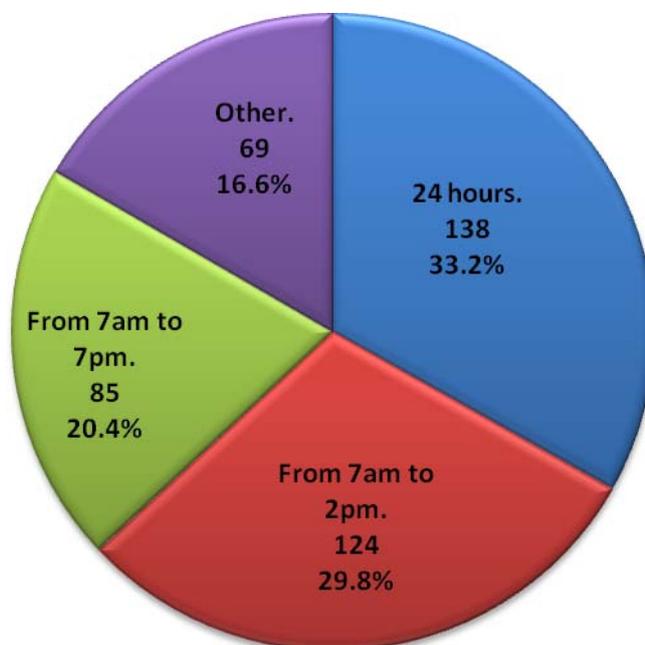


Figure 5.12: Clinic operating time (n=416)

Of the respondents, 138 (33.2%) mentioned 24 hours a day; 124 (29.8%) mentioned from 7am to 2pm; 85 (20.4%) mentioned 7am to 7pm; while 69 (16.6%) mentioned other unspecified times presumably because the operating times were not included among the options given. In practice, clinics in Kumba operate on a 24 hour basis. Only 138 (33.2%) of the respondents were aware of the exact operating time for clinics in Kumba. Time restriction limits the use of condoms by adolescents.

Learners in Kumba should be provided with this information on the exact operating time for clinics in Kumba, so that they can always access condoms from these clinics.

### 5.5.2.6 Receiving condoms from the nearest clinic

In this item, the respondents were asked whether they could always receive condoms from the nearest clinic. Of the respondents, only 452 provided answers to this item.

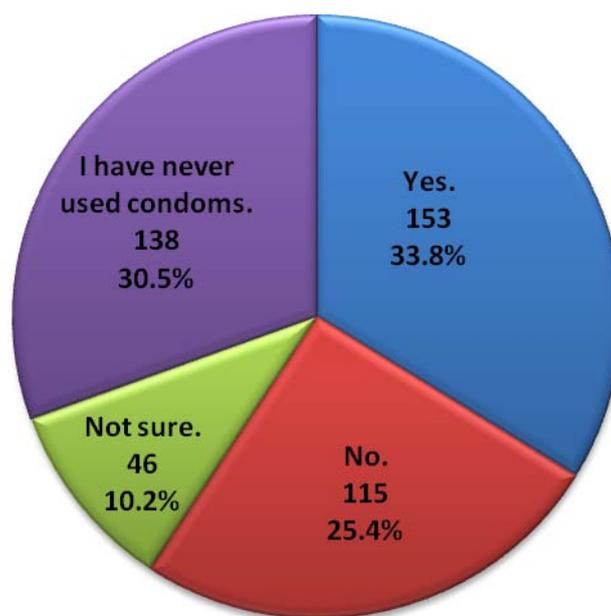


Figure 5.13: Receiving condoms from the nearest clinic (n=452)

Only 153 (33.8%) felt that they could always receive condoms from the nearest clinic. In addition, 115 (25.4%) respondents indicated that they could not always get condoms from the nearest clinic.

### 5.5.3 Cues to action for condom use

As explicated in table 2.6 of this thesis, cues to action refer to events or experiences, personal (physical symptoms of a health condition), interpersonal or environmental (media publicity) that motivate a person to action (Groenewold et al 2006:4; ReCAPP 2007:4). Cues to action are when an individual feels the desire to take the necessary

action after believing that one has the capacity to do so. The required action will benefit one by knowing how to deal with the expected barriers.

With regard to the current study, cues to action refer to personal and environmental events motivating a person to use condoms during sexual intercourse to prevent HIV/AIDS (Groenewold et al 2006:4).

This subsection consisted of four items, asking the respondents to indicate their agreement on a four-point Likert scale regarding their perception of information provided by the staff members at clinics providing condoms (which in the current study, might represent cues to action for condom use).

**Table 5.78: Perceived information provided by the clinics providing condoms**

Item	SA		A		DA		SDA		Total	
	F	%	F	%	f	%	f	%	n	%
Demonstration on how to fit condoms is provided.	109	28.1	180	46.4	46	11.9	53	13.7	388	100
Information on the prevention of HIV/AIDS is given.	126	31.1	210	51.9	25	6.2	44	10.9	405	100
Information on sexual risk behaviour is provided.	100	25.7	196	50.4	43	11.1	50	12.9	389	100
Information on transmission of HIV/AIDS is provided	135	34.0	178	44.8	35	8.8	49	12.3	397	100

Most respondents (336; 83.0%) believed that information on prevention of HIV/AIDS was given while 313 (78.7%) indicated that information on transmission of HIV/AIDS was given; 296 (76.1%) that information on sexual risk behaviours was given, and 289 (74.5%) that information on how to use condoms was given by the condom provider. This information could act as cues to motivate learners to use condoms during sex to prevent HIV/AIDS transmission. Yet despite such knowledge as depicted in table 5.75, many of the respondents 244 (58.8%) indicated that they actually lacked knowledge on the correct ways of using condoms (see table 5.69), which might suggest that the information they received might have been inadequate.

The items comprising cues to action for condom use were correlated with gender as depicted in table 5.79.

**Table 5.79: Cross tabulation of perceived information provided by the clinics by gender**

Dependent variables (Perceived information provided by the clinics supplying condoms)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
Demonstration on how to fit condoms is provided.	15.123	3	<b>0.002</b>	More males, 153 (78.4%) than females, 136 (70.5%) agreed that demonstration on how to fit condoms was provided at the clinics, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
Information on the prevention of HIV/AIDS is given.	9.756	3	<b>0.021</b>	More males, 175 (87.5%) than females, 161 (78.6%) agreed that information on the prevention of HIV/AIDS was given at the clinics, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
Information on sexual risk behaviours is provided.	14.876	3	<b>0.002</b>	More males, 76.1% than females, 76.0% agreed that information on sexual risk behaviours was provided at the clinics, and this view was statistically influenced by gender ( $X^2$ : $p < 0.05$ ).
Information on transmission of HIV/AIDS is provided	7.113	3	0.068	More males 160 (80.4%) than females, 153 (77.2%) agreed that information on transmission of HIV/AIDS was provided at the clinics. However this view was not statistically influenced by gender ( $X^2$ : $p > 0.05$ ).

More males than females perceived cues to action for condom use as depicted in table 5.79. Condoms in the current study referred to male condoms; requiring male application. Perceptions of the demonstration on how to fit condoms; perceptions of information on the prevention of HIV/AIDS; perceptions of information on sexual risk behaviours and perceptions of information on the transmission of HIV/AIDS differed significantly between genders.

The items comprising cues to action for condom use were correlated with age as depicted in table 5.80.

**Table 5.80: Cross tabulation of perceived information provided by the clinics by age**

Dependent variables (Perceived information provided by the clinics providing condoms)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
Demonstration on how to fit condoms is provided.	11.827	12	0.460	The perception that demonstration on how to fit condoms were provided at the clinics was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception, did not differ significantly, ranging from 71.6% among respondents in the 16-17 years age group, to 89.5% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Information on the prevention of HIV/AIDS is given.	13.423	12	0.339	The perception that information on the prevention of HIV/AIDS was given at the clinics was not statistically influenced by age. Across the various age groups the proportion of respondents who agreed with this perception did not differ significantly, ranging from 75.4% among respondents in the 16-17 years age group, to 90.9% among those in the 11-15 years age group ( $X^2$ : $p>0.05$ ).
Information on sexual risk behaviours is provided.	8.185	12	0.770	The perception that information on sexual risk behaviours was provided at the clinics was not statistically dependent of age. Across the various age groups the proportion of respondents who agreed with this perception did not differ significantly, ranging from 72.7% among respondents in the 11-15 years age group, to 80.0% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Information on transmission of HIV/AIDS is provided	8.343	12	0.758	The perception that information on transmission of HIV/AIDS was provided at the clinics was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 74.4% among respondents in the 16-17 years age group, to 86.6% among those in the 20-21 years age group ( $X^2$ : $p>0.05$ ).

As can be seen from table 5.80, cues to action did not differ statistically among the different age groups.

The items comprising cues to action for condom use were correlated with religious affiliation as depicted in table 5.81.

**Table 5.81: Cross tabulation perceived information provided by the clinics use by religion**

Dependent variables (Perceived information provided by the clinics providing condoms)	Independent variable (factor)			Remark
	Religion			
	Chi-square	Df	P value	
Demonstration on how to fit condoms is provided.	1.300	3	0.729	More Muslims, 75.0% than Christians, 74.4% agreed that demonstration on how to fit condoms was provided at the clinics. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).
Information on the prevention of HIV/AIDS is given.	4.841	3	0.184	More Christians, 82.8% than Muslims, 80.0% agreed that information on the prevention of HIV/AIDS was given at the clinics. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).
Information on sexual risk behaviours is provided.	1.826	3	0.609	More Muslims, 100.0% than Christians, 76.5% agreed that information on sexual risk behaviours was provided at the clinics. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).
Information on transmission of HIV/AIDS is provided	1.664	3	0.645	More Muslims, 100.0% than Christians, 78.6% agreed that information on transmission of HIV/AIDS was provided at the clinics. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).

As can be seen from table 5.81, cues to action did not differ statistically between religions concerning information provided at the clinics providing condoms.

The items comprising cues to action for condom use were correlated with social group affiliation as depicted in table 5.82.

**Table 5.82: Cross tabulation of perceived information provided by social group affiliation**

Dependent variables (Perceived information provided by the clinics providing condoms)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
Demonstration on how to fit condoms is provided.	27.718	12	<b>0.006</b>	Across the various social groups, the proportion of respondents who agreed that demonstration on how to fit condoms was provided at the clinics differed significantly. Respondents who belonged to a social club had the

**Table 5.82: Cross tabulation of perceived information provided by social group affiliation**

				highest proportion (82.8%), while those who did not belong to any social group had the lowest (47.6%) ( $\chi^2$ : $p < 0.05$ ).
Information on the prevention of HIV/AIDS is given.	29.672	12	<b>0.003</b>	Across the various social groups, the proportion of respondents who agreed that information on the prevention of HIV/AIDS was given at the clinics differed significantly. Respondents who belonged to a social club had the highest proportion (93.5%), while those who did not belong to any social group had the lowest (52.3%) ( $\chi^2$ : $p < 0.05$ ).
Information on sexual risk behaviours is provided.	35.178	12	<b>0.000</b>	Across the various social groups, the proportion of respondents who agreed that information on sexual risk behaviours was provided at the clinics differed significantly. Respondents who belonged to a social club had the highest proportion (88.9%), while those who did not belong to any social group had the lowest (47.6%) ( $\chi^2$ : $p < 0.05$ ).
Information on transmission of HIV/AIDS is provided	22.651	12	<b>0.031</b>	Across the various social groups, the proportion of respondents who agreed that information on transmission of HIV/AIDS was provided at the clinics differed significantly. Respondents who belonged to a social club had the highest proportion (89.0%), while those who did not belong to any social group had the lowest ((52.3%) ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.82, cues to action for condom use differed statistically among social groups. This could be explained by the fact that belonging to a social group could have given respondents opportunities to discuss condom use with peers generating cues to condom use rather than those not belonging to a social group.

### **5.5.3.1 Motivation to use condoms by respondents**

In this subsection the respondents who used condoms were asked to indicate what motivated them to use condoms. They were free to select more than one option.

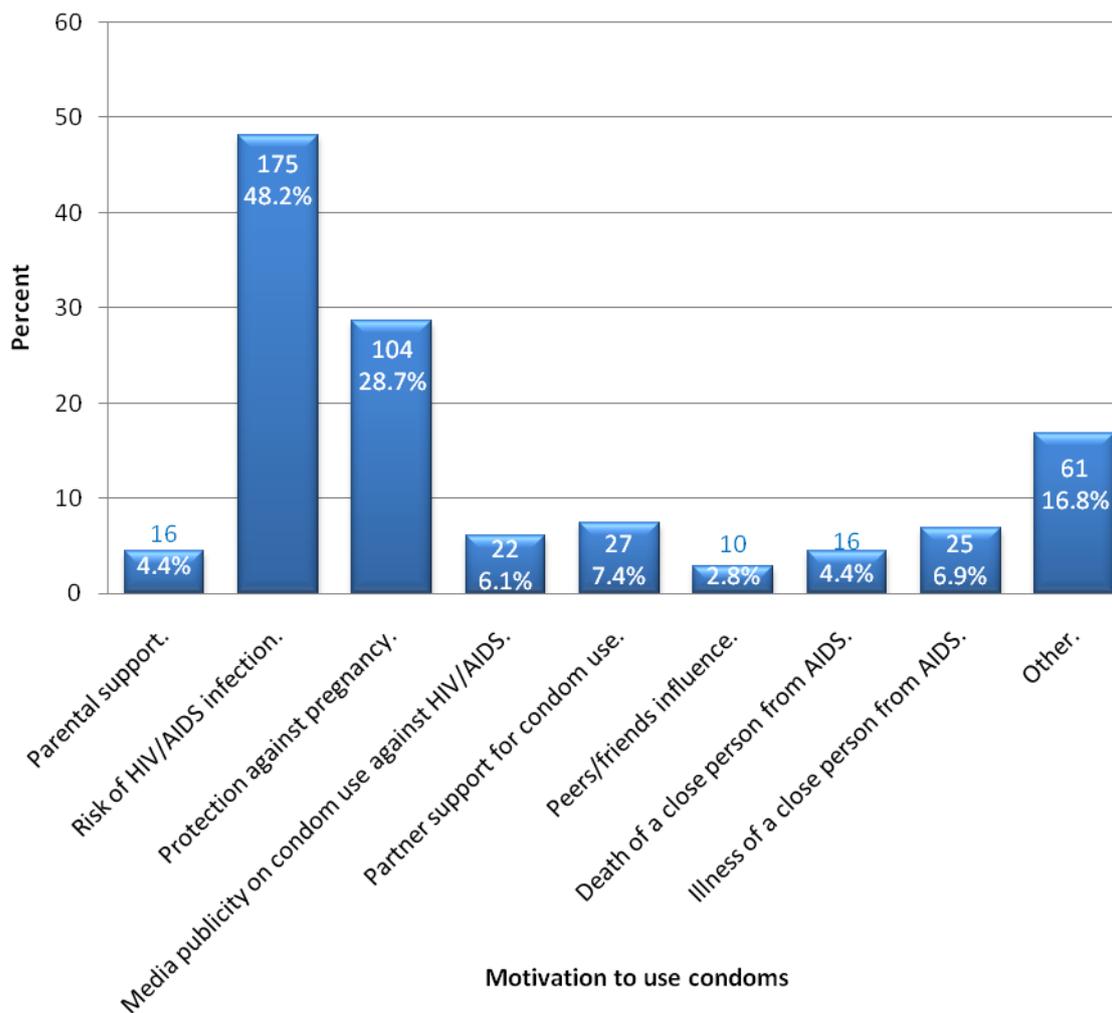


Figure 5.14: Motivation to use condoms by respondents (n=363)

Of the 456 responses to this question, 175 (48.2%) mentioned risk of HIV/AIDS infection; 16 (4.4%) parental support; followed by protection against pregnancy 104 (28.7%). Few, ten (10) (2.8%) mentioned peer or friend influence; followed by death of a close person from HIV/AIDS 16 (4.4%).

Although 175 (48.2%) mentioned the risk of HIV/AIDS infection as their reason for condom use, 52.3% of the respondents were sexually active (see figure 5.17). This shows that some learners in Kumba perceived themselves as not being at risk or at low risk of HIV/AIDS infection, which is in accordance with previous studies carried out in Kwazulu-Natal in Republic of SA by Maharaj (2006). This study reported that two-thirds of the respondents cited protection against pregnancy as their main

reason for using condoms while fewer than one in five cited the risk of HIV infection as their reason for condom use (Maharaj 2006:28).

### **5.5.3.2 Perceived accessibility to condoms**

From the current study, it can be seen that many youths do not feel that condoms are readily available, or affordable and accessible to them. These findings emphasise the need to make condoms readily available, affordable and accessible to adolescents.

Respondents' perceived barriers to condom use may increase their vulnerability to HIV/AIDS transmission. The data revealed a gap in the knowledge on condoms by respondents. A new condom should be used each time a couple has sex and it must be used from start to finish to protect against HIV transmission. Once a condom has been used, it cannot be reused. A condom that has past its expiry date should be thrown away and a new one used instead.

Perceived accessibility to condoms could be considered as motivation or demotivation to use condoms. This subsection consisted of three items requesting the respondents to indicate their agreement on a four point Likert scale regarding perceptions of their accessibility to condoms. Of the 480 respondents, only some (as indicated by n= in the "total" column of table 5.83) responded to these items.

**Table 5.83: Perceived accessibility to condoms**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
Condoms are readily available to me.	77	18.1	147	35.5	110	26.6	82	19.8	414	100
Condoms are affordable to me.	64	15.9	152	37.8	111	27.6	75	18.7	402	100
Condoms are accessible to me.	63	15.6	134	33.1	127	31.4	81	20.0	405	100

From the findings, as many as 208 (51.4%) stated that condoms were not accessible to them; 192 (46.4%) stated that condoms were not readily available to them; 186 (46.3%) stated that condoms were not affordable to them.

Items comprising perceived accessibility to condoms were correlated with gender as depicted in table 5.84

**Table 5.84: Cross tabulation of perceived accessibility to condoms by gender**

Dependent variables (perceived accessibility to condoms)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
Condoms are readily available to me	8.053	3	<b>0.045</b>	More males, 123 (58.6%) than females, 99 (48.5%) agreed that condoms were readily available to them. This view was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
Condoms are affordable to me	11.157	3	<b>0.011</b>	More males, 118 (58.7%) than females, 98 (48.8%) agreed that condoms were affordable to them, and this view was statistically influenced by gender ( $X^2$ : $p<0.05$ ).
Condoms are accessible to me	9.374	3	<b>0.025</b>	More males, 103 (51.5%) than females, 94 (45.8%) agreed that condoms were accessible to them, and this view was statistically influenced by gender ( $X^2$ : $p<0.05$ ).

It is clear from table 5.84 that the perceived accessibility to condoms differed significantly between genders, with more males than females having the perception that condoms were accessible to them.

Items comprising perceived accessibility to condoms were correlated with age as depicted in table 5.85.

**Table 5.85: Cross tabulation of perceived accessibility to condoms by age**

Dependent variables (perceived accessibility to condoms)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
Condoms are readily available to me	18.549	12	0.100	The perception by respondents that condoms were readily available to them was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 43.8% among respondents in the 11-15 years age group, to 76.2% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Condoms are affordable to me	15.391	12	0.221	The perception by respondents that condoms were affordable to them was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 45.7% among respondents in the 16-17 years age group, to 73.7% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).
Condoms are accessible to me	6.459	12	0.891	The perception by respondents that condoms were accessible to them was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 43.8% among respondents in the 11-15 years age group, to 66.7% among those in the 22-23 years age group ( $X^2$ : $p>0.05$ ).

It is clear from table 5.85 that perceived accessibility to condoms did not differ among the various age groups. Learners in the current study irrespective of age group had the same accessibility to condoms

Items comprising perceived accessibility correlated with religious affiliations as depicted in table 5.86.

**Table 5.86: Cross tabulation of perceived accessibility to condoms by religion**

Dependent variables (perceived accessibility to condoms)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
Condoms are readily available to me	0.286	3	0.963	More Christians, 54.5% than Muslims, 50.0%) agreed that condoms were readily available to them. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Condoms are affordable to me	4.713	3	0.194	More Muslims, 100.0% than Christians, 54.1% agreed that condoms were affordable to them, However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).
Condoms are accessible to me	0.371	3	0.946	More Muslims, 50.0% than Christians, 49.1% agreed that condoms were accessible to them. However this view was not statistically influenced by religion ( $\chi^2$ : $p>0.05$ ).

It is clear from table 5.86 that perceived accessibility to condoms did not differ among the various religious groups. Learners in the current study, independent of religion perceived condoms as being accessible to them.

Items comprising perceived accessibility to condoms were correlated with social group affiliations as depicted in table 5.87.

**Table 5.87: Cross tabulation of perceived accessibility to condoms by social group affiliation**

Dependent variables (perceived accessibility to condoms)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
Condoms are readily available to me	18.133	12	0.112	Across the various social groups, the proportion of respondents who agreed that condoms were readily available to them did not differ significantly, ranging from 47.7% among respondents who belonged to a Church youth club, to 71.5% among those who did not belong to any social group ( $\chi^2$ : $p>0.05$ ).
Condoms are affordable to me	29.387	12	<b>0.003</b>	Across the various social groups, the proportion of respondents who agreed that condoms were affordable to them differed significantly. Respondents who did not belong to any social group had

**Table 5.87: Cross tabulation of perceived accessibility to condoms by social group affiliation**

Dependent variables (perceived accessibility to condoms)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
Condoms are readily available to me	18.133	12	0.112	Across the various social groups, the proportion of respondents who agreed that condoms were readily available to them did not differ significantly, ranging from 47.7% among respondents who belonged to a Church youth club, to 71.5% among those who did not belong to any social group ( $\chi^2$ : $p>0.05$ ).
				the highest proportion (81.0%), while those who belonged to a Church youth group had the lowest (45.4%) ( $\chi^2$ : $p<0.05$ ).
Condoms are accessible to me	28.778	12	<b>0.004</b>	Across the various social groups, the proportion of respondents who agreed that condoms were accessible to them differed significantly. Respondents who did not belong to any social group had the highest proportion (71.5%), while those who belonged to a Church youth group had the lowest (43.1%) ( $\chi^2$ : $p<0.05$ ).

Fewer learners who belonged to a church youth group perceived that condoms were not accessible to them than those who did not belong to any group. Learners who do not perceive the benefit of condom use to prevent HIV/AIDS, such as those belonging to a church youth group, might also not perceive that condoms are not accessible to them. These perceptions differed significantly among the social groups.

Items comprising perceived accessibility to condoms were correlated with present area of residence as depicted in table 5.88.

**Table 5.88: Cross tabulation of perceived accessibility to condoms use by area of residence**

Dependent variables (perceived accessibility to condoms)	Independent variable (factor)			Remark
	Present area of residence.			
	Chi- square	df	P value	
Condoms are readily available to me	8.364	12	0.756	Of the respondents who are living in the rural areas, 56.7% agreed that condoms were readily available, while 43.3% disagreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
Condoms are affordable to me	8.243	12	0.766	Of the respondents who are living in the township, 54.7% agreed that condoms were affordable to them, while 45.3% disagreed. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
Condoms are accessible to me	16.372	12	0.175	Of the respondents who are living in the township, 52.0% disagreed that condoms were accessible to them, while 48.0% agreed. However the difference was not significant ( $X^2$ : $p>0.05$ ).

As can be seen from table 5.88, perceived accessibility to condoms was not statistically influenced by respondents' areas of residence. It is deduced that condoms were available, accessible and affordable to respondents independent of their areas of residence.

### **5.5.3.3 Respondents' perceptions of clinic staff**

This subsection consisted of thirteen items, asking the respondents to indicate their agreement on a four-point Likert scale regarding their perceptions of clinic staffs. Of the 480 respondents, only some (as indicated by n= in the total column of table 5.89) provided answers to these items. The responses to these items are depicted in table 5.89.

**Table 5.89: Respondents' perceptions of clinic staffs**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
Staff is knowledgeable about HIV/AIDS.	167	40.8	178	43.5	31	7.6	33	8.1	409	100
Staff is knowledgeable about condoms.	149	37.5	195	49.1	25	6.3	28	7.1	397	100
Staff is friendly.	76	19.5	177	45.5	87	22.4	49	12.6	389	100
Staff listens to me when talking to them	78	20.4	177	46.3	77	20.2	50	13.1	382	100
Staff encourages me to voice ideas.	95	25.1	187	79.3	49	12.9	48	12.7	379	100
Staff talks to me in a way that I am able to understand.	109	28.5	185	48.4	57	14.9	31	8.1	382	100
Staff offers me a seat.	65	17.1	171	44.9	76	19.9	69	18.1	381	100
Staff is judgmental.	82	21.4	151	39.3	88	22.9	63	16.4	384	100
Staff lacks knowledge on HIV/AIDS.	34	8.5	47	11.7	163	40.6	157	39.2	401	100
Staff behaves unprofessionally.	42	10.7	73	18.7	163	41.7	113	28.9	391	100
Staff fails to encourage adolescents to ask questions.	49	12.9	97	25.6	137	36.1	96	25.3	379	100
Confidentiality is maintained at the clinics.	83	22.4	142	38.4	107	28.9	38	10.3	370	100
Privacy is maintained.	67	18.1	169	45.6	83	22.4	52	14.0	371	100

Most learners have positive perceptions of clinic staff members. Of the respondents, 344 (86.6%) believed that staff members were knowledgeable about condoms; 345 (84.4%) believed that staff members were knowledgeable about HIV/AIDS; 294 (77.0%) believed staff members talked to learners in ways that they could understand; 282 (74.4%) believed staff members encouraged one to voice ideas; 255 (66.7%) believed staff members listened to them; 253 (65.0%) believed that staff members were friendly and 236 (61.9%) indicated that staff offered them a seat.

The perceptions of respondents regarding clinic staff members could either motivate or demotivate adolescents to use condoms. Most of the learners indicated positive perceptions regarding clinic staff members, except for one item. Of the respondents, 233 (60.7%) indicated that the condom provider was judgmental. This negative perception of learners regarding clinic staff members' attendants could demotivate adolescents to access and use condoms during sexual intercourse, hence exposing them to the risk of contracting HIV/AIDS.

### 5.5.3.4 Receiving sexuality education

In this subsection, the respondents were asked to indicate whether they had ever received sexuality education. The subsection consisted of only one (1) item. Table 5.90 depicts the responses to this item. Of the 480 respondents, 472 provided answers to this item.

**Table 5.90: Respondents' responses on whether they had ever received sexuality education**

Variable	Categories	Frequency	Percent	Cumulative Percent
Have you ever received sexuality education	No	111	23.5	23.5
	Yes	361	76.5	100.0
Total		472	100.0	

Of the respondents, 361 (76.5%) mentioned 'yes', while 111 (23.5%) mentioned 'no'.

As mentioned in chapter there was no sexuality education programme in the curriculum of secondary schools in Cameroon in 2009 when the data collection took place. The 76.5% of respondents, who mentioned that they had received sexuality education, might have received it informally.

### 5.5.3.5 Level of satisfaction of respondents with the sexuality education

The respondents, who indicated that they had received sexuality education in table 5.90, were asked to indicate their level of satisfaction with the sexuality education and the sources mentioned (teachers, magazines/newspapers, television/radio & parents/guardians) (see section 5.5.3.7).

**Table 5.91: Level of satisfaction of respondents with sexuality education received**

Variable	Categories	Frequency	Percent	Cumulative Percent
Were you satisfied with the way the sexuality education was presented from the sources mentioned in B 5.2? (see section 5.5.3.5 of this thesis)	No	113	25.9	25.9
	Yes	196	44.9	70.7
	Not sure	128	29.3	100.0
Total		437	100.0	

Of the 437 respondents, 196 (44.9%) stated that they were satisfied; 128 (29.3%) stated that they were not sure whether they were satisfied and 113 (25.9%) stated that they were not satisfied.

### **5.5.3.6 What to include in sexuality education**

In this subsection, the respondents were asked to indicate what they thought should be included in sexuality education. The responses are depicted in table 5.92. They were free to select more than one answer from the options given.

**Table 5.92: Aspects to be included in sexuality education**

If your answer to B 5.3 is “No” or “Not sure”, what in your opinion would you want to be included in sexuality education? (you may mark more than one box)	Yes		No		Total	
	f	%	f	%	n	%
Sexual risk behaviours.	40	33.3	80	66.7	120	100
Prevention of HIV/AIDS.	82	67.8	39	32.2	121	100
Correct way of using condom.	55	45.5	66	54.5	121	100
Transmission of STDs and HIV/AIDS.	37	30.6	84	69.4	121	100
Other.	11	9.1	110	90.9	121	100

The data thus revealed some gaps in the knowledge regarding sexuality education among learners in Kumba, as many learners, 82 (67.8%) stated that they wanted more knowledge on the prevention of HIV/AIDS; 55 (45.5%) more knowledge on correct ways of using condoms; 40 (33.3%) sexual risk behaviours and few, 37 (30.6%) knowledge on the transmission of HIV/AIDS. The data thus emphasise the necessity of providing learners in the city of Kumba with formalised and organised sexuality education.

### **5.5.3.7 Sources providing sexuality education**

In this subsection, the respondents who indicated that they had received sexuality education were asked to indicate the sources providing them with sexuality education. The respondents were free to select more than one option.

**Table 5.93: Sources providing sexuality education to respondents**

From where did you receive the sexuality education?	Yes		No		Total	
	f	%	f	%	n	%
Parents or guardians.	155	43.3	203	56.7	358	100
Teacher.	236	65.9	122	34.1	358	100
Peer.	42	11.7	316	88.3	358	100
T V or radio.	168	46.9	190	53.1	358	100
Magazine or newspapers.	209	58.4	149	41.6	358	100
Hospital or clinic.	136	38.0	222	62.0	358	100
Other	28	7.8	330	92.2	358	100
Total	974		1523		2506	

Of the 974 “yes” responses to this question, 236 (65.9%) mentioned teachers; followed by magazines or newspapers 209 (58.4%); then television or radio, 168 (46.9%) and parents or guardians, 155 (34.3%).

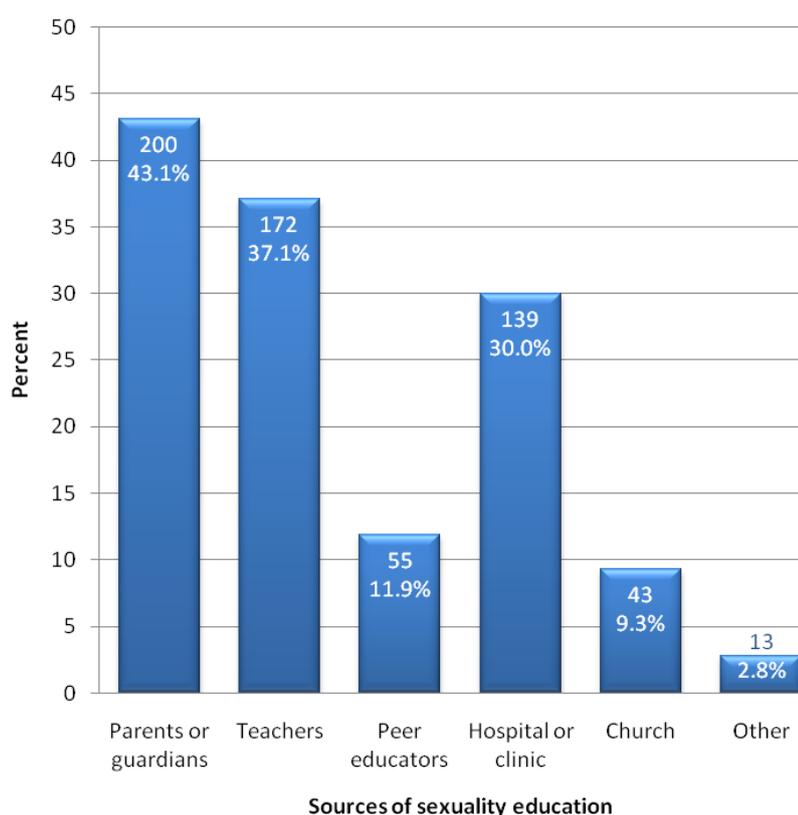
It could be expected that since most of the respondents lived with either parents or guardians, 61.1% (see figure 5.2 of this thesis), most would find their parents or guardians as source of information. Parents should play a significant role as sexuality educators but some parents might not be ready and willing to discuss sexual issues with their children as they assume that youths will get information from school (Khosa 2004:39; Miller 2002:22-26). The most popular sources of sexuality education for the respondents in the current study (magazines/newspapers & teachers) were also the most popular sources of HIV/AIDS knowledge (see figure 5.3), of condom knowledge (see figure 5.4) and knowledge on side effects of condoms (see figure 5.7).

### **5.5.3.8 Those that need to provide youths with sexuality education**

In this subsection, the respondents were asked to mention those who in their opinion, need to provide youths with sexuality education. They were free to select more than one option.

**Table 5.94: Those that need to provide the youths with sexuality education**

Who in your opinion needs to provide youths with sexuality education?	Yes		No		Total	
	f	%	f	%	n	%
Parents or guardians.	200	43.1	264	56.9	464	100
Teachers.	172	37.1	292	62.9	464	100
Peer educators.	55	11.9	409	88.1	464	100
Hospital or clinic.	139	30.0	325	70.0	464	100
Church.	43	9.3	421	90.7	464	100
Other	13	2.8	451	97.2	464	100
Total	622		2162		2784	



**Figure 5.15: Those that need to provide youth with sexuality education (n=464)**

The current data revealed that in order of preference, the learners mentioned parents or guardians 200 (43.1%); teachers 172 (37.1%), then clinic or hospital, 139 (30.0%) as their preferred sources for receiving sexuality education. All in all there were 622 responses.

### **5.5.3.9 Having a person responsible for counselling learners about sexuality in school**

In this subsection, the respondents were asked if they had a person responsible for counselling learners about sexuality in their various schools.

**Table 5.95: Receiving sexuality education in schools**

Variable	Categories	Frequency	Percent	Cumulative Percent
Do you have a person responsible for counselling learners about sexuality in your school	No	158	33.8	33.8
	Yes	187	40.0	73.7
	Not sure	51	10.9	84.6
	Don't know	72	15.4	100.0
<b>Total</b>		468	100.0	

Of the 468 respondents, 187 (40.0%) mentioned 'Yes'; 158 (33.8%) mentioned 'No'; 72 (15.4%) mentioned 'don't know' and 51 (10.9%) indicated they were not sure. As mentioned in section 3.4.2.1.4, no sexuality education had been formally implemented in school curricula in Cameroon in 2009; so if learners indicated that they had a person responsible for counselling them on sexual issues, it does not involve formalised sexuality education. Some schools in Kumba have counsellors charged with guiding learners on aspects of sexuality education.

### **5.5.3.10 Perceptions of sexuality education for youths**

This subsection consisted of three items, asking the respondents to indicate their agreement on a four-point Likert scale regarding their perceptions of sexuality education for youths. This subsection relates to possible formalised sexuality education at school.

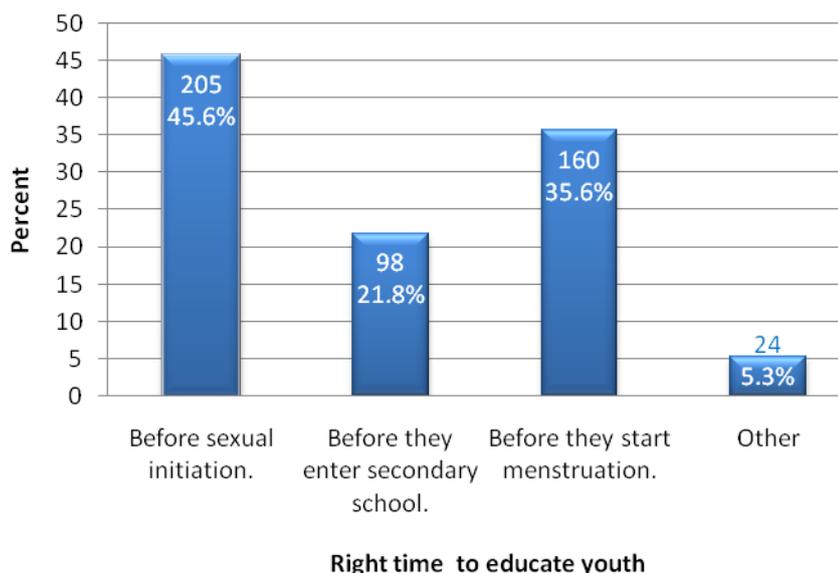
**Table 5.96: Perception of sexuality education for youths**

Item	SA		A		DA		SDA		Total	
	F	%	f	%	f	%	f	%	n	%
Sexuality education should be offered at home by parents or guardians.	216	47.4	173	37.9	40	8.8	27	5.9	456	100
Sexuality education should be offered at school by teachers.	204	45.2	203	45.0	28	6.2	16	3.5	451	100
Both boys and girls should obtain organised (formalised) sexuality education.	206	46.2	185	41.5	25	5.6	30	6.7	446	100

Most respondents 389 (85.3%), supported that sexuality education should be offered at home and 389 (85.3%) at school, 407 (90.2%); 391 (87.3%) supported that both boys and girls should obtain organised (formalised) sexuality education.

### 5.5.3.11 The best time to educate youths on sexuality

In this subsection, the respondents were asked to give their opinion of the right time to educate youths on sexuality. They were free to select more than one option.



**Figure 5.16: Right time to educate youth on sexuality (n=450)**

Of the 487 responses from 450 respondents, most 205 (45.6%) mentioned before sexual initiation; 160 (35.6%) mentioned before menarche; 98 (21.8%) mentioned before they entered secondary schools and 24 (5.3%) mentioned other unspecified times to educate youths on sexuality.

In Cameroon, sexual and reproductive health is not taught in schools formally. Schools are not well equipped to impart learners with knowledge on sexuality. Teachers might receive insufficient training in reproductive issues. Furthermore, in Cameroon the government has not included reproductive health in the curriculum of secondary education (see section 1.3 of this thesis). Many respondents (205) (45.6%) mentioned that sex education should be initiated before youths initiate sexual intercourse. In the current study, 62.1% of the respondents, who were sexually active, commenced sex by the age of 16 years (see table 5.93). By this age, more than 95% of youths were already in secondary school. There could thus be a need to initiate sexuality education for youths before they enter secondary school.

#### 5.5.4 Condom use self-efficacy

The sixth concept of the HBM is self-efficacy. This 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 (Peltzer 2001:39). Self-efficacy is one's ability to successfully take action (ReCAPP 2007:4). One 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 (ReCAPP 2005:2). In the current study, self-efficacy refers to the confidence in one's ability to use condoms (Groenewold et al 2006:4).

This subsection consisted of four items, requesting the respondents (male and female) to indicate their agreement on a four-point Likert scale, regarding their perceived condom use self-efficacy.

**Table 5.97: Condom use self-efficacy**

Item	SA		A		DA		SDA		Total	
	F	%	f	%	f	%	f	%	n	%
I feel confident that I can discuss condom use with my partner(s).	134	31.2	164	38.2	76	17.7	55	12.8	429	100
I feel confident that I can convince my partner(s) to use condoms during sexual intercourse.	123	28.9	176	41.4	73	17.2	53	12.5	425	100
I am shy purchasing a condom from a nearby store.	78	18.8	153	36.8	107	25.7	78	18.8	416	100
I have confidence that I could refuse sex with my partner if she/he refuses to use condoms.	165	37.8	163	37.4	67	15.4	41	9.4	436	100

The data reveal that 231 (55.5%) respondents were shy purchasing condoms from nearby stores; 131 (30.5%) did not feel confident that they could discuss condom use with their partners; 126 (29.6%) did not feel confident that they could convince their partners to use condoms during sex and 108 (24.8%) did not have the confidence that they could refuse sex with their partners if they refused to use condoms. This might indicate that these learners did not have the self-efficacy to use condoms effectively.

According to the HBM, learners who perceived themselves to be susceptible to HIV/AIDS need to have the confidence that they can use condoms, before they could use condoms correctly and consistently to prevent HIV/AIDS (see sections 2.3.2.5.1 & 3.4.1 of this thesis). Learners with low condom use self-efficacy might not use condoms consistently during sexual intercourse to prevent HIV/AIDS.

According to the HBM, perceived self efficacy is one of several determinants of HIV sexual risk reduction and reproductive health (see sections 2.3.2.5.6 & 3.4.3.4). Learners who lacked confidence in their ability to purchase condoms and negotiate their use might have a higher likelihood of engaging in unprotected intercourse. In the current study, only 69.5% of learners felt confident to discuss condom use with their partners, 70.4% felt confident that they could convince their partners to use condom during sex, 55.5% stated that they would be shy purchasing a condom from a nearby store, and 75.2% had the confidence that they would refuse sex with their partners if they refuse to use condoms (table 5.97).

These findings indicate a high self-efficacy perception despite no formal sexuality education among respondents in the current study. These findings agree with previous findings (Meekers & Klein 2002a:11) that self-efficacy in condom use among youths in urban Cameroon resulted in an ability to discuss condom use with partner(s) The results indicated that most of these young people felt that they could refuse sex with their partners if the partners refused to use condoms.

The items comprising perceived condom use self-efficacy were correlated with gender. Table 5.98 depicts the result.

**Table 5.98: Cross tabulation of condom use self-efficacy by gender**

Dependent variables (condom use self-efficacy)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
I feel confident that I can discuss condom use with my partner(s).	13.330	3	0.004	More males, 152 (71.0%) than females, 146 (67.9%) agreed that they felt confident that they could discuss condom use with their partners, and this view was statistically influenced by gender ( $\chi^2$ : $p < 0.05$ ).
I feel confident that I can convince my partner(s) to use condoms during sexual intercourse.	13.325	3	0.004	More males, 72.2% than females, 68.7% agreed that they felt confident that they could convince their partners to use condoms during sexual intercourse, and this view was statistically influenced by gender ( $\chi^2$ : $p < 0.05$ ).
I am shy purchasing a condom from a nearby store.	6.886	3	0.076	More females, 127 (60.2%) than males, 104 (50.7%) agreed that they were shy purchasing condoms from a nearby store. However this view was not statistically influenced by gender ( $\chi^2$ : $p > 0.05$ ).
I have confidence that I could refuse sex with my partner if she/he refuses to use condoms.	19.937	3	0.000	More females, 173 (76.9%) than males, 155 (73.5%) agreed that they have confidence that they could refuse sex if their partners if they refuse to use condoms, and this view was statistically influenced by gender ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.98, more males than females had the confidence that they can discuss condom use with their partners and the confidence that they could convince their partners to use condoms during sexual intercourse, and these perceptions of self efficacy differed statistically between genders. Condoms in the current study refer to male condoms, which require male application only. More females than males agreed that they have the confidence that they could refuse sex with their partners if they refuse to use condoms, and this perception differed statistically between genders.

The items comprising perceived condom use self-efficacy were correlated with religious affiliation as depicted in table 5.99.

**Table 5.99: Cross tabulation of condom use self-efficacy by religion**

Dependent variables (condom use self-efficacy)	Independent variable (factor)			Remark
	Religion			
	Chi-square	df	P value	
I feel confident that I can discuss condom use with my partner(s).	1.508	3	0.680	More Muslims, 80.0% than Christians, 69.6% agreed that they felt confident that they could discuss condom use with their partners. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).
I feel confident that I can convince my partner(s) to use condoms during sexual intercourse.	1.066	3	0.785	More Christians, 70.0% than Muslims, 60.0% agreed that they felt confident that they could convince their partners to use condoms during sexual intercourse. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).
I am shy purchasing a condom from a nearby store.	4.381	3	0.223	More Muslims, 60.0% than Christians, 55.1% agreed that they were shy purchasing condoms from a nearby store. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).
I have confidence that I could refuse sex with my partner if she/he refuses to use condoms.	1.594	3	0.661	More Muslims, 80.0% than Christians, 75.3% agreed that they had confidence that they could refuse sex with their partners if they refused to use condoms. However this view was not statistically influenced by religion ( $X^2$ : $p>0.05$ ).

From table 5.99 it can be seen that respondents independently of their religious affiliations experienced the same condom use self-efficacy.

The items comprising perceived condom use self-efficacy were correlated with social group affiliation as depicted in table 5.100.

**Table 5.100: Cross tabulation of condom use self-efficacy by social group affiliation**

Dependent variables (condom use self-efficacy)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
I feel confident that I can discuss condom use with my partner(s).	17.827	12	0.121	Across the various social groups, the proportion of respondents who agreed that they felt confident that they can discuss condom use with their partners did not differ significantly, ranging from 62.6% among respondents who belonged to a church youth club, to 81.0% among those who did not belong to any social group ( $X^2$ : $p>0.05$ ).

**Table 5.100: Cross tabulation of condom use self-efficacy by social group affiliation**

Dependent variables (condom use self-efficacy)	Independent variable (factor)			Remark
	Social group			
	Chi-square	df	P value	
I feel confident that I can convince my partner(s) to use condoms during sexual intercourse.	19.055	12	0.115	Across the various social groups, the proportion of respondents who agreed that they felt confident that they could convince their partners to use condoms during sexual intercourse did not differ significantly, ranging from 64.8% among respondents who belonged to a church youth club, to 76.7% among those who belonged to a sports club ( $X^2$ : $p>0.05$ ).
I am shy purchasing a condom from a nearby store.	18.035	12	0.115	Across the various social groups, the proportion of respondents who agreed that they were shy purchasing condoms from a nearby store did not differ significantly, ranging from 45.5% among respondents who belonged to a sports club, to 60.0% among those who did not belong to any social group ( $X^2$ : $p>0.05$ ).
I have confidence that I could refuse sex with my partner if she/he refuses to use condoms.	18.233	12	0.109	Across the various social groups, the proportion of respondents who agreed that they had confidence that they could refuse sex with their partners if they refused to use condoms did not differ significantly, ranging from 66.7% among respondents who did not belong to a social group, to 83.3% among those who belonged to a social club ( $X^2$ : $p>0.05$ ).

As is the case with religion versus condom use, table 5.100 also indicates that none of the condom use self-efficacy items were statistically dependent on social group affiliation.

The items comprising perceived condom use self-efficacy were correlated with age. Table 5.101 depicts the result.

**Table 5.101: Cross tabulation of condom use self-efficacy condoms by age**

Dependent variables (condom use self-efficacy)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
I feel confident that I can discuss condom use with my partner(s).	19.353	12	0.080	The perception by respondents that they felt confident that they could discuss condom use with their partners was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 61.7% among respondents in the 16-17 years age group, to 85.7% among those in the 22-23 years age group ( $\chi^2$ : $p>0.05$ ).
I feel confident that I can convince my partner(s) to use condoms during sexual intercourse.	17.094	12	0.146	The perception by respondents that they felt confident that they could convince their partners to use condoms during sexual intercourse was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 63.2% among respondents in the 16-17 years age group, to 85.7% among those in the 22-23 years age group ( $\chi^2$ : $p>0.05$ ).
I am shy purchasing a condom from a nearby store.	12.354	12	0.418	The perception by respondents that they were shy purchasing a condom from a nearby store was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 42.1% among respondents in the 22-23 years age group, to 60.0% among those in the 16-17 year age group ( $\chi^2$ : $p>0.05$ ).
I have confidence that I could refuse sex with my partner if she/he refuses to use condoms.	15.359	12	0.222	The perception by respondents that they had confidence that they could refuse sex with their partners if they refused to use condoms was not statistically dependent of age. Across the various age groups, the proportion of respondents who agreed with this perception did not differ significantly, ranging from 62.9% among respondents in the 11-15 years age group, to 90.5% among those in the 22-23 year age group ( $\chi^2$ : $p>0.05$ ).

As can be seen from table 5.101, none of the condom use self-efficacy items indicated a statistical dependence of age group. The respondents in the current study, independent of age experience high self-efficacy for condom use.

## 5.6 SEXUAL BEHAVIOURS

This section of the questionnaire examined the respondents' sexual behaviours. It consisted of thirteen subsections covering history of sexual activity, age of first sexual encounter, how the first sexual encounter happened, history of sexual coercion, number of sexual encounters in a month, number of sexual partners, main reasons for sexual abstinence, sexual encounter with a person on ART, change of sexual behaviours after becoming aware of HIV/AIDS, age of current "steady" sexual partner, utilisation of condoms during sexual intercourse, sources of condoms used and regularity of condom use.

### 5.6.1 History of sexual activities

The respondents were asked if they have ever had sexual intercourse. Of the 480 respondents, only 457 provided answers to this question. Figure 5.17 depicts the responses.

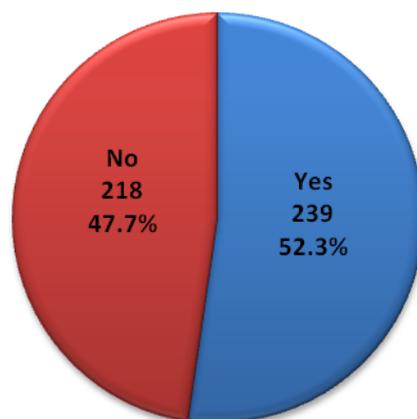


Figure 5.17: Respondents' responses on their sexual activities (n=457)

Of the 457 respondents most, 239 (52.3%) indicated that they were sexually active, while the minority, 218 (47.7%) stated that they were not sexually active.

## 5.6.2 Age of first sexual encounter

The respondents who were sexually active were requested to indicate the age when they had sex for the first time. Table 5.102 depicts these responses. Of the 239 respondents, only 232 provided answers to this item possibly because they did not want to disclose their age of sexual initiation. Knowing the age at which the respondents first had sexual intercourse is important as it could indicate at what age sex education, as well as condom knowledge, should be provided (Mbambo 2005:52).

**Table 5.102: Age of first sexual encounter (n=234)**

Age	Frequency	Percent	Cumulative frequency
2	1	0.4	0.4
3	1	0.4	0.9
4	1	0.4	1.3
5	2	0.9	2.2
6	2	0.9	3.0
7	2	0.9	3.9
8	4	1.7	5.6
9	2	0.9	6.5
10	2	0.9	7.3
11	6	2.6	9.9
12	6	2.6	12.5
13	12	4.3	16.8
14	24	10.3	27.2
15	43	18.5	45.7
16	38	16.4	62.1
17	25	10.8	72.8
18	37	15.9	88.8
19	10	4.3	93.1
20	15	6.5	99.6
25	1	0.4	100.0
<b>Total</b>	<b>234</b>	<b>100.0</b>	

As can be seen from table 5.102, by the age of 16 years, 62.4% of the respondents had already commenced sex; and by this age adolescents have already commenced secondary education, similar to the 16.4 years median age of sexual debut in Cameroon reported by (USAID 2008). Early sexual debut can place adolescents at increased risk of unintended pregnancy, HIV/AIDS infection and other STIs. Youths

who begin sexual activities early are more likely to have sex with high risk partners and are less likely to use condoms (WHO 2000:3). In the current study, only 30.0% of the sexually active learners reported consistent condom usage (figure 5.26).

Age of first sexual encounter was cross tabulated with church youth group affiliation, and the result is depicted in table 5.103.

**Table 5.103: Cross tabulation of age of first sex by Church youth group affiliation**

Dependent variable (Church youth group affiliation)	Independent variable (factor)			Remark
	Age of first sex			
	Chi-square	df	P value	
Do you belong to a church youth group?	2.195	1	0.138	Of the respondents who initiated sex at the youngest age group (11-15 years), 66.1% did not belong to a church youth group while 56.6% belonged to a church youth group. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).

It can be seen from table 5.103 belonging to a church youth group did not statistically influence age of first sex. The respondents in the current study independent of church group affiliation experienced sexual intercourse at similar age.

Age of first sexual encounter was cross tabulated with sports group affiliation and the result is depicted in table 5.104.

**Table 5.104: Cross tabulation of age of first sex by sports group affiliation**

Dependent variable (Sports group affiliation)	Independent variable (factor)			Remark
	Age of first sex			
	Chi-square	df	P value	
Do you belong to a sports group?	1.014	1	0.314	Age of first sexual encounter was not statistically dependent of sports group affiliation. Across the two groups, respondents who did not belong to a sports group had a higher proportion 113 (63.5%) of those who initiated sex at a younger age (11-15 years) than those who belonged to a sports group 29 (55.8%) ( $X^2$ : $p>0.05$ ).

It can be seen from table 5.104 that belonging to a sports group did not statistically influence age of first sexual encounter. The respondents in the current study independent of sports group affiliation experience sexual intercourse at similar age.

### 5.6.3 How the first sexual encounter happened

In this subsection, the respondents were asked to indicate reasons for their sexual debut. Some respondents failed to answer the question possibly due to the personal nature of the question. Figure 5.18 depicts the responses.

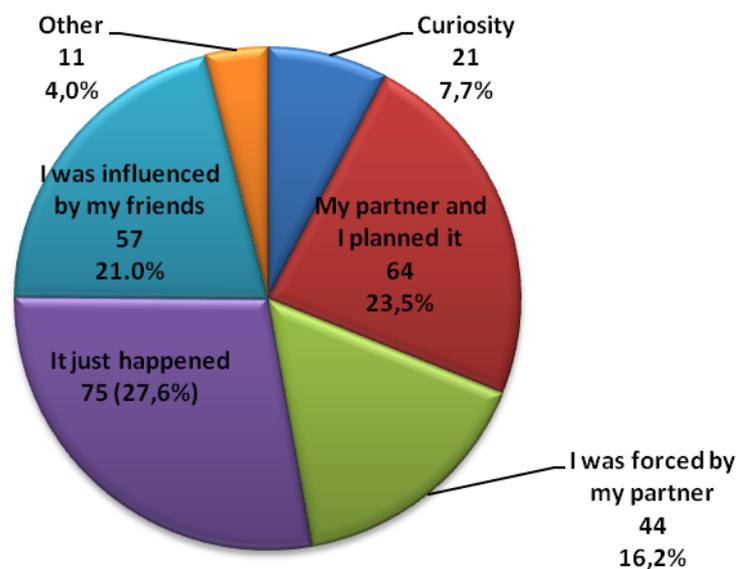


Figure 5.18: Reasons for having sex for the first time (n=272)

Of the 272 respondents who mentioned that they had sex, 75 (27.6%) indicated that it just happened; 64 (23.5%) mentioned that they planned it with their partners; 57 (21.0%) reported that they were influenced by friends and 44 (16.2%) reported that they were forced by their partners.

How first sex happened was cross tabulated with gender and the result is depicted in table 5.105.

**Table 5.105: Cross tabulation of how first sex happened by gender**

Dependent variable (How first sex happened)	Independent variable (factor)			Remark
	Gender			
	Chi-square	df	P value	
The first time you had sex how did it happen?	6.265	4	0.180	More females, 27 (12.2%) than males, 17 (7.8%) reported that their first sex was forced. However the difference was not statistically significant ( $\chi^2$ : $p>0.05$ ).

It can be seen from table 5.105 that how first sex happened did not statistically differ between gender. Sexual coercion is a sexual risk behaviour, and 16.2% of the respondents stated that their first sexual encounter was forced which could expose learners to the risk of HIV/AIDS infection.

How first sex happened was correlated with age of first sex divided into two categories as depicted in table 5.106.

**Table 5.106: Cross tabulation of how first sex happened by age of first sexual encounter**

Dependent variable (How first sex happened)	Independent variable (factor)			Remark
	Age of first sexual encounter			
	Chi-square	df	P value	
The first time you had sex how did it happen?	11.124	6	0.085	Of the respondents who indicated that their first sex was forced, most, 76.3% had their first sexual encounters between the ages of 11-16, while few, 23.7% had their first sex between the ages of 17-23. However the difference was not statistically significant ( $\chi^2$ : $p>0.05$ ).

It is clear from table 5.106 that how first sex happened was not statistically dependent of age of first sexual encounter. As can be seen table 5.102, some respondents indicated the age of first sex to be less than 10 years, which could suggest sexual coercion or rape. However from table 5.106 it can be seen that most of respondents 76.3% who indicated that their first sex was forced, had their first sexual encounter between the ages of 11 and 16.

### 5.6.4 History of sexual coercion

This subsection consisted of two items asking the respondents to indicate their history and regularity of sexual coercion. Figure 5.19a and figure 5.19b depict the responses according to each item.

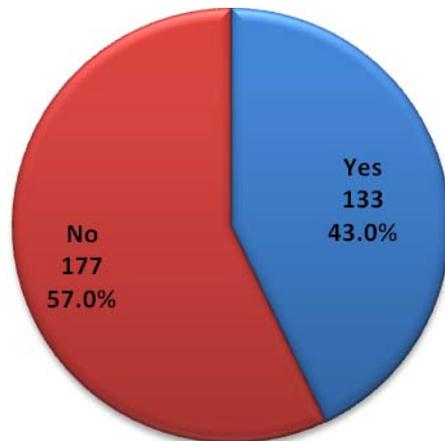


Figure 5.19a: Been forced into sex (n=310)

Of the respondents, 177 (57.0%) reported that they had never been forced into sex against their will; 133 (43.0%) reported having being forced into sex.

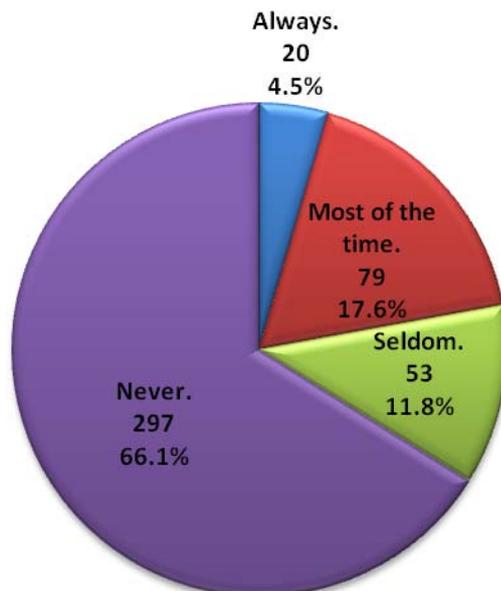


Figure 5.19b: Respondents' regularity of sexual coercion (n=449)

On how often they had been forced into sex against their will, 20 (4.5%) of the respondents reported always; 79 (17.6%) stated most of the time; 53 (11.8%) reported seldomly, while 297 (66.1%) had reportedly never been forced into sex against their will (figure 5.19b).

The current data revealed that 43.0% of the learners had been forced into sex against their will (figure 5.19a), and 4.5% stated that they have always been forced into sex against their will (figure 5.19b).

UNICEF (2002:3) states that a large share of new HIV infections is due to gender-based violence in homes, schools, work places and other social arenas. Forced or coerced sex renders a woman even more vulnerable to infection, and the younger one is, the more likely it is that one will contract HIV. Violence in the form of coerced or forced sex or rape may result in HIV/AIDS infection especially as coerced and often violence sex may lead to the tearing of sensitive tissues and increase the risk of contracting HIV (see section 3.4.2.3.8.4).

How first sexual encounter happened was cross tabulated with age in table 5.107.

**Table 5.107: Cross tabulation of how first sex happened by age of respondents**

Dependent variable (How first sex happened)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
The first time you had sex how did it happen?	30.390	24	0.175	Of the respondents whose first sex was forced, 14.3%, were in the 11-15 years age group, while 4.3% were in the 22-23 years age group. However there was no statistically significant relationship between age and how first sex happened ( $X^2: p>0.05$ ).

As can be seen from table 5.107, how first sex happened was not statistically influenced by age.

### 5.6.5 Number of sexual encounters in a month

This subsection comprised two items, asking the respondents to indicate the number of times they had sex in a month. Figure 5.20a and figure 5.20b depict the responses according to each tem.

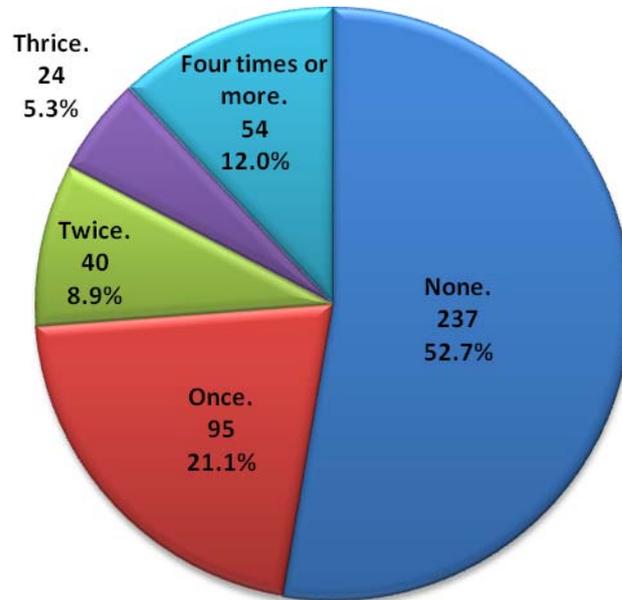


Figure 5.20a: Number of sexual encounters in a month (n=450)

Of the respondents, most 237 (52.7%) reported the frequency of sexual encounters in a month as none; 95 (21.1%) reported the frequency of sexual intercourse in a month as once; 40 (8.9%) mentioned twice a month; 24 (5.3%) mentioned thrice a month while 54 (12.0%) mentioned four times or more a month.

Number of sexual encounters in a month was correlated with church youth group affiliation. Table 5.108 depicts the result.

**Table 5.108: Cross tabulation of regularity of sexual intercourse in a month by church group affiliation**

Dependent variables	Independent variable (factor)			Remark
	Church youth group affiliation			
	Chi-square	df	P value	
Regularity of sex in a month				
How often do you have sexual intercourse in a month?	10.497	4	<b>0.033</b>	Respondents who did not belong to a church youth group, 31.5%, had sex more regularly in a month (two times or more), than those who belonged to a church youth group, 21.9%, and the difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.108, the number of sexual encounters in a month was statistically influenced by belonging to a church youth group. Respondents who belonged to a church youth group had fewer sexual encounters in a month than those who did not belong to a church youth group.

Number of sexual encounters in a month was correlated with social club affiliation. Table 5.109 depicts the result.

**Table 5.109: Cross tabulation of regularity of sexual intercourse in a month by social club affiliation**

Dependent variable	Independent variable (factor)			Remark
	Social club affiliation			
	Chi-square	df	P value	
(Regularity of sex in a month)				
How many times do you have sexual intercourse in a month?	25.999	4	<b>0.000</b>	Respondents who belonged to a social club, 43.0%, had sex more regularly in a month (two times or more, than those who did not belong to a social club, 23.2%, and the difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.109, number of sexual encounters in a month was statistically influenced by belonging to a social club. Respondents who belonged to a social club experienced more sexual encounters in a month than those who did not belong to a social club. Belonging to a certain social clubs exposes learners to the social ills in the society, such as alcohol and drug abuse which might push respondents into sexual relationships because of peer group pressures.

Number of sexual encounters in a month was correlated with age as depicted in table 5.110.

**Table 5.110: Cross tabulation of regularity of sexual intercourse in a month by age of respondents**

Dependent variable (Regularity of sex in a month)	Independent variable (factor)			Remark
	Age			
	Chi-square	df	P value	
How often do you have sex in a month?	29.353	16	<b>0.022</b>	Regularity of sexual intercourse in a month was statistically dependent of age of respondents. Across the various age groups the proportion of respondents who had sex two or more times in a month differed significantly. Respondents in the 22-23 years age group had the highest proportion (52.1%). They are followed in this trend by those in the 11-15 years age group (37.2%); 16-17 years (28.6%); 20-21 years (22.6%) and lastly those in the 18-19 years age group (21.0%) ( $\chi^2$ : p<0.05).

As can be seen from table 5.110, number of sexual encounters in a month was statistically influenced by age group, with respondents in the oldest age group having sex more regularly in a month than those in the younger age group. Respondents who are older could be more at risk of contracting HIV/AIDS due to increased regularity of sexual intercourse in a month than young respondents.

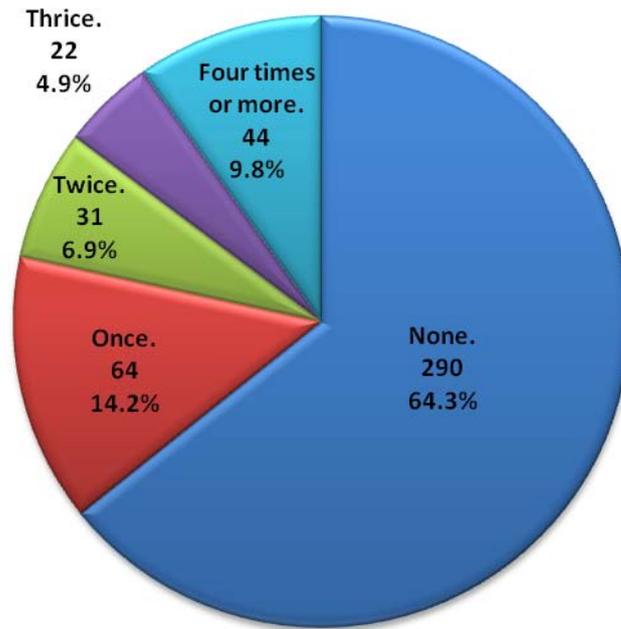


Figure 5.20b: Number of sexual encounters in the last one month (n=451)

Of the respondents 290 (64.3%) reported that they did not have sex in the past one month prior to current study; 64 (14.2%) indicated that they had sex once in the last one month; 31 (6.9%) mentioned twice; 22 (4.9%) mentioned thrice while 44 (9.8%) reported having had sex four times or more in the last one month prior to the current study.

The items comprising number of sexual encounters in a month were correlated with perceived knowledge levels regarding HIV/AIDS as depicted in table 5.111

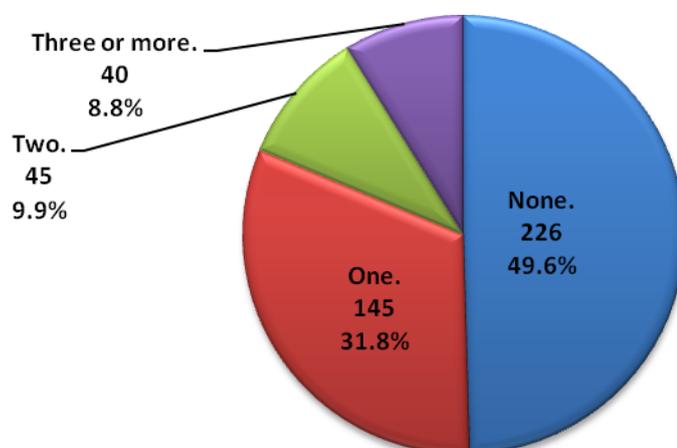
**Table 5.111: Cross tabulation of number of sexual encounters in a month by perceived knowledge level regarding HIV/AIDS**

Dependent variable (Regularity of sex in a month)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
How often do you have sex in a month?	6.977	8	0.539	Of the respondents who indicated that they have very little knowledge regarding HIV/AIDS, 51.1% do not have sex in a month while 6.0% have sex three times in a month. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).
How often did you have sex in the last one month?	6.785	8	0.560	Of the respondents who indicated that they have very little knowledge regarding HIV/AIDS, 63.6% have not had sex in the last one month prior to the current study while 5.5% have had sex three times. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).

As can be seen from table 5.111, perceived knowledge level regarding HIV/AIDS did not statistically influence the respondents' number of sexual encounters in a month. Independent of perceived knowledge level, learners engaged in sexual intercourse.

### 5.6.6 Number of sexual partners

This subsection consisted of two items requesting the respondents to indicate their number of sexual partners.



**Figure 5.21a: Number of sexual partners in the past one year (n=456)**

Of the respondents, 226 (49.6%) indicated that they had no sexual partner in the past one year prior to the current study; 145 (31.8%) mentioned one sexual partner; 45 (9.9%) mentioned two sexual partners and 40 (8.8%) mentioned three or more sexual partners in the past one year prior to the current study. Overall, 85 (18.7%) mentioned more than one sexual partners in the past one year which is in accordance with the 17.2% reported by Kongnyuy et al (2008).

Number of sexual partners in the past one year was correlated with church youth group affiliation.

**Table 5.112: Cross tabulation of number of sexual partners in the past one year by church youth group**

Dependent variable (Number of sexual partners in the past one year)	Independent variable (factor)			Remark
	Church youth group			
	Chi-square	df	P value	
How many sexual partners have you had within the past one year?	19.469	3	<b>0.000</b>	More respondents who did not belong to a church youth group,. 59 (26.3%), had more than one sexual partners in the past one year, than those who belonged to a church youth group, 26 (11.6%), and the difference was statistically significant ( $X^2$ : $p < 0.05$ ).

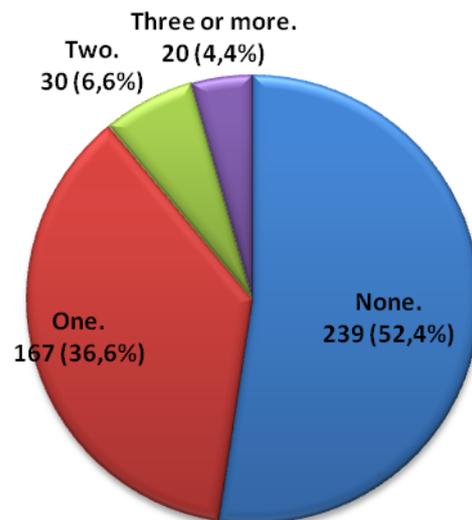
As can be seen from table 5.112 belonging to a church youth group statistically influenced the number of sexual partners in a month, with respondents who did not belong to a church youth group having more sexual partners in the past one year than those who belonged to a church youth group. This could be explained by the fact that religion discourages premarital sex, and having multiple sexual partners

Number of sexual partners in the past one year was also correlated with academic profile as depicted in table 5.113.

**Table 5.113: Cross tabulation of number of sexual partners in the past one year by academic profile**

Dependent variable (Number of sexual partners in the past one year)	Independent variable (factor)			Remark
	Academic profile			
	Chi-square	df	P value	
How many sexual partners have you had within the past one year?	31.549	12	<b>0.002</b>	Of the respondents who indicated that they passed their exams, most, 55.7% had no sexual partner within the past one year prior to the current study, while few, 7.7% had three or more partners, and the difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.113, number of sexual partners in the past one year prior to the current study was statistically influenced by respondents' academic profile. This could be explained by the fact that adolescents with high academic aspirations might be less likely to jeopardise their academic careers by unwanted pregnancies and STDs including HIV/AIDS by abstaining from sex, by being faithful to one sexual partner, and/or by using condoms when engaging in sexual intercourse (see section 5.3.1.5 of this thesis).



**Figure 5.21b: Number of sexual partners at present (n=456)**

Of the 456 respondents, 239 (52.4%) reported having no sexual partner ; 167 (36.6%) reported having one partner; 30 (6.6%) reported having two partners while

20 (4.4%) reported having three or more partners currently at the time of the data collection.

Number of sexual partners at present was correlated with marital status in table 5.114.

**Table 5.114: Cross tabulation of number of sexual partners at present by marital status**

Dependent variable (Number of sexual partners at present)	Independent variable (factor)			Remark
	Marital status			
	Chi-square	df	P value	
How many sexual partners do you have at present?	31.232	12	<b>0.002</b>	The respondents who were single had more than one sexual partners at present, 47 (11.0%), while those who were married, 00 (0.0%). The difference was statistically significant ( $X^2$ : $p < 0.05$ ).

As can be deduced from table 5.114, the number of sexual partners was statistically influenced by marital status, with the married people having only one partner and the unmarried more than one partner. This could be explained by the fact that learners who were married had to adhere to their partners legally mostly in a monogamous relationship than those who were single.

Number of sexual partners at present was also correlated with academic profile as depicted in table 5.115.

**Table 5.115: Cross tabulation of number of sexual partners at present by academic profile**

Dependent variable (Number of sexual partners at present)	Independent variable (factor)			Remark
	Academic profile			
	Chi-square	df	P value	
How many sexual partners do you have at present?	24.605	12	<b>0.017</b>	Of the respondents who passed their exams, most, 57.4% had no sexual partner at present, while few, 4.8% had three or more sexual partners, and this difference was statistically significant ( $X^2$ : $p < 0.05$ ).

As can be seen from table 5.115 the number of sexual partners was statistically influenced by respondents' academic profiles. Adolescents with high academic

aspirations were less likely to jeopardise their academic careers by unwanted pregnancies and STDs including HIV/AIDS by abstaining from sex, by being faithful to one sexual partner, or by using condoms when engaging in sexual intercourse with multiple partners (see section 5.3.1.5 of this thesis).

Number of sexual partners at present was correlated with church youth group affiliation and the result is depicted in table 5.116.

**Table 5.116: Cross tabulation of number of sexual partners at present by church youth group**

Dependent variable (Number of sexual partners present)	Independent variable (factor)			Remark
	Church youth group			
	Chi-square	df	P value	
How many sexual partners do you have at present?	16.405	3	<b>0.001</b>	Respondents who did not belong to a church youth group, 34 (15.4%), had more than one sexual partner at present, compared to those who belonged to a church youth group, 16 (7.0%). The difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

Number of sexual partners at present was statistically influenced by belonging to a church youth group, with respondents not belonging to a church having more sexual partners at present than those belonging to a church youth group. This could be explained by the fact that religion is opposed to having multiple concurrent sexual partners. Having multiple sexual partners is a sexual risk behaviour which could expose one to the risk of contracting HIV/AIDS.

Number of sexual partners at present was correlated with regularity of sexual intercourse in the past one month. Table 5.117 depicts the result.

**Table 5.117: Cross tabulation of number of sexual partners at present by regularity of sex in the past one month**

Dependent variable  (Number of sexual partners at present)	Independent variable (factor)			Remark
	Regularity of sex in the past one month			
	Chi-square	df	P value	
How many sexual partners do you have at present?	231.674	12	<b>0.000</b>	Of the 20 respondents who indicated having three or more sexual partners at present, 11 (55.0%) reported having had sexual intercourse four times or more in the past one month, while 2 (10.0%) reported having had sexual intercourse once in the past one month prior to this study. Of the respondents who indicated having one sexual partner at present, only 20 (12.3%) reported having had sexual intercourse four times or more in the past one month. The difference was statistically significant ( $X^2$ : $p < 0.05$ ).

As can be seen from table 5.117, there was a statistically significant relationship between number of sexual partners at present and number of sexual encounters in the past one month, with respondents having multiple partners, also having more sexual encounters in the past one month than those having one sexual partner. This implies that regularity of sexual encounter in a month increases with an increased number of sexual partners.

Of the learners, 85 (18.7%) had more than one sexual partner in the past one year (see figure 5.21(a), while, 11.0% had more than one concurrent sexual partners (see figure 5.21b). Multiple concurrent sexual partnerships in which condom use tend to be low is among the key drivers to HIV/AIDS infection. HIV infection is more likely to occur within long term multiple concurrent sexual partnerships as people are less likely to consistently use condoms within these more regular relationships. Within a set of serial relationships, transmission is linear, so early partners are protected. In the case of concurrent partners, early partners continue to be at risk as a later partner infects the subject because the partners overlap in time (see section 3.4.2.3.8.3 of this thesis). A significant number of adolescents engage in sexual intercourse with multiple partners without condom use and are therefore exposed to HIV transmission. From the results, there is the dire need to educate learners on sexual risk behaviour and the resultant dangers of risky sexual behaviours.

### 5.6.7 Main reasons for sexual abstinence

The respondents were asked to indicate their reasons for sexual abstinence. They were free to select more than one option

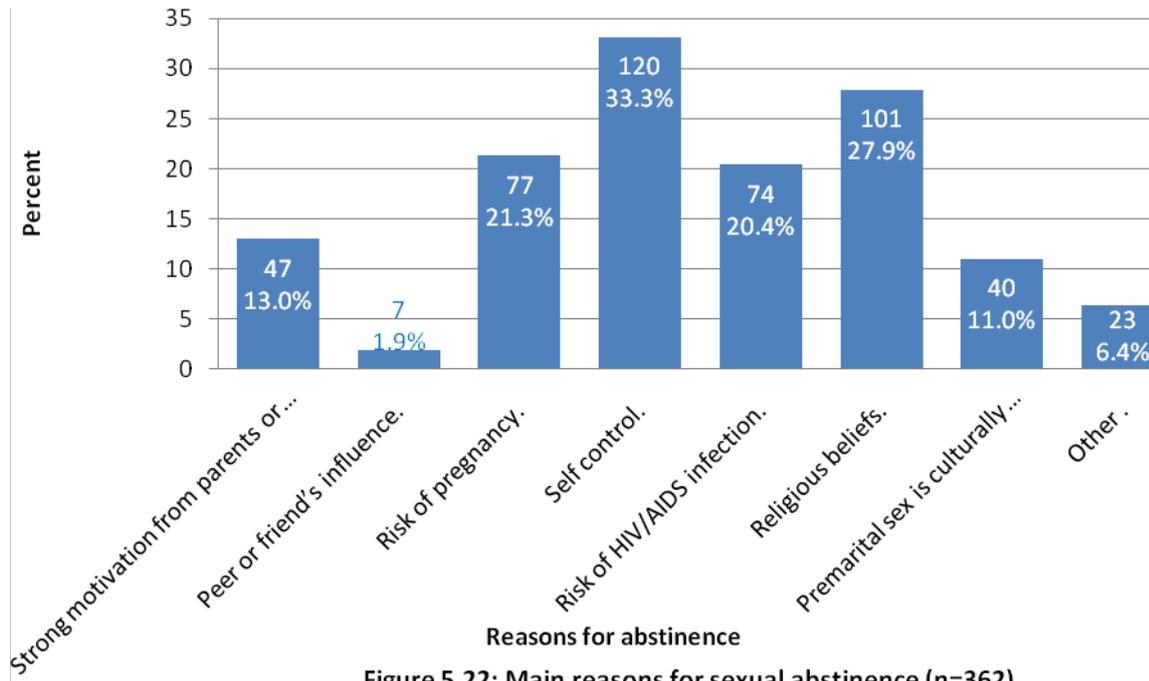


Figure 5.22: Main reasons for sexual abstinence (n=362)

Of the 489 responses, 120 (33.3%) indicated self control or dignity; 101 (27.9%) religious beliefs; 77 (21.3%) risk of pregnancy; 74 (20.4%) risk of HIV/AIDS infection; 47 (13.0%) strong motivation from parents or guardians; 40 (11.0%) premarital sex is culturally unacceptable; 23 (6.4%) indicated other unspecified and 7 (1.9%) indicated peers or friends' influence. From figure 5.22, only 20.4% of the respondents mentioned risk of HIV/AIDS infection as their main reason for sexual abstinence.

Abstinence is one of the elements promoted by major preventive programmes that emphasise the ABC (abstain, be faithful, and use condom) approach. Abstinence offers adolescents a number of advantages. There are some barriers to condom use to prevent HIV/AIDS. Sexual abstinence requires no supplies or clinic visits, and there are no barriers. Complete abstinence is the most effective means of protecting against HIV/AIDS (see section 3.4.2.3.2 of this thesis). In the current study, 47.7% of respondents had never had sex (see figure 5.17). These findings emphasise the

need to encourage abstinence among adolescents, with a view of reducing HIV/AIDS prevalence among youths in the city of Kumba.

### 5.6.8 Sexual encounter with a person on Antiretroviral Therapy (ART)

The respondents were asked to indicate their regularity of having sex with an HIV positive person on ART. Of the 480 respondents, only 440 provided answers to this question presumably owing to the fact that either they do not know the status of their partners or their partners are knowingly not on ART. The respondents' responses are depicted in figure 5.23.

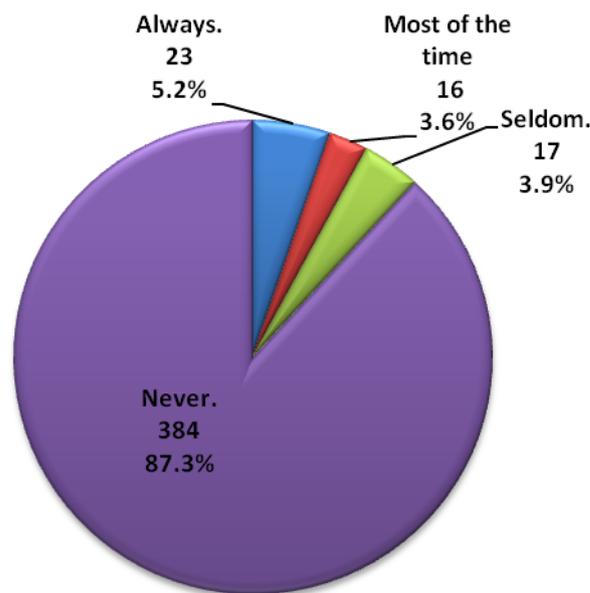


Figure 5.23: Sexual encounter with a person on ART (n=440)

Of the respondents, most, 384 (87.3%) mentioned never; 23 (5.2%) mentioned always; 16 (3.6%) mentioned most of the time and 17 (3.9%) mentioned seldom having sex with an HIV positive person on ART.

### 5.6.9. Change of sexual behaviours after becoming aware of the existence of HIV/AIDS.

The respondents were asked to indicate their agreement on a four-point Likert scale on whether they had changed their sexual behaviours after becoming aware of HIV/AIDS.

**Table 5.118: Change of sexual behaviours after becoming aware of the existence of HIV/AIDS**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
I changed my sexual behaviour once I became aware of HIV/AIDS.	162	39.9	148	36.5	42	10.3	54	13.3	406	100

Of the 406 respondents, 23.6% disagreed, while 76.4% agreed that they had changed their sexual behaviours after becoming aware of HIV/AIDS.

The data revealed that most of respondents, 76.4% agreed that they changed their sexual behaviours once they became aware of HIV/AIDS. Safe sexual behaviours include abstinence, delaying sexual debuts, being faithful to one partner, and condom use with multiple partners (see sections 3.4.2.3.2; 3.4.2.3.3; 3.4.2.3.4 & 3.4.2.3.7 of this thesis).

Change of sexual behaviours after becoming aware of the existence of HIV/AIDS was correlated with having been aware of contracting HIV/AIDS at first sexual experience as depicted in table 5.119

**Table 5.119: Cross tabulation of change of sexual behaviour after becoming aware of the existence of HIV/AIDS by awareness of contracting HIV/AIDS at first sexual experience**

Dependent variable  (Change of sexual behaviour after becoming aware of the existence of HIV/AIDS)	Independent variable (factor)			Remark
	Awareness of contracting HIV/AIDS at first sexual experience			
	Chi-square	df	P value	
I change my sexual behaviour once I became aware of HIV/AIDS	16.529	9	0.057	Of the respondents who strongly agreed that they have changed their sexual behaviours after becoming aware of the existence of HIV/AIDS, 34.4% agreed that they were aware that they could contract HIV/AIDS at first sexual experience, while 14.4% mentioned that they were not sure if they have changed their sexual behaviours. However the difference was not statistically significant ( $X^2$ : $p>0.05$ ).

As can be seen from table 5.119, awareness of the contraction of HIV/AIDS at first sexual experience did not statistically influence change of sexual behaviour after becoming aware of the existence of HIV/AIDS.

#### **5.6.10 Age of current “steady” sexual partners**

The female respondents who were sexually active were requested to indicate the ages of their current “steady” sexual partners.

**Table 5.120: Age of current “steady” sexual partner of respondents (n=99)**

Age	Frequency	Percent	Cumulative frequency
13	1	1.0	1.0
14	2	2.0	3.0
16	3	3.0	6.1
17	3	3.0	9.1
18	8	8.1	17.2
19	8	8.1	25.3
20	17	17.2	42.4
21	11	11.1	53.5
22	8	8.1	61.6
23	9	9.1	70.7
24	8	8.1	78.8
25	4	4.0	82.8
26	1	1.0	83.8
27	5	5.1	88.9
28	4	4.0	92.9
30	4	4.0	97.0
31	1	1.0	98.0
35	2	2.0	100.0
<b>Total</b>	<b>99</b>	<b>100.0</b>	

Of the respondents most, 53 (53.5%) stated that their current “steady” sexual partners were less than 22 years of age which is an “acceptable” age and 16 (16.2%) stated that their current “steady” sexual partners were 27 years and older.

To calculate the average age difference between the sexually active females and their steady sexual partners, the distribution test failed. Non parametric test was therefore used to compare the two groups.

**Test Statistics<sup>b</sup>**

	What is the age of you current "steady" sexual partner? - Age (yrs)
Z	-7.126 <sup>a</sup>
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

The age difference between sexually active females and their sexual partners was significant (Wilcoxon Signed Rank Test,  $P < 0.001$ ). Having sexual intercourse with much older men could increase young females' vulnerability to HIV/AIDS because the older men might have had multiple sexual partners, and they might also not be using condoms consistently (see section 3.4.2.1.2 of this thesis).

### 5.6.11 Utilisation of condoms during sexual intercourse

This subsection consisted of three items asking the respondents to respond to questions regarding condom usage. The responses are depicted in figure 5.24a, figure 5.24b and figure 5.24c according each item..

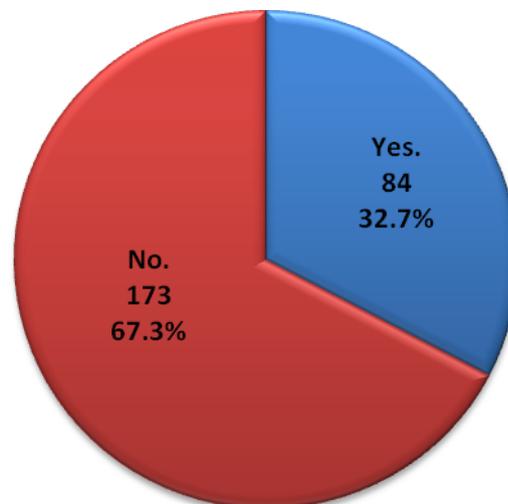


Figure 5.24a: Utilisation of condoms during first sexual intercourse (n=257)

Of the sexually active respondents, 173 (67.3%) indicated that they did not use condoms during their first sexual encounters while 84 (32.7%) reportedly used condoms during first sexual encounters.

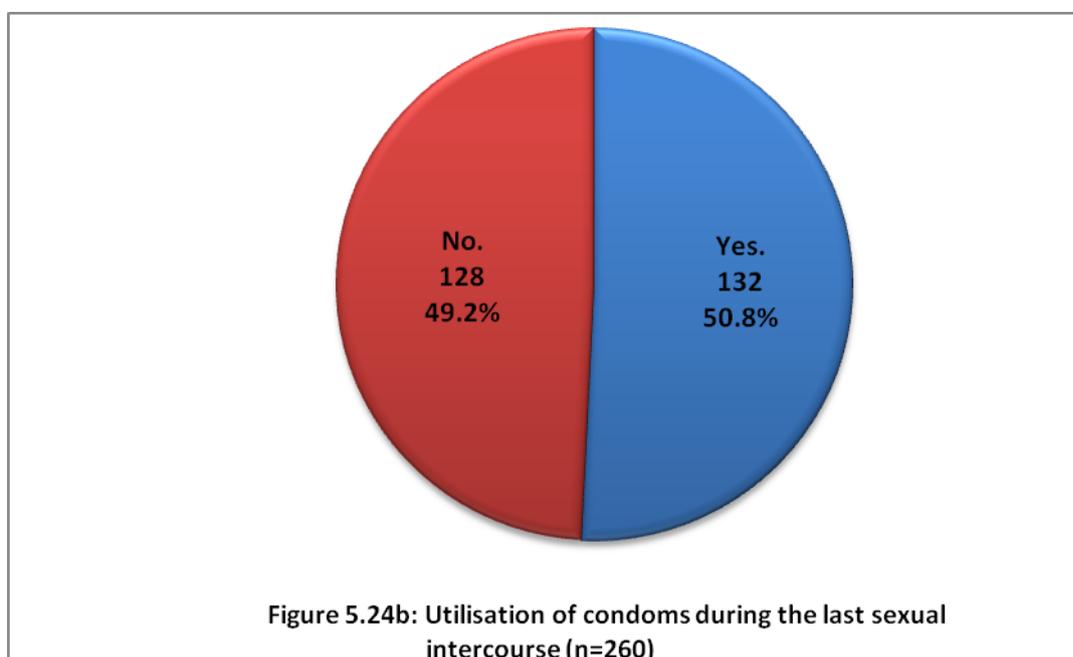
Condom use during first sexual encounter was correlated with regularity of condom use during sexual intercourse.

**Table 5.121: Cross tabulation of regularity of condom use by condom use during first sex**

Dependent variable (regularity of condom use)	Independent variable (factor)			Remark
	Condom use during first sex			
	Chi-square	df	P value	
How often do you use a condom with a boy friend/girl friend during sex?	36.395	12	<b>0.000</b>	Of the respondents who indicated that they used a condom the first time they had sex 48 (59.3%) indicated that they use condoms always during sexual intercourse, while 6 (16.2%) indicated that they seldom use condoms during sex. The difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.121, the regularity of condom use during sex, was statistically influenced by condom use during first sexual encounter, with most of respondents who used condoms during first sex also using condoms more regularly than those who did not use condoms during first sex. Adolescents should be encouraged and empowered to use condoms during their first sex, as this might influence subsequent condom use.

On the item pertaining to condom use during the respondent's last sexual encounter, the following was observed



Of the sexually active respondents, most, 132 (50.8%) reportedly used condoms during their last sexual encounters, which is higher than the 25% reported by Meekers and Calves (1999:51) and Van Rossem and Meekers (2000:383), but it is in agreement with reports from NACC Cameroon (2006:5); as well as UNAIDS, Cameroon (2006:9) which state that in Cameroon 46.5% of youths aged 15-24 had used condoms during their last sexual intercourse.

On the item pertaining to whether the respondents had ever used condoms during sexual intercourse, the following was observed

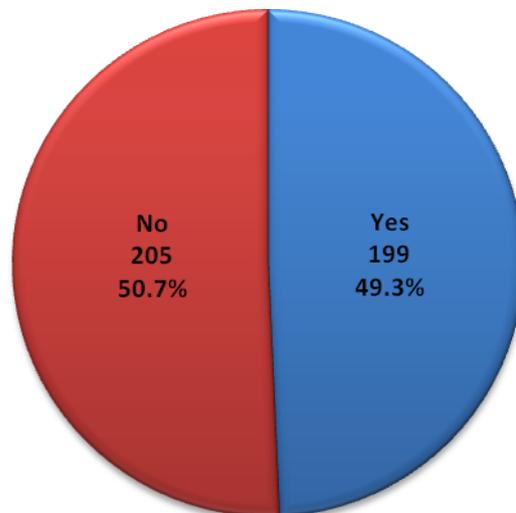


Figure 5.24c: Ever used condoms during sexual intercourse (n=404)

Of the respondents, irrespective of whether they have had sex or not, 205 (50.7%) stated that they had never used condoms, while 199 (49.3%) stated that they had used condoms before. This finding is contrary to other reports (Meekers & Calves 1999:51; Van Rossem & Meekers 2000:383) which state that 60% of youths aged 18-22 had ever used condoms. On the contrary, 79.6% of learners in the current study believed that consistent condom use could prevent HIV spread (table 5.64).

The data from the current study revealed that only 49.3% of learners, irrespective of whether they had had sex or not, reported ever using condoms (figure 5.24c); only

32.7% of sexually active respondents reported having used condoms during first sex (figure 5.24a) and only 29.3% of sexually active respondents reported having used condoms during last sex (figure 5.24b). This shows that condom use among learners in Kumba is inconsistent; this despite the fact that 79.6% of the learners believed that consistent condom use could prevent HIV spread (table 5.64).

Many researchers have purported that male condoms are highly effective in preventing HIV spread (Cates 2001:231; Trussel & Vaughan 1999: 72). When used consistently, male condoms can provide as much as 94% reduction in the transmission of HIV (Holmes et al 2004:254).

According to the HBM, an individual's actions are based on beliefs. Prevention is the first line of defence against HIV/AIDS and the correct and consistent use of condoms is the mainstay of HIV prevention approaches. Factors that affect condom use include knowledge about HIV/AIDS; attitudes towards condoms, perceived vulnerability to HIV/AIDS, discussing condoms use and HIV/AIDS with partners; perceived self efficacy for condom use and hypothesis control. The fact that sexually active learners were not using condom consistently in the current study (see figure 5.26), reveals a lack in commitment regarding condom usage. There thus exists a necessity to empower learners in the city of Kumba with knowledge and strategies to increase their commitments to use condoms during sexual intercourse. The current results contradict those of Meekers and Calves (1999:51) who reported that more than 60% of urban youths have used condoms, and about 25% had used condoms during their last sexual encounters.

Sexual experience was correlated with whether condoms were ever used during sexual intercourse, and the result is depicted in table 5.122.

**Table 5.122: Cross tabulation of sexual experience by condom use**

Dependent variable (Condom use during sex)	Independent variable (factor)			Remark
	Sexual experience			
	Chi-square	df	P value	
Have you ever used a condom during sex?	133.647	1	<b>0.000</b>	Of the 235 respondents who indicated that they have had sex before, 174 (74.0%) indicated that they have used a condom before, while 61 (26.0%) indicated that they have never used a condom before. The difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.122 there was a statistically significant relationship between sexual experience and having ever used condoms during sex, with most of respondents who are sexually active, reporting having used a condom sometime during their sexual activities.

The current data also revealed that 27.5% of the sexually active learners had never used condoms (see figure 5.26), and may thus have been exposed to HIV/AIDS transmission.

Unprotected sexual intercourse is one of the risk factors for sexual transmission of HIV/AIDS (see section 3.4.2.3.8.2s).

Despite knowledge of the protection condom gives, many learners in the current study reported being sexually active but were not using condoms consistently (see 5.17 & 5.26). Therefore many learners in the current study were at very high risk of HIV/AIDS infection.

### **5.6.12 Sources of condoms used by respondents**

Adolescents should be knowledgeable about condoms to enable them make informed decisions about their own health. Adequate information about condoms could help adolescents realise that the effective utilisation of condoms can successfully prevent HIV/AIDS transmission. Adolescents require knowledge to be

able to make informed decisions and to evaluate their attitudes towards and perceptions about condoms.

In this regard, respondents were asked to indicate the sources of the condoms that they used. Some respondents omitted answers to this but the respondents were free to choose more than one answer.

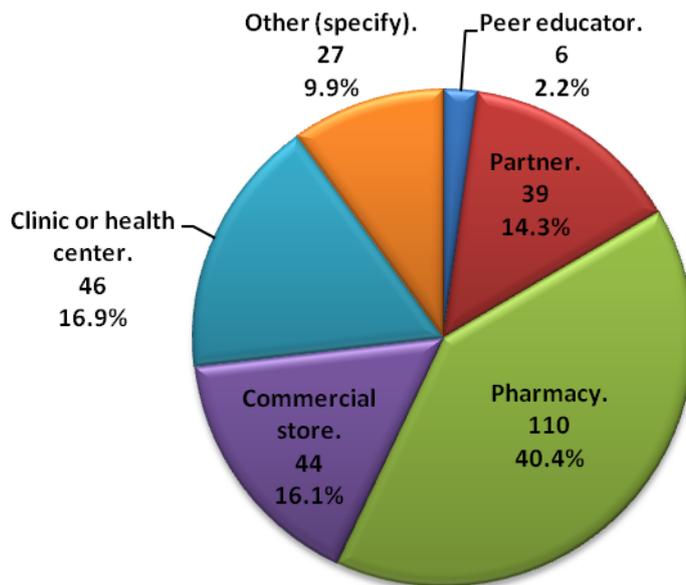


Figure 5.25: Sources of condom used by respondents (n=238)

Of the 423 responses, most, 110 (40.4%) mentioned the pharmacy; 46 (16.9%) clinic or health centre; 44 (16.1%) commercial store; 39 (14.3%) partners; 27 (6.4%) other unspecified sources possibly because they did not want to disclose their sources or because their sources were not represented among the options given and 6 (2.2%) mentioned peer educators.

### 5.11.13 Regularity of condom use by respondents

Sexually active respondents were asked to indicate their regularity of condom use.

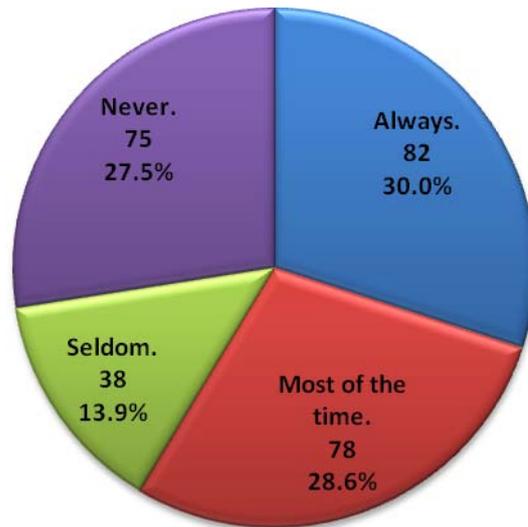


Figure 5.26: Regularity of condom use by respondents (n=273)

Of the 273 respondents, 82 (30.0%) mentioned that they always used condoms; 78 (28.6%) used condoms most of the time; 75 (27.5%) never used condoms and 38 (13.9%) seldomly used condoms. The findings, especially the 30% sexually active respondents who used condoms always is in agreement with the 34.5% reported by Peltzer (2001:53-57) among university learners in the Limpopo province in the Republic of SA.

The data revealed that 79.6% of respondents agreed that correct and consistent use of condoms during sex could prevent transmission of HIV/AIDS (table 5.64); but only 30.0% reported always using condoms (see figure 5.26). This shows that perceptions of the benefits of condom use during sexual intercourse to prevent HIV/AIDS did not always translate to actual use nor consistent use. Although youths were knowledgeable about condoms, they were not consistent in their use of condoms which put them at risk of HIV infection and transmission. Condoms are recognised as a means of protection against HIV/AIDS transmission (see section 3.4.3.1 of this thesis). Learners might encounter certain barriers preventing them from using condoms during sexual intercourse (see section 5.5.2 of this thesis). Perceived benefits of condom use were correlated with the regularity of condom use during sexual intercourse, and the results are depicted in table 5.123.

**Table 5.123: Cross tabulation of perceived benefits of condom use by regularity of condom use**

Dependent variable (Regularity of condom use)	Independent variable (factor)			Remark
	Perceived benefits of condom use			
	Chi-square	df	P value	
How often do you use a condom with a boyfriend/girlfriend during sexual intercourse?	36.395	12	<b>0.000</b>	Of the 335 respondents who agreed that correct and consistent condom use during sexual intercourse could prevent transmission of HIV/AIDS, 70 (41.8%) indicated that they used condoms always during sexual intercourse, while 46 (27.6%) indicated that they had experienced sex, but had never used a condom during sex. The difference was statistically significant ( $\chi^2$ : $p < 0.05$ ).

As can be seen from table 5.123, there was a statistically significant relationship between perceived benefit of condom use and regularity of condom use, with most of the respondents who agreed that consistent use of condoms during sex could prevent sexual transmission of HIV/AIDS, using condoms regularly during sex.

Regularity of condom use was correlated with perceived knowledge level regarding HIV/AIDS as depicted in table 5.124

**Table 5.124: Cross tabulation of perceived knowledge level regarding HIV/AIDS by regularity of condom use**

Dependent variable (Regularity of condom use)	Independent variable (factor)			Remark
	Perceived knowledge level regarding HIV/AIDS			
	Chi-square	df	P value	
How often do you use a condom with a boyfriend/girlfriend during sexual intercourse?	4.041	8	0.853	Of the respondents who indicated that they had very little knowledge regarding HIV/AIDS, 37.4% indicated that they have never had sex, while 8.4% indicated that they seldom used condoms. However the difference was not statistically significant ( $\chi^2$ : $p > 0.05$ ).

As can be seen from table 5.124, perceived knowledge level regarding HIV/AIDS did not statistically influence the regularity of condom use.

## 5.7 STRATEGIES THAT COULD ENHANCE LEARNERS' UTILISATION OF REPRODUCTIVE HEALTH SERVICES AND CONDOM ACCESS POINTS IN KUMBA

The respondents were asked to indicate their agreement on a four-point Likert scale regarding strategies that could enhance learners' utilisation of reproductive health services and condom access points in the city of Kumba. However the current study did not establish how many of the respondents actually visited these clinics at least once. This subsection consisted of eight items.

**Table 5.125: Strategies that could enhance learners' utilisation of reproductive health services and condom access points**

Item	SA		A		DA		SDA		Total	
	f	%	f	%	f	%	f	%	n	%
Providing more information on the benefits of condoms to prevent HIV/AIDS in the clinic.	158	38.4	194	47.2	32	7.8	27	6.6	411	100
Providing special hours for young people.	77	19.2	170	42.4	106	26.4	48	12.0	401	100
Sensitising parents/guardians on condom needs for young people.	84	21.3	182	46.2	74	18.8	54	13.7	394	100
Having young people talk to their peers on the benefits of condom use.	90	22.6	187	46.9	78	19.5	44	11.0	399	100
Having special consulting rooms for young people.	65	16.9	129	33.5	133	34.5	58	15.1	385	100
Deploying youth friendly condoms providers and workers.	69	17.7	118	30.3	132	33.8	71	18.2	390	100
Providing mobile condom distribution.	76	19.9	143	37.5	98	25.7	64	16.8	381	100
Providing special outlet windows where youths can collect condoms without being noticed.	66	16.9	94	24.1	136	34.9	94	24.1	390	100

The data reveal that regarding the item on providing more information on the benefits of condoms to prevent HIV/AIDS, 352 (85.6%) responded positively to this item. The responses to the other items were as follows; having young people to talk to their peers on the benefits of condom use, 277 (69.4%); sensitising parents and guardians on condom needs of young people, 266 (67.5%); providing special hours for young people, 247 (61.6%) and providing mobile condom distribution points, 219 (57.5%), were the highly recommended strategies that could enhance learners utilisation of reproductive health services and condom access points in the city of Kumba.

Research suggests that people are more likely to hear and to personalise 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 (Sloane & Zimmer 1993:244; Milburn 1995:418). Studies in America have also demonstrated that peers influence youths' health behaviours (Sloane & Zimmer 1993:245). It is therefore imperative to involve young people in all programmes related the HIV/AIDS and condom use, including to provision of information and services.

Providing special hours for young people was also perceived as an important strategy that could enhance learners' utilisation of services. Young people need special times to attend these services because they might be afraid to meet either their parents or teachers at these services. Sensitising parents and guardians on condom needs for young people was also perceived as an important strategy because communication between parents and children regarding sexual matters is not always free and possible because parents might think that such discussions might cause children to become sexually active and thus promote promiscuity. Parents and guardian therefore need sensitisation in this regard.

Having mobile condom distribution was also perceived as an important strategy. This could minimise the barrier of shyness, since in the current study some learners, 47.3% stated that they will be shy purchasing condoms (see figure 5.13).

## **5.8 CORRELATIONS AMONG THE DIFFERENT COMPONENTS OF THE HBM**

In this section the various components of the HBM (individual perceptions, modifying factors and the likelihood of taking action) (see figure 2.1), are correlated. The focus in this section is to get an overall impression of the relationship among the components of the HBM with regard to the current study. The HBM is an archetypal (standard) pattern used to evaluate or influence an individual's behavioural changes with regard to a particular health condition (in the current study, HIV/AIDS).

The HBM postulates that health-seeking behaviour (in the current study, prevention of HIV/AIDS through consistent use of condoms), is influenced by a person's perception of the threats posed by a health problem (in the current study, perceived risk of contracting HIV/AIDS), and the value associated with the actions aimed at reducing the threat (consistent condom use during sex to prevent transmission of HIV/AIDS).

The developers of the HBM stated the following assumptions relating to the implementation of health related actions:

- The HBM assumes that a person will take a health related action if that person feels that a negative health condition can be avoided (Campus 2005:1). It is necessary to help individuals realise that they have the potential to avoid a condition and this can only happen when one has true knowledge of the problem. It is only when one realises this, that one would be able to take a preventative action.
- The HBM also 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 (Campus 2005:1). The person needs to realise the benefits that one will get from practicing the behaviour. If a person fails to see any benefit, it would be difficult for one to take the necessary action, or to maintain it. Learners in the current study must perceive the benefits of male condoms, before they can initiate and maintain their use in order to prevent HIV/AIDS.
- The HBM also assumes that a person takes a health related action if the person believes that one can successfully take the recommended action (Campus 2005:1). It requires the 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).

From the assumptions of the HBM, without perceived threat of HIV/AIDS, there could be no resultant preventative action against the disease. Therefore, perception of risk of contracting HIV/AIDS is assumed to be the immediate antecedent of behaviour, such as consistent use of condoms to prevent sexual transmission of HIV/AIDS. It is therefore hypothesised that respondents holding a high perception regarding the risk of contracting HIV/AIDS, would in principle be prepared to take preventive actions, such as consistent condom use during sex to prevent HIV/AIDS than those with no or low risk perception of contracting HIV/AIDS. Relying on the value-expectancy theory, the HBM also specifies the nature of the relationships among its various components. Sensitivity to risk depends on factors other than knowledge of infection mechanisms; it also depends on behaviours, such as individual awareness of the illness (its prevalence, the severity of its symptoms, its lethality) and the perception of the general health status (Renne 1997). Therefore sensitivity to risk depends on the components of the HBM.

The theory underlying the HBM has been attributed to the Lewinian theory of goal setting in the level-of-aspiration situation. Lewin (cited in Maiman & Becker 1974) hypothesised that behaviours depend primarily upon two variables:

- The value placed by an individual on a particular outcome, (prevention of HIV/AIDS).
- The individual's estimate of the likelihood that a given action will result in that outcome (condom use to prevent HIV/AIDS).

The HBM has the premise that individuals will take action to prevent, control or treat a health problem if they perceive the problem to be severe in its nature and/or in its consequences; if they perceive that the action will benefit them and produce desirable outcomes and if they perceive few barriers to taking that action (Stout 1997:174).

So, the HBM explains that the likelihood for an individual to engage in a particular undesirable health behaviour is related to one's belief about the seriousness or severity of the potential illness.

In what follows, the HBM is tested drawing on its relevant theory and assumptions, with regard to the current study. The aim was to retain the assumptions of the model application as much as possible and to assess the contributions of each component of the HBM and the various combinations of the components with regard to the risk of contracting HIV/AIDS among learners in the city of Kumba, Cameroon. The different modelling alternatives considered were:

- Maintaining the assumptions of each component of the HBM
- Full integration of all the components of the HBM
- Integration of the components with high explanatory power (perceived severity of HIV/AIDS, perceived barriers to condom use and modifying factors).

### **5.8.1 Model specification and estimation procedure**

Model estimation focused on mapping out the significant drivers of an individual's perception of risk of contracting HIV/AIDS from a vector of consistently significant components suggested by the relevant theory underpinning the HBM. Multinomial logistic regression model proposed by Wrigley (1985) was used (see section 4.7.2). The dependent variable (risk of contracting HIV/AIDS) remained the same for all the modelling alternatives (the various components of the HBM). For specific values of the independent variables (the various components of the HBM), the corresponding estimated value of P is the probability of the event that the respondents mentioned that they are at high risk of contracting HIV/AIDS. So the alternative values of the regressors can be used in the estimated component to predict the probability of respondents being at high risk of contracting HIV/AIDS under the conditions specified in the current study.

### **5.8.2 Model results and discussions**

**Outcome variable:** How at risk of contracting HIV/AIDS are you?

In this analysis, multinomial logistic model was used (see section 4.7.2). The results are depicted in table 5.126.

**Table 5.126: Logistic regressions of the risk of contracting HIV/AIDS based on the components of the HBM and the reliability coefficients of the components of the HBM**

Model components	LR Chi-Square	df	P values	Pseudo R-Square (Cox and Snell)	Explanatory power of the model	Valid N out of 480	Reliability analysis	
							Alpha	N
1- Perceived susceptibility to HIV/AIDS	72.132	63	0.202	0.197	19.7%	328	0.355	337
2- Perceived severity to HIV/AIDS	99.645	81	0.078	0.228	22.8%	385	0.5	400
3- Perceived barriers to condom use	326.194	162	<0.001	0.807	80.7%	198	0.77	200
4- Perceived benefit of condom use	14.721	9	0.099	0.034	3.4%	430		
5-Condom use self-efficacy	57.544	36	0.013	0.135	13.5%	397	0.487	408
6-Cues to action for condom use	44.692	36	0.152	0.118	11.8%	212	0.842	366
7-Modifying factors	420.118	288	<0.001	0.852	85.2%	220	0.37	228
Integrated value mapping (combination of all the models)	335.994	387	0.971	0.906	90.6%	142	0.75	143
Integrated value mapping (excluding components 1, 4,5,6)	214.280	276	0.998	0.895	89.5%	385	0.57	97

Scale reliability tests showed that the Cronbach alpha was above 0.5 for the components of HBM including the Integrated Value Mapping (IVM), except three components with low alpha values which are perceived susceptibility to HIV/AIDS with alpha=0.335 modifying factors with alpha=0.370 and perceived benefit of condom use with only one item. The alpha values above are those of the best combinations of items for each component of the HBM. A strong reliability could not be expected for the modifying factors because the principle of inter-items correlations that could apply to other components could not be applied to the items that constitute this component. For instance, the principle of inter-item correlation could not be applied to age of respondents and gender, and age of respondents and guardians' income. According Brink and Wood (1998:269); LoBiondo-Wood and Haber (2002:324-326) as well as Polit and Beck (2004:421-422), a number of measurement situations can affect the

coefficient alpha value. The alpha does not provide a very good estimate when the items making up the measurement scale are heterogeneous in their relationships with each other or when their number is small. The more items the instrument contains, the more accurate the alpha coefficient. Alpha increases with the spread of variance of scores. Low reliability may also be due to the homogeneity of the sample in the current study. The alpha is also lower when a response with two possible answers was used. The alpha is improved when a Likert scale response option is used. The lower reliability observed in the components of perceived susceptibility to HIV/AIDS and modifying factors could be due to these characteristics. The items were then used to build individual components of the HBM and the components were later combined to build an IVP model. There were also significant correlations between the predictor variables (the components of the HBM) and risk exposure to HIV/AIDS, meeting a priori expectations and the assumptions of the HBM (see section 2.3.2.3).

### **5.8.3 Comparing the components of the Health Belief Model**

In this section the contributions of the various components of the HBM and the IVP with respect to the risk exposure to HIV/AIDS were compared. The aims of the analysis were to test the hypotheses that:

- Risk exposure to HIV/AIDS significantly influenced the various components of the HBM
- IVM would explain the risk exposure to HIV/AIDS better than the single components of the HBM.
- Each component of the HBM provided complementary insight to the respondents understanding of their risk exposure to HIV/AIDS with respect to the theoretical assumptions of the HBM (see section 2.3.2.3).

The results are presented in table 5.126. Their relative contributions to the probability of contracting HIV/AIDS within the theoretical assumptions of the HBM are discussed.

The level of significance of the various components of the HBM is explained by the P values of the Chi-square statistics. If this P value is discussed at alpha =0.05, then

perceived barriers to condom use, perceived condom use self-efficacy and modifying factors have good significant levels ( $P < 0.05$ ). Further more perceived barriers to condom use and modifying factors have attained the highest stability with  $P < 0.001$ . The IVM for the entire HBM remained very unstable with  $P = 0.971$ . (See table 5.126). The significant levels of the HBM components followed the same patterns as their explanatory powers, with modifying factors having the highest explanatory power of 85.2% (Pseudo R-square=0.852) followed by perceived barriers to condom use, 80.7% (Pseudo R-square=0.807), then perceived severity of HIV/AIDS, 22.8% (Pseudo R-square=0.228), over the outcome variable (risk exposure to HIV/AIDS). The IVM for the entire HBM had a strong explanatory power 90.6% (Pseudo R-square=0.906). The explanatory power of the IVM was not improved when the components of perceived susceptibility to HIV/AIDS, perceived benefits of condom use, perceived condom use self-efficacy and cues to action for condom use, with the lowest explanatory powers were removed, 89.5% (Pseudo R-square=0.895). (See table 5.126). These four components were not of high significance in the context of the study and therefore should not be given the same priority as perceived severity of HIV/AIDS; perceived barriers to condom use and modifying factors. The high explanatory power of modifying factors and perceived barriers to condom use simply indicated that demographic and psycho-social variables and perceived barriers to condom use were the major critical components in the HBM under the current study, unlike sensitisation as verified by the low explanatory powers of perceived susceptibility to HIV/AIDS and perceived severity of HIV/AIDS. It shows that learners were already aware of the presence and severity of HIV/AIDS in their environment. Awareness on the benefits of condom use to prevent sexual transmission of HIV/AIDS was also not a major priority in the framework of the HBM with regard to the current study (perceived benefit of condom use; perceived condom use self-efficacy and cues to action for condom use), unlike barriers to the use of condom as explained by the higher explanatory power (80.7%) of this component and modifying factors as explained by its high explanatory power (85.2%) (see table 5.126). Learners were aware of the benefits of condom use during sexual intercourse to prevent HIV/AIDS, and their self-efficacy to use condoms was high (see table 5.126). The focus as depicted from the results of the current study should be on perceived barriers to condom use and modifying factors.

Full summary statistics were then developed for perceived barriers to condom use and modifying factors to provide more information on these components of the HBM with regard to the current study because they fit better in the HBM and equally have satisfactory explanatory powers over the outcome variable (risk exposure to HIV/AIDS). The lower the P values, the better a component's item will contribute to the explanatory power of the component (see table 5.126).

The Likelihood Ratio test (table 5.127 & table 5.128) summarises the relationship between the predictors and the outcome variable for components of the HBM with satisfactory explanatory powers (perceived barriers to condom use and modifying factors). Table 5.127 gives the likelihood ratio test for the items comprising perceived barriers to condom use.

**Table 5.127: Perceived barriers to condom use: Likelihood Ratio Tests**

Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	129.389	.000	0	.
Condom use decreases sexual sensation, making sex less enjoyable for both partners.	132.115	2.727	9	.974
Condom use reduces the sexual urge.	131.101	1.712	9	.995
Condom use makes the partner feel untrusted.	133.407	4.018	9	.910
Should a condom slip off during sexual intercourse it will land up in the stomach of the female partner.	134.084	4.695	9	.860
Latex condoms cause itching.	132.064	2.675	9	.976
I am allergic to lubricants used in condoms.	133.885	4.496	9	.876
My parents/guardians support condom use.	132.650	3.261	9	.953
My partner supports condom use.	144.023	14.634	9	.101
Due to religious beliefs, I feel guilty using a condom.	145.325	15.936	9	.068
I feel embarrassed to buy condoms.	130.941	1.552	9	.997
I feel embarrassed to use condoms.	141.661	12.273	9	.198
I feel embarrassed to ask my partner to use condoms.	132.381	2.993	9	.965
I feel embarrassed to throw away condoms after use.	135.996	6.607	9	.678
I lack knowledge on correct condom use.	137.192	7.803	9	.554
Clinic staff members are unfriendly when handing out condoms.	136.428	7.039	9	.633
Distance to the nearest clinic to obtain condoms is far.	130.968	1.580	9	.997
Condoms are not available at the clinics.	131.256	1.867	9	.993

The environment is hygienic.	135.597	6.208	9	.719
Long waiting time exists at the clinics.	130.313	.925	9	1.000
Condoms are too expensive to buy from the clinics.	136.727	7.338	9	.602
No specific time for young people to attend the clinics.	135.526	6.137	9	.726

From table 5.127, it is clear that no item really dominated in the perceived barrier component, signifying that all the items in this component contributed equally to the synergistic action that determined the explanatory power of the component to the entire HBM model with regard to the current study. This implies that all the items under the perceived barrier component should be considered in programmes to curb the spread of HIV/AIDS among youths in Kumba, Cameroon.

Table 5.128a gives the likelihood ratio test for the items comprising the modifying factors

**Table 5.128a: Modifying factors (demographic variables): Likelihood Ratio Tests**

Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	<0.001	<0.001	0	<0.001
Age group	85.852	85.852	12	<0.001
Gender	5400.794	5400.794	3	<0.001
Marital status	487.156	487.156	12	<0.001
Grade level	<0.001	<0.001	6	1.000
Academic profile	<0.001	<0.001	9	<0.001
Place of residence	<0.001	<0.001	12	1.000
Present residential area	<0.001	<0.001	9	<0.001
Living with both parents	<0.001	<0.001	3	<0.001
Living with brothers and sisters	4808.490	4808.490	3	<0.001
Living with mother, brothers and sisters.	0.059	0.059	3	0.996
Living with father, brothers and sisters.	<0.001	<0.001	3	1.000
Living with grand parents.	<0.001	<0.001	3	<0.001
Living with relations or guardians.	200.619	200.619	3	<0.001
Living with others.	<0.001	<0.001	3	<0.001
Religious affiliation.	.010	.010	15	1.000
Social club affiliation.	.001	.001	3	1.000
Sports club affiliation.	<0.001	<0.001	0	<0.001
Church youth club affiliation.	<0.001	<0.001	0	<0.001
Other group affiliation.	<0.001	<0.001	0	<0.001
Father's highest qualification.	1300.825	1300.825	21	<0.001
Mother's highest qualification.	.066	.066	21	1.000
Guardian's highest qualification.	<0.001	<0.001	18	<0.001
Breadwinner of your household.	3.022	3.022	18	1.000
Father's source of income.	145.463	145.463	18	<0.001
Mother's source of income.	.001	.001	18	1.000
Guardian's source of income.	86.261	86.261	15	<0.001
Father's monthly income in XAF.	<0.001	<0.001	9	1.000

Mother's monthly income in XAF.	.009	.009	9	1.000
Guardian's monthly income in XAF.	<0.001	<0.001	9	1.000
Number of people in your household.	<0.001	<0.001	18	1.000
Living place during school period.	<0.001	<0.001	12	1.000

Analysis of the components of modifying factors (demographic and psycho social variables) suggested that the following were the most significant determinants of risk perception of HIV/AIDS in the current study. They are contained in table 5.128b

**Table 5.128(b): Significantly determining modifying factors**

Age group	Living with others
Gender	Sports club affiliation
Marital status	Church youth group affiliation
Academic profile	Other group affiliation
Present residential area	Father's highest qualification
Living with both parents	Guardian's highest qualification
Living with brothers and sisters	Father's source of income
Living with grand parents	Guardian's source of income.
Living with relations or guardians	

This simply means that these components should all be considered in designing any policy geared towards controlling risk exposure to HIV/AIDS in Kumba, Cameroon

The outcome variable from the HBM with regard to the current study is the risk of contracting HIV/AIDS. This outcome variable was analysed with each item in the components of the HBM and different responses were obtained.

#### **5.8.4 Analysis of the outcome variable with respect to the various components of the Health Belief Model**

The outcome variable: How at risk is a person of contracting HIV/AIDS or risk exposure to HIV/AIDS has been correlated with various components of the HBM. Table 5.129 depicts the results of this analysis with items comprising perceived susceptibility to HIV/AIDS.

**Table 5.129: Perceived susceptibility to HIV/AIDS**

Independent variables (Perceived susceptibility to HIV/AIDS)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
HIV/AIDS really exists.	7.013	9	0.637	Risk exposure to HIV/AIDS was not statistically dependent of the perception that HIV/AIDS really exists. Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that HIV/AIDS really exists did not differ significantly. Respondents who indicated that they were at high risk of contracting HIV/AIDS had the highest proportion, (84.7%), while those who said they were not at risk of contracting HIV/AIDS had only 68.0%.
Youths are prone to HIV/AIDS.	15.455	9	0.079	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that youths were prone to HIV/AIDS did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (85.2%), followed by those who indicated that they were not at risk, (71.4%), then small risk, (26.9%).
HIV/AIDS is a serious threat in Cameroon.	4.097	9	0.905	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that HIV/AIDS is a serious threat in Cameroon did not differ significantly. Respondents who indicated that they were at high risk of contracting HIV/AIDS, had the highest proportion (85.3%) followed by those who indicated that they were not at risk, (68.4%).
A healthy looking person can be HIV positive.	18.576	9	<b>0.029</b>	Risk of contracting HIV/AIDS was statistically dependent of the perception that a healthy looking person can be HIV positive. Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that a healthy looking person could be HIV positive differed significantly. Respondents who indicated that they were at high risk of contracting HIV/AIDS had the highest proportion, (87.7%), followed by those who indicated not at risk, (67.8%), then small risk of contracting HIV/AIDS, (29.5%).
An HIV positive person on ART can transmit HIV/AIDS.	6.950	9	0.642	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that an HIV positive person on ART can transmit HIV/AIDS did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (78.0%), followed by those who indicated not at risk (72.3%), and then small risk of contracting HIV/AIDS (30.1%).

It is safe to have unprotected sex with an HIV positive person on ART.	8.384	9	0.496	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that it is safe to have unprotected sex with an HIV positive person on ART did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (89.7%), followed by those who indicated not at risk, (67.4%), and then small risk of contracting HIV/AIDS (27.1%).
Certain Cameroon tribes are immune to HIV/AIDS.	12.594	9	0.182	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that certain Cameroon tribes were immune to HIV/AIDS did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion (79.8%), followed by those who indicated not at risk, (68.1%), and then small risk of contracting HIV/AIDS, (34.8%).

From table 5.129, it can be seen that the risk of contracting HIV/AIDS was statistically dependent on the perception that a healthy looking person can be HIV positive ( $\chi^2$ :  $p < 0.05$ ). It could be deduced that learners' lack of knowledge that a healthy looking person could be HIV positive, could put them at risk of contracting HIV/AIDS due to unprotected sexual relationships with healthy looking people unaware aware of their HIV status.

Table 5.130 depicts the result of the analysis of the outcome variable with the items comprising perceived severity of HIV/AIDS.

**Table 5.130: Perceived severity of HIV/AIDS**

Independent variables (Perceived severity of HIV/AIDS)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	Df	P value	
HIV/AIDS can be prevented.	30.365	9	<b>0.000</b>	Risk exposure to HIV/AIDS was statistically dependent of the perception that HIV/AIDS could be prevented. Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that HIV/AIDS could be prevented differed significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion (87.2%), while only 61.9% indicated that they were not at risk of contracting HIV/AIDS.
HIV/AIDS can be cured.	12.364	9	0.194	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that HIV/AIDS could be cured did not differ significantly. Respondents who indicated not at risk of contracting HIV/AIDS had the

**Table 5.130: Perceived severity of HIV/AIDS**

Independent variables (Perceived severity of HIV/AIDS)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	Df	P value	
				highest proportion, (79.5%), followed by those who indicated that they were at high risk, (68.2%), then small risk, (31.6%).
The consequences of having HIV/AIDS are so serious that I may want to avoid it.	10.657	9	0.300	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that the consequences of having HIV/AIDS are so serious that they may want to avoid it did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (85.7%), followed by those who indicated that they were not at risk, (82.1%). However risk of contracting HIV/AIDS was not statistically dependent of the perception that the consequences of having HIV/AIDS were so severe that learners may want to avoid it.
If I became HIV positive before finishing school it will interfere with the continuation of my schooling.	6.319	9	0.708	Risk of contracting HIV/AIDS was not statistically dependent of the learners' perception that if they became HIV positive before finishing school it would interfere with the continuation of their schooling. Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that if they became HIV positive before finishing school it would interfere with the continuation of their schooling did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (83.6%), followed by those who indicated not at risk, (75.4%), then small risk of contracting HIV/AIDS (25.7%).
HIV/AIDS is a disease like any other.	16.898	9	<b>0.050</b>	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that HIV/AIDS is a disease like any other, differed significantly. Respondents who indicated high risk had the highest proportion, (88.5%), followed by those who mentioned not at risk, (68.0%), and then small risk of contracting HIV/AIDS, (24.7%).
The last stage of sexually transmissible disease (STD) is AIDS.	9.718	9	0.374	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that the last stage of STD is AIDS did not differ significantly. Respondents who indicated high risk, had the highest proportion (86.4%), followed by those who indicated not at risk, (73.7%), and then small risk of contracting HIV/AIDS, (24.9%).
Some traditional healers can cure AIDS.	10.030	9	0.348	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that some traditional healers could cure AIDS did not differ significantly. Respondents who indicated not at risk of contracting HIV/AIDS had the highest proportion, (75.7%), followed by high risk, (73.3%), and then small risk of contracting

**Table 5.130: Perceived severity of HIV/AIDS**

Independent variables (Perceived severity of HIV/AIDS)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	Df	P value	
				HIV/AIDS, (36.0%).
Some antibiotics can cure AIDS.	10.905	9	0.282	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that some antibiotics could cure AIDS did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (83.9%), followed by not at risk, (72.1%), and then small risk of contracting HIV/AIDS, (25.2%).
Anti Retroviral Therapy (ART) can cure AIDS.	4.204	9	0.897	Across the various categories of risk exposure to HIV/AIDS the proportion of respondents who agreed that ART could cure AIDS did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (84.4%), followed by those who indicated not at risk, (73.6%), and then small risk of contracting HIV/AIDS, (29.4%).

It can be seen from table 5.130 that the risk of contracting HIV/AIDS was statistically influenced by the perceptions that HIV/AIDS can be prevented and that HIV/AIDS is a disease like any other ( $\chi^2:p<0.05$ ). This could be explained by the fact that learners who believed HIV/AIDS can be prevented, would perceive their risk of contracting HIV/AIDS to be high. This means that they might be willing to take preventive measures against the disease.

Table 5.131 depicts the result of the analysis of the outcome variable with perceived benefit of condom use.

**Table 5.131: Perceived benefit of condom use**

Independent variables (Perceived benefit of condom use)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
Correct and consistent use of condoms during sexual intercourse could prevent transmission of HIV/AIDS	14.871	9	0.095	Risk exposure to HIV/AIDS was not statistically dependent of the perception that correct and consistent use of condoms during sex could prevent transmission of HIV/AIDS. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (91.3%), followed by those who indicated not at risk, (64.4%), and then small risk, (26.1%).

Table 5.132 depicts the result of the analysis of the outcome variable with the items comprising perceived barriers to condom use.

**Table 5.132: Perceived barriers to condom use**

Independent variables (Perceived barriers to condom use)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
Condom use decreases sexual sensation, making sex less enjoyable for both partner.	12.037	9	0.221	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that condom use decreases sexual sensation, making sex less enjoyable for either partner did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (78.8%), followed by those who mentioned not at risk, (73.5%), and then small risk, (27.3%).
Condom use reduces sexual urge.	13.037	9	0.134	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that condom use reduces sexual urge did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (77.4%), followed by those who mentioned not at risk, (69.7%), and then small risk, (25.4%).
Condom use makes partner feel untrusted.	11.938	9	0.217	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that condom use makes partner feel untrusted did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (81.9%), followed by those who mentioned not at risk, (70.9%), and then small risk, (31.0%).
Should a condom slip off during sexual intercourse it will land up in the stomach of female partner.	22.082	9	<b>0.009</b>	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that should a condom slip off during sexual intercourse it would land up in the stomach of the female partner differed significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (96.3%), followed by those who mentioned not at risk, (70.6%), and then small risk, (26.0%). Risk of contracting HIV/AIDS was statistically dependent of the perception that should a condom slip off during sexual intercourse it will land up in the stomach of the female partner ( $X^2$ : $p < 0.05$ ).
Latex condoms cause itching.	8.781	9	0.458	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that latex condoms cause itching did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (83.0%), followed by those who mentioned not at risk, (77.5%), and then small risk,

Table 5.132: Perceived barriers to condom use

Independent variables (Perceived barriers to condom use)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
				(24.9%).
I am allergic to lubricants used in condoms.	10.833	9	0.287	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that they are allergic to lubricants used in condoms did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (85.2%), followed by those who mentioned not at risk, (74.6%), and then small risk, (27.8%).
Due to religious beliefs I feel guilty using a condom	6.595	9	0.679	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that due to religious beliefs they feel guilty using condoms did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (83.9%), followed by those who mentioned not at risk, (70.1%), and then small risk, (25.5%).
I feel embarrassed to buy condoms.	8.167	9	0.517	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they felt embarrassed to buy condoms did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (78.8%), followed by those who mentioned not at risk, (75.1%), and then small risk, (25.3%).
I feel embarrassed to use condoms.	14.569	9	0.103	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they felt embarrassed to use condoms did not differ significantly. Respondents who mentioned high risk had the highest proportion, (84.0%), followed by those who mentioned not at risk, (78.7%), and then moderate risk, (21.1%).
I feel embarrassed to ask my partner to use condoms	9.699	9	0.379	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they felt embarrassed to ask their partners to use condoms did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (85.1%), followed by those who mentioned not at risk, (70.5%), and then small risk, (30.1%).
I feel embarrassed to throw away condoms after use.	13.848	9	0.128	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that they felt embarrassed to throw away condoms after use did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (77.7%), followed by those who mentioned not at risk, (73.0%).
I lack knowledge on correct condom use.	25.756	9	<b>0.002</b>	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they lack knowledge of correct

Table 5.132: Perceived barriers to condom use

Independent variables (Perceived barriers to condom use)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
				condom use differed significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (83.0%), followed by those who mentioned not at risk, (79.2%), and then small risk, (26.2%). The risk of contracting HIV/AIDS was statistically dependent of the perception by respondents that they lacked knowledge of correct usage of condoms ( $X^2$ : $p < 0.05$ ).
Clinic staff members being unfriendly when handing out condoms.	10.562	9	0.307	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that clinic staff members were unfriendly when handing out condoms did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (86.9%), followed by those who mentioned not at risk, (67.7%), and then small risk, (24.0%).
Nearest clinic to obtain condoms is far.	9.931	9	0.356	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that the nearest clinic to obtain condoms is far did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (78.2%), followed by those who mentioned not at risk, (77.6%), and then small risk, (26.8%).
Condoms are not available at the clinics.	11.689	9	0.231	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that condoms were not available at the clinics did not differ significantly. Respondents who mentioned not at risk of contracting HIV/AIDS had the highest proportion, (73.1%), followed by those who mentioned high risk, (68.9%), and then moderate risk, (33.2%).
Long waiting time exists at the clinics.	13.849	9	0.128	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that long waiting times existed at the clinic did not differ significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (88.7%), followed by those who mentioned not at risk, (69.3%), and then moderate risk, (29.2%).
Condoms are too expensive to buy from the clinics.	18.866	9	<b>0.026</b>	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that condoms were too expensive to buy from the clinics differed significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (95.3%), followed by those who mentioned not at risk, (57.2%). Risk of contracting HIV/AIDS was statistically dependent of the perception that condoms were expensive to buy from the clinics ( $X^2$ : $p < 0.05$ ).

**Table 5.132: Perceived barriers to condom use**

Independent variables (Perceived barriers to condom use)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
No specific time for young people to attend the clinics.	27.223	9	<b>0.001</b>	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that there was no specific time for young people to attend the clinics differed significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (93.2%), followed by those who mentioned not at risk, (63.7%). Risk of contracting HIV/AIDS was statistically dependent of the perception that there was no specific time for young people to attend the clinics ( $\chi^2$ : p<0.05).

Table 5.132 it could be deduced that respondents who believed that should a condom slip off during sex it would land up in the stomach of the female partner; that their partners supported condom use; that they lacked knowledge on correct condom usage; that condoms were too expensive to buy from the clinics and that there was no specific time for youths to attend clinics that provided condoms, perceived themselves to be at high risk of contracting HIV/AIDS.

Table 5.133 depicts the result of the analysis of the outcome variable with the items comprising perceived condom use self-efficacy.

**Table 5.133: Perceived condom use self-efficacy**

Independent variables (Perceived condom use self-efficacy)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
I feel confident that I can discuss condom use with my partner(s).	12.131	9	0.206	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that they feel confident that they could discuss condom use with their partners did not differ significantly. Respondents who indicated not at risk of contracting HIV/AIDS had the highest proportion, (85.6%), followed by those who indicated high risk, (79.8%), and then small risk, (19.5%).
I feel confident that I can convince my partner(s) to use	14.999	9	0.091	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that they felt confident that they could convince their partners to use condoms during

**Table 5.133: Perceived condom use self-efficacy**

Independent variables (Perceived condom use self-efficacy)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
condoms during sexual intercourse.				sexual intercourse did not differ significantly. Respondents who indicated not at risk of contracting HIV/AIDS had the highest proportion, (88.2%), followed by those who indicated high risk, (75.5%), and then small risk of contracting HIV/AIDS, (26.0%).
I am shy purchasing a condom from a nearby store.	13.675	9	0.134	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they were shy purchasing condoms from a nearby store did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (84.7%), followed by those who indicated not at risk, (72.7%), and then small risk of contracting HIV/AIDS, (26.0%).
I have confidence that I could refuse sex with my partner if she/he refuses to use condoms.	17.878	9	<b>0.037</b>	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they had confidence that they could refuse sex with their partners who refused to use condoms differed significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (88.4%), followed by those who indicated not at risk, (65.8%), and then small risk of contracting HIV/AIDS, (25.1%). The risk of contracting HIV/AIDS was statistically dependent of confidence in ability to refuse sex with partner who refused to use condoms ( $\chi^2$ : $p < 0.05$ ).

It can be deduced from table 5.133 that respondents who perceived themselves to be at high risk of contracting HIV/AIDS would have the confidence to refuse sex with their partners who refused to use condoms.

Table 5.134 depicts the result of the analysis of the outcome variable with the items comprising cues to action for condom use.

**Table 5.134: Cues to action for condom use**

Independent variables (Perceived information provided by the clinics)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
Demonstration on how to fit condoms is provided.	9.494	9	0.333	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that demonstrations on how to fit condoms was provided at clinics did not differ significantly. Respondents who indicated not at risk of contracting HIV/AIDS had the highest proportion, (85.8%), followed by those who indicated not at risk, (71.1%), and then small risk, (27.0%).
Information on the prevention of HIV/AIDS is given.	10.745	9	0.294	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that information on the prevention of HIV/AIDS was provided at clinics did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (84.8%), followed by those who indicated not at risk, (71.5%), and then small risk of contracting HIV/AIDS, (26.7%).
Information on sexual risk behaviours is provided.	12.259	9	0.195	Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that information on sexual risk behaviours was provided at the clinic did not differ significantly. Respondents who indicated not at risk of contracting HIV/AIDS had the highest proportion, (70.6%), followed by those who indicated high risk, (69.2%), and then small risk of contracting HIV/AIDS, (30.7%).
Information on transmission of HIV/AIDS is provided	8.050	9	0.529	Across the categories of risk exposure to HIV/AIDS, the proportion of respondents who disagreed that information on transmission of HIV/AIDS was provided at the clinics did not differ significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (81.1%), followed by those who indicated not at risk, (67.4%), and then small risk of contracting HIV/AIDS, (28.9%).

Table 5.135 depicts the result of the analysis of the outcome variable with the items comprising modifying factors.

**Table 5.135: Modifying factors**

Independent variables (Modifying factors)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
Age group.	19.931	12	0.374	The risk exposure was not statistically dependent of age. Across the various age groups, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents in the 22-23 years age group had the highest proportion, (50.0%), followed by those in the 20-21 years age group, (49.4%).
Gender.	10.984	3	<b>0.012</b>	The risk exposure was significantly dependent of gender. More females (40.3%) indicated that they were not at risk of contracting HIV/AIDS than males (29.3%) ( $\chi^2$ : $p < 0.05$ ).
Marital status.	9.641	12	0.0647	The risk exposure was not statistically dependent of marital status. Across the various marital statuses, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. The highest proportion was recorded in the married, (85.7%), followed by singles, (42.0%) and the lowest was in the divorced, (25.0%).
Grade level.	4.837	6	0.565	The risk exposure to HIV/AIDS was not statistically dependent of grade level. Across the various grade levels, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents in lower sixth (grade 11) had the highest proportion, (48.7%), while those in upper sixth (grade 12) had the lowest proportion, (38.8%).
Academic profile.	16.305	12	0.178	The risk of contracting HIV/AIDS was not statistically dependent of academic profile. Across the various academic profiles, the proportion of respondents who mentioned high risk of contracting HIV/AIDS did not differ significantly. Respondents who were dismissed had the highest proportion, (100.0%), followed by those who repeated their present grade levels, (46.2%), while those who passed their exams had the lowest, (41.4%).
House of residence.	12.026	12	0.444	The risk of contracting HIV/AIDS was not statistically dependent of house of residence. Across the various houses of residence, the proportion of respondents mentioned high risk of contracting HIV/AIDS did not differ significantly. Respondents who were living in duplexes had the highest proportion, (44.8%), followed by those who were living in shacks, (43.5%), and then those who were living in five rooms or more, (42.9%).
Area of residence.	9.156	12	0.690	The risk of contracting HIV/AIDS was not statistically dependent of the area of residence. Across the various areas of residence, the proportion of respondents who mentioned high risk of contracting HIV/AIDS did not differ significantly. Respondents who were living in suburbs had the highest proportion, (46.7%), followed by those who were living in rural areas, (45.3%); then cities, (42.9%), and lastly those who were living in the

**Table 5.135: Modifying factors**

Independent variables (Modifying factors)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
				townships, (41.6%).
Living with both parents.	3.950	3	0.267	The risk of contracting HIV/AIDS was not statistically dependent of living with both parents. More respondents, who were not living with both parents (44.8%), indicated that they were at high risk of contracting HIV/AIDS than those who were living with both parents (39.5%).
Living with brothers and sisters.	9.797	3	<b>0.020</b>	The risk of contracting HIV/AIDS was statistically dependent of living with both brothers and sisters. More respondents who were not living with their brothers and sisters (44.1%) indicated that they were at high risk of contracting HIV/AIDS than those who were living with their brothers and sisters (40.1%) ( $\chi^2$ : p<0.05).
Living with mother, brothers and sisters.	0.152	3	0.985	The risk of contracting HIV/AIDS was not statistically dependent of living with mother, brothers and sisters. More respondents who were living with their mother, brothers and sisters (44.0%) indicated that they were at high risk of contracting HIV/AIDS than those who were not living with their mother, brothers and sisters (42.4%).
Living with father, brothers and sisters.	5.286	3	0.152	The risk of contracting HIV/AIDS was not statistically dependent of living with father, brothers and sisters. More respondents who were living with their father, brothers and sisters (43.9%) indicated that they were at high risk of contracting HIV/AIDS than those who were not living with their father, brothers and sisters (42.6%).
Living with grand parents.	0.457	3	0.928	The risk of contracting HIV/AIDS was not statistically dependent of living with grand parents. More respondents who were not living with their grand parents (42.9%) indicated that they at high risk of contracting HIV/AIDS than those who were living with their grand parents (40.9%).
Living with relations/ guardians.	3.085	3	0.379	The risk of contracting HIV/AIDS was not statistically dependent of living with either relations or guardians. More respondents who were not living with either their relations or guardians (43.8%) indicated that they were at high risk of contracting HIV/AIDS than those who were living with either their relations or guardians (39.0%).
Religious affiliation.	24.195	15	0.062	The risk exposure to HIV/AIDS was not statistically dependent of religious affiliation. Across the various religious affiliations, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who were Muslims had the highest proportion, (60.0%), followed by Presbyterians, (49.3%).
Social group affiliation.	18.179	12	0.110	The risk exposure to HIV/AIDS was not statistically dependent of social group affiliation. Across the various social groups, the proportion of respondents who indicated that they were at high risk of contracting

**Table 5.135: Modifying factors**

Independent variables (Modifying factors)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
				HIV/AIDS did not differ significantly. Respondents who belonged to a church youth group had the highest proportion, (46.4%), followed by social club, (40.3%), and then those who did not belong to any social group, (40.0%).
Father's highest qualification.	27.484	21	0.155	The risk exposure to HIV/AIDS was not statistically dependent of father's highest qualification. Across the various qualifications, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who indicated that their fathers had no educated, had the highest proportion, (55.6%), followed by those whose fathers had advanced level, (54.3%), while those whose fathers had first school level or less, had 40.7%.
Mother's highest qualification.	18.887	21	0.592	The risk exposure to HIV/AIDS was not statistically dependent of mother's highest qualification. Across the various qualifications, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents whose mothers had first school level or less, had the highest proportion, (44.8%), followed by those whose mothers had advanced level, (44.6%), while those whose mothers had no education, had 43.8%.
Guardian's highest qualification.	12.490	18	0.821	The risk exposure to HIV/AIDS was not statistically dependent of guardian's highest qualification. Across the various qualifications, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents whose guardians had no education, had the highest proportion, (62.5%), followed by those whose guardians had degrees, (50.0%), and then those whose guardians had diplomas, (46.2%).
Breadwinner of household.	10.701	18	0.907	The risk exposure was not statistically dependent of breadwinner of household. Across the various breadwinners, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who mentioned their brothers as breadwinners had the highest proportion, (44.8%), followed by those who mentioned mothers, (44.6%), and then both father and mother, (43.8%).
Father's source of income.	16.122	18	0.584	The risk exposure to HIV/AIDS was not statistically dependent on father's source of income. Across the various sources of income, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who mentioned that their fathers were self employed, had the highest proportion, (50.0%), followed by those who indicated that their fathers were farmers, (41.7%).
Mother's source of	16.722	18	0.542	The risk exposure to HIV/AIDS was not statistically dependent of mother's source of income. Across the

**Table 5.135: Modifying factors**

Independent variables (Modifying factors)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
income.				various sources of income, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who indicated that their mothers were farmers had the highest proportion, (46.6%), followed by those who indicated that their mothers were doing business, (43.8%).
Guardian's source of income.	9.520	15	0.849	The risk exposure to HIV/AIDS was not statistically dependent of guardian's source of income. Across the various sources of income, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who indicated that their guardians were pensioners had the highest proportion, (54.5%), followed by those who indicated civil servants, (51.2%), and then self employed (47.4%).
Father's monthly income.	7.413	9	0.594	The risk exposure to HIV/AIDS was not statistically dependent of father's source of income. Across the various monthly incomes, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who mentioned that their father's monthly income was less than 100 000 XAF, had the highest proportion, (46.8%), followed by those who mentioned more than 300 000 XAF, (41.8%).
Mother's monthly income.	7.511	9	0.584	The risk exposure to HIV/AIDS was not statistically dependent on mother's monthly income. Across the various monthly incomes, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who mentioned that their mother's monthly income was more than 300 000 XAF, had the highest proportion, (50.0%), followed by those who mentioned 100 000-200 000 XAF, (46.5%).
Guardian's monthly income.	3.671	9	0.932	The risk of exposure to HIV/AIDS was not statistically dependent on guardian's monthly income. Across the various monthly incomes, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who mentioned that their guardian's monthly income was 100 000-200 000 XAF, had the highest proportion, (48.3%), followed by those who mentioned more than 300 000 XAF, (48.1%).
Number of people in household.	15.296	18	0.642	The risk exposure to HIV/AIDS was not statistically dependent of number of people in household. Across the various numbers of people in the respondents' households, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who mentioned one person in the household, had the highest proportion, (57.1%), followed by those who mentioned two persons, (50.0%), and then three persons, (47.1%).

**Table 5.135: Modifying factors**

Independent variables (Modifying factors)	Outcome Variable (Risk exposure to HIV/AIDS)			Remarks
	Chi-square	df	P value	
Living place during school period.	16.202	12	0.182	The risk exposure to HIV/AIDS was not statistically dependent of living place during school period. Across the various living places during school period, the proportion of respondents who indicated that they were at high risk of contracting HIV/AIDS did not differ significantly. Respondents who were boarders had the highest proportion, (50.0%), followed by those who were living in rented places, (48.3%), and then those who were living in their guardians' houses, (48.0%).

It can be seen from table 5.135 that more male than female respondents perceived themselves to be at high risk of contracting HIV/AIDS. It can be seen from table 5.56 that the perception of risk of contracting HIV/AIDS was statistically influenced by gender, with more females than males believing that they were not at risk of contracting HIV/AIDS. UNAIDS (2004a:40) posits that the epidemic in SSA affects more women than men, as women are 30% more likely to be infected than men. These differences in infection rates are due to a combination of factors. Women and girls are commonly discriminated against in terms of access to education, employment and land inheritance. With increasing levels of poverty in Cameroon women might find themselves in casual relationships with men for financial gains. Women therefore might find it difficult to demand safe sex, as they become dependent on mainly older men; women are also biologically more prone to infection, and HIV is more easily transmitted from men to women than the reverse (UNAIDS 1997b:3). The context of gender inequalities places women at a greater risk of being infected by HIV/AIDS. Women and girls lack power over their bodies; and their sexual lives, social and economic inequalities increase their vulnerability for contracting and living with HIV/AIDS. The implication of this low perception of the risk of contracting HIV/AIDS among female learners is that they may not see the need to practise safe sex such as the consistent use of condoms to prevent the sexual transmission of HIV/AIDS, with the perception that they are not at high risk of contracting HIV/AIDS.

### **5.8.5 CONCLUSION**

The findings imply that modifying factors had the highest explanatory power. These items, taken all together as acting in synergy, explain the risk exposure with respect to HIV/AIDS better than the other components of the HBM. This component is followed by perceived barriers to condom use; perceived severity of HIV/AIDS; perceived benefits of condom use; perceived susceptibility to HIV/AIDS; condom use self-efficacy and lastly cues to action for condom use.

This means that risk exposure with respect to HIV/AIDS in the context of the current study can be better explained by modifying factors, followed by perceived barriers to condom use.

It is also implied that the combination of the three components with the highest explanatory powers and good reliability (modifying factors, perceived barriers to condom use and perceived severity of HIV/AIDS) have a strong explanatory power. This means that these components should all be considered in designing policies geared towards controlling risk exposure to HIV/AIDS in Kumba, Cameroon.

## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 INTRODUCTION

The data from the current quantitative, explorative, descriptive correlational study are presented in chapter 5; data collected via a self-designed questionnaire, structured according to the HBM, to determine the knowledge, attitudes and perceptions regarding HIV/AIDS, and sexual behaviours among senior secondary school learners in Kumba, Cameroon.

The content of the current chapter is presented keeping in mind the outcome variable of the current research, namely: how at risk learners from the participating schools perceived themselves to be of contracting HIV/AIDS. The findings of applicable subsections of the data are presented, followed by a conclusion and a recommendation.

As indicated in chapter 4 a number of research questions, objectives and hypotheses underlie the outcome variable of the current research:

- Research questions (section 4.3.1)
- Research objectives (section 4.3.1)
- Hypotheses (section 4.3.3.4 and 4.3.3.5)

#### 6.2 Knowledge regarding HIV/AIDS

In the context of the HBM, knowledge is a structural variable which has an influence on risk perception as it enables an individual to recognise the *risk* of an illness and take steps to adopt healthy behaviours to prevent an illness (Dennill et al 1999:157; Lollis et al 1997:551).

## **6.2.1 Knowledge of personal HIV status**

### **6.2.1.1 Finding**

Of the respondents 286 (60.6%) did not know their HIV status and 335 (70.0%) did not know the status of their partners (see section 5.3.3.1). Of these 58.5% have had sex (Table 5.25b).

### **6.2.1.2 Conclusion**

The findings of the current research indicate that secondary school learners are sexually active. It is of the utmost importance that these learners, especially those involved in casual sexual intercourse, know their HIV-status and that this status is re-established from time to time. Although this is no longer a true preventative measure for the individual, it might assist in combating further spread of HIV/AIDS.

### **6.2.1.3 Recommendation**

Sexuality education programmes should provide information on the importance of regular testing for HIV-status. In addition, all authorities that exert some power over collectivities of youths, such as schools, church and social clubs should cooperate with health care clinics to promote the idea of regular HIV testing and counselling.

## **6.2.2 Knowledge of HIV/AIDS**

### **6.2.2.1 Finding**

Some of the respondents, 271 (57.3%) indicated that they did not have sufficient knowledge regarding HIV/AIDS. The data thus revealed a perceived gap in the knowledge level regarding HIV/AIDS among some learners.

### **6.2.2.2 Conclusion**

The responses referred to are the respondents' personal opinions, but the actual measure of their level of knowledge might be different. Nonetheless, the acknowledgement of not having sufficient knowledge on HIV/AIDS could serve as a trigger for attending more formal programmes in sexuality education and on HIV/AIDS.

### **6.2.2.3 Recommendation**

It is recommended that youths who feel that they do not have sufficient knowledge about HIV/AIDS be formally informed about this disease. Formal estimations of learners' knowledge levels should be conducted from time to time. Learners should also be updated on all changes in incidence statistics relating to HIV/AIDS as well as changes in the mutation of the virus. Presenters of sexuality education programmes and other health related education on HIV/AIDS should, however, guard against causing so-called HIV/AIDS fatigue among learners resulting in carelessness towards the disease. In addition, programme providers need to guard against the idea that knowledge will necessarily result in expected behaviours. It is recommended that the implications of all aspects of both the disease and the causative virus be clearly explained to learners, and where possible an interactive presentation of information should be provided.

## **6.2.3 Modes of HIV Transmission**

### **6.2.3.1 Finding**

The results of the current study reveal that most of the respondents were aware of the three main modes of transmission of HIV infection namely: through unprotected sexual intercourse, 442 (95,7%); through infected blood, 436 (95,4%) and through injection needles during usage, 408 (89,9%) (see section 3.4.1 of this thesis).

### **6.2.3.2 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/AIDS, sexual transmission may overshadow other modes of transmission of HIV/AIDS.

### **6.2.3.3 Recommendation**

Sexuality education should, in addition to emphasising safer sexual practices, also pertinently indicate the danger of any substance abuse and especially the danger of using contaminated injection needles. Learners should also be pertinently informed about the danger of transmission via blood. The focus on blood transfusion should be relayed to blood from epistaxis and open wounds often encountered in sports and road injuries. Sexuality education and health education on HIV/AIDS should include practical information and exercises on assisting persons who bleed without endangering oneself, such as using surgical gloves, plastic shopping bags or any other watertight material.

## **6.2.4 Misconception about transmission of HIV**

### **6.2.4.1 Finding**

Misconceptions about the spread of HIV is reflected by the following beliefs: that HIV/AIDS can be transmitted through mosquitoes bite, 172 (38,4%); that HIV/AIDS can be transmitted through kissing an infected person, 141 (35,8%); that HIV/AIDS can be transmitted through saliva, 98 (23,0%); that HIV/AIDS can be transmitted through infected toilet seats, 98 (21,8%); that HIV/AIDS can be transmitted through using the same eating utensils as an infected person, 82 (18,3%); and that HIV/AIDS can be transmitted through shaking hands with an infected person, 23 (5,3%).

#### **6.2.4.2 Conclusion**

Although it could be argued that these misconceptions serve to alert learners to possible HIV transmission, this quasi benefit is overshadowed by the possible stigmatisation included in these misconceptions. Inaccurate knowledge seems to harbour more negative than positive outcomes.

#### **6.2.4.3 Recommendation**

Pertinent information on the ways HIV/AIDS is *not* transmitted should be emphasised in all sexuality learning material. All possible sources of misconception that could lead to stigmatisation and discrimination against PLHA should be identified and clarified in such learning materials.

### **6.2.5 Knowledge on interrelated social problems**

#### **6.2.5.1 Finding**

Most of the respondents reflected a lack of awareness that drunkenness (305; 68.5%) and drug abuse (280; 65.7%) predispose one to sexual promiscuity and consequently to increased risk of HIV/AIDS transmission. (Table 5.30).

#### **6.2.5.2 Conclusion**

The respondents who were youths at the time of the research were at risk of being involved in social drinking and possible impromptu sexual experiences driven by clouded judgement and questionable group affiliations and peer pressures.

### **6.2.5.3 Recommendation**

Sexuality education and HIV/AIDS prevention learning materials should discourage alcohol and drug abuse as these interfere with one's reasoning abilities. In addition, integrated social sciences and social-psychology should form part of the learning materials in sexuality education. Schools should provide for constructive sports and other social clubs to counteract youths joining clubs and social groups of questionable nature.

## **6.2.6 Knowledge on prevention of transmission of HIV/AIDS**

### **6.2.6.1 Finding**

Of the respondents, 321 (69.3%) were aware that HIV/AIDS could be prevented by consistently and correctly using condoms during sexual intercourse; 414 (91.2%) of the respondents (learners) were aware that HIV/AIDS could be prevented by sexual abstinence, while 369 (81.5%) were aware that being faithful to one partner could prevent HIV/AIDS transmission. (see section 5.3.3.2.4). Of the respondents, 138 (30.8%) were of the opinion that correct and consistent use of condoms cannot prevent sexual transmission of HIV/AIDS.

### **6.2.6.2 Conclusion**

Even though youths were aware of the effectiveness of condom use to prevent the sexual transmission of HIV, they might not know how to use them correctly, which could put them at risk of contracting HIV/AIDS. In addition, the perceived benefits of condom use to prevent HIV/AIDS transmission might be overruled by perceived barriers to condoms use, especially the unnaturalness of the device. This might determine whether or not an individual would actually use a condom to prevent HIV transmission.

### **6.2.6.3 Recommendation**

Sexuality learning programmes should emphasise the importance of correct and consistent use of condoms, especially during casual sexual encounters or when one's own status, or that of one's partner, is questionable or unknown. Negotiation skills with regard to condom use should be practised through role play sessions during sexuality education.

## **6.2.7 Knowledge of sexual risk behaviours**

### **6.2.7.1 Finding**

Most of the respondents were aware of sexual behaviours that put youths at risk of HIV transmission, such as early sexual initiation 270 (68.9%); unprotected sexual intercourse 326 (78.8%); multiple sexual partners 293 (72.3%) and coerced or forced sex 249 (63.8%) (see section 5.3.3.2.5).

### **6.2.7.2 Conclusion**

Early sexual debut of learners emphasises the early stage at which learners need to be informed about the prevention of HIV/AIDS transmission and condom use. In a society with a high incidence of forced sexual intercourse and in a society in which women are for the larger part "voiceless" in sexual matters, and sex is hailed as the ultimate human experience and being exploited by television and the printed media and especially by music videos, immense pressure is exerted on youths to become sexually active. Mere awareness of risk factors might not be sufficient to protect youths against HIV infections.

### **6.2.7.3 Recommendation**

Research need to be conducted into the most effective age at which to start sexuality education outside the family or household. Sexuality education programmes should pertinently equip learners with a self-concept that supports individuals to say “no” to unwanted sexual advances as well as provide facilities where unwanted sexual advances could be reported. Life skills training need to form part of sexuality education at all levels of learner development. Transgender respect and appreciation also merit pertinence in sexuality programmes. In addition, a concerted cooperative project needs to be embarked upon to rid the media of double bind message to the youth regarding sex and HIV/AIDS.

## **6.3 Attitudes towards PLWHA**

### **6.3.1 Finding**

Most of the learners (respondents) manifested some degree of empathy, tolerance, acceptance and positive attitudes towards PLWHA (see table 5.12). However, data from the current study also reveal unfavourable and unsympathetic attitudes towards PLWHA by some respondents. Some of the respondents (244; 55.0%) in the current study denied that they would kiss someone who has HIV/AIDS which could lead to stigma and discrimination of PLWHA.

### **6.3.2 Conclusion**

In this regard also see 6.2.4 on misconception about transmission of HIV/AIDS.

### **6.3.3 Recommendation**

In addition to psychosocial issues to be included in learning materials on sexuality education and risk management of possible HIV/AIDS infection as discussed in section

6.2.4, the exact nature of the HI-virus should also be explained in lay terms to learners during sexuality education. People living with HIV/AIDS should be presented to learners as worthy individuals who deserve respect. Without moralising, it could be pointed out to learners that the disease does not discriminate against people and all people are equally vulnerable of contracting the disease; depending on one's general sexual and psycho-social behaviour.

## **6.4 Perceptions regarding HIV/AIDS risk**

### **6.4.1 Finding**

Of the respondents, 194 (42.5%) perceived themselves pertinently to be at high risk of HIV transmission (see section 5.4.1.2; table 5.55) because they were engaged in sexual relationships.

### **6.4.2 Conclusion**

This finding relates directly to the outcome variable of the current research. Youths 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/AIDS, might not take the necessary steps to protect themselves from HIV transmission. Individuals' perceptions of not being at risk of contracting the HI-virus because they are not sexually active or do not practice casual sex, this situation could change and these individuals might become at risk individuals.

### **6.4.3 Recommendation**

In addition to learners' perception of their personal risk of contracting HIV/AIDS, learners should also be informed of the general risk of contracting HIV/AIDS. This implies that learners 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 learners to correctly estimate their personal risks of contracting HIV/AIDS. However, all information should be offered in a balanced way without causing panic or a sense that contracting HIV/AIDS is inevitable, leading to HIV/AIDS fatigue and a careless attitude that might undermine healthy sexual practices.

## **6.5 Sources of knowledge on HIV/AIDS**

### **6.5.1 Finding**

Of the 778 responses, 227 (48.1%) mentioned magazines or newspapers as the source providing them with HIV/AIDS knowledge, followed by teachers 205 (43.4%) (this notwithstanding the fact that formal sexuality education is not offered at the schools that participated in this research); hospitals or clinics 122 (25.8%); and parents 109 (23.1%) (see section 5.3.3.2.8). The current study established a statistically significant relationship between teachers as a source of information regarding HIV/AIDS and gender with more males 115 (48.9%) receiving information from this source than females 90 (38,0%) ( $p=0,016$ ) (see table 5.43).

### **6.5.2 Conclusion**

These findings indicate a move away from the traditional heart to heart talk between parents and their offspring on sexuality and HIV/AIDS related issues. Many reasons can be responsible for this including parents' lack of knowledge on HIV/AIDS.

### **6.5.3 Recommendation**

All sources available to learners should provide them with clear and accurate information on HIV/AIDS. Magazines should thus be scrutinised for presenting factual information uncontaminated by sensationalism. A concerted effort should be made in schools to promote the image of female educators as sources of information on

HIV/AIDS. Female learners should be encouraged to consult their teachers on sexuality and HIV/AIDS issues. The most important intervention might be a concerted effort to inform parents about HIV/AIDS and how to discuss matters relating to sexuality and HIV/AIDS with their children.

## **6.6 Knowledge and attitudes towards condoms**

### **6.6.1 Knowing about condoms and having had sex**

#### **6.6.1.1 Finding**

Of the respondents, 399 (86.0%) indicated that they knew about condoms, while the 65 (14.0%) indicated that they did not know about condoms (see table 5.44a). Of the respondents who indicated that they knew about condoms, 217 (56.5%) had had sex before, while 167 (43.5%) had never had sex. Of the respondents who did not know about condoms, 46 (78.0%) had never had sex, while 13 (22.0%) had had sex. There was a statistically significant relationship between knowledge about condoms and sexual experience ( $X^2$ :  $p < 0.05$ ) (see table 5.44b).

#### **6.6.1.2 Conclusion**

The crucial point here is that 22.0% of the learners who did not know about condoms already had sex at the time of data collection. In actual numbers (13) this might be regarded as insignificant. However, these 13 youths' lives might have been at stake. In addition, should these youths become HIV positive and continue to be involved in sex without knowing about condoms (not using condoms), the escalated result could be vast.

### **6.6.1.3 Recommendation**

As indicated previously the ABC approach to combating HIV, as a component in sexuality education and as a component in lowering individual learners' risks of contracting HIV/AIDS, cannot be overemphasised.

## **6.6.2 Knowledge of condoms**

### **6.6.2.1 Finding**

The majority of the respondents in the current study reflected accurate knowledge regarding condoms during the time of data collection. However many also reflected a lack of knowledge in a number of the knowledge items as evident by the fact that 319 (75.2%) of the responses indicated ignorance with regard to not using one's finger nails to open a condom packet; 261 (60.6%) responses indicated unawareness that discoloured condoms could not be used; 218 (51.7%) responses indicated unawareness that sticky condoms could not be used; and 216 (54.3%) responses indicated unawareness that oily lubricants should not be used with condoms (see table 5.47).

### **6.6.2.2 Conclusion**

A latex condom becomes dry, sticky, or stiff from changes in temperature or from rough handling or when it has past its expiry date and as such should be thrown away and a new one used instead. Oily lubricants should not be used with condoms because they can break down the rubber. A condom should be handled carefully, and it should not be torn with a finger nail or tooth (Patient Update 2003:1-2; Hirsch 2007). With regard to all these aspects, learners increase their risks of being exposed to HIV infection.

### **6.6.2.3 Recommendation**

The contents of items on which learners (respondents) appear to be ill-informed, or as having wrong ideas, need to be pertinently corrected in any sexuality education and HIV/AIDS health care programme.

### **6.6.3 Attitudes towards condoms**

#### **6.6.3.1 Finding**

Different views about condoms were also held by the most of the respondents, influencing their perceptions regarding condom usage: the perception that condom use makes partner feel un-trusted, 292 (68.9%); the perception that condom use decreases sexual sensation, making sex less enjoyable for either partner, 277 (65.5%); the perception that condom use reduces sexual urge, 252 (62.5%) (see table 5.72).

#### **6.6.3.2 Conclusion**

Negative attitudes towards condoms could be considered as perceived barriers to condom use. These perceived barriers could deter the respondents from using condoms consistently during sexual intercourse to prevent transmission of HIV/AIDS. This might be a contributing factor to the fact that only 82 (30.0%) of the sexually active learners (respondents) in the current study were using condoms consistently (see figure 5.26).

#### **6.6.3.3 Recommendation**

Sexuality education and HIV/AIDS programmes need to emphasise and clarify the complicated issue of trust in sexual relationships; of trust of the other and of compromising oneself by insisting on using a condom. The “B” of the ABC-approach becomes important at this point. The perception that condoms make the sexual

experience less pleasurable, apparently a generally held idea, deserves serious attention. The idea of “performance” and “satisfaction” from a self-centred point of view amongst youths needs to be clarified and needs to be related to the obligation of faithfulness and not involving in sexual promiscuity. This calls for true sexuality *education* and not mere exposition of information on the topic.

#### **6.6.4 Sources providing knowledge on condoms**

##### **6.6.4.1 Finding**

Most of the respondents in the current study received information on condom use from magazines or newspapers, television or radio and teachers. Of the 759 responses, 215 (46.6%) mentioned magazines or newspapers followed by television or radio (151; 32.8%); teachers (141; 30.6%); and then hospitals or clinics (26; 27.3%) (see section 5.3.3.3.3).

##### **6.6.4.2 Conclusion**

The absence of parents in this regard is notable. As is the case with information on HIV/AIDS, the mass media, which is in many ways an uncontrolled source, seems to be most popular.

##### **6.6.4.3 Recommendation**

As indicated earlier, all sources available to learners should provide them with clear and accurate information on all aspects relating to HIV/AIDS including information on condoms and their use. Magazines, newspapers, television and radio programmes, all should thus be scrutinised for presenting factual information uncontaminated by sensationalism.

## **6.6.5 Sources for obtaining condoms**

### **6.6.5.1 Finding**

Most of the respondents who have used condoms, 154 (56.5%) obtained condoms from either a pharmacy or a commercial store (see fig. 5.25).

### **6.6.5.2 Conclusion**

Condoms appear to be obtained mostly from private sources in which instance information provided to learners, if any, cannot be guaranteed.

### **6.6.5.3 Recommendation**

Formal sexuality education should make information available to learners as to where to obtain condoms. Obtaining and using condoms should be presented to learners as a health promotion issue and not as a covert, secretive action of challenging existing authorities such as that of parents, schools and the like.

## **6.6.6 Condom use**

### **6.6.6.1 Finding**

The relatively high incidence of sexual activity (see figure 5.17) and low condom use (see figure 5.24a & figure 5.26) was reported. The current study revealed that most respondents 239 (52.3%) were sexually active (see figure 5.17). Of these, 146 (62.1%) became sexually active by 16 years of age (see table 5.102). Of the sexually active respondents, the majority, 173 (67.3%) indicated that they did not use condoms during their first sexual encounters. Male condoms were not always used by respondents, as only 82 (30,0%) of the sexually active male learners indicated that they always used condoms during sexual intercourse (see figure 5.26).

### **6.6.6.2 Conclusion**

This finding, suggesting that learners may be at high risk of contracting HIV/AIDS, directly relates to the outcome variable of “how at risk learners were at the time of the research to contract the HI-virus.

### **6.6.6.3 Recommendation**

All contents contained in sexuality education programmes and in HIV/AIDS health education should emphasise the need to condomize. If the boundaries of protection through abstinence are crossed, focus should be directed at the use of condoms.

## **6.7 SOURCES OF KNOWLEDGE ON SEXUALITY EDUCATION**

### **6.7.1 Finding**

Of the 974 responses received, 236 (65.9%) mentioned teachers; followed by magazines or newspapers (209; 58.4%); then TV or radio (168; 46.9%); and parents or guardians (155; 34.3%) (see section 5.5.3.7) as the sources learners turned to for sexuality education.

### **6.7.2 Conclusion**

These findings correspond with those relating to sources of knowledge on HIV/AIDS and condoms. The number of responses that indicated parents or guardians as a source of information causes concern. Communication barriers may exist between learners (respondents) and their parents (guardians) (see table 5.11 of this thesis).

### **6.7.3 Recommendation**

The implementation of formal sexuality education at the schools that participated in this study could be facilitated by the fact that most responses indicated that teachers served as a source in sexuality education. Teachers spent the greater part of the day with youths during the week and they could be expected to teach learners about sex and sexuality. This teaching responsibility should, however, be formalised.

A concerted effort should be made by schools and other institutions to assist parents and their children to communicate about sexuality and HIV/AIDS matters. It is reiterated that the mass media need to be TV advised on the contents of programmes, especially educational programmes, television and radio series and music videos; the latter two may have a huge impact on learners' attitudes and perceptions of HIV/AIDS, sexuality education and related matters; on the level of risk at which learners find themselves.

## **6.8 STRATEGIES THAT COULD ENHANCE LEARNERS' UTILISATION OF REPRODUCTIVE HEALTH SERVICES AND CONDOM ACCESS POINTS IN THE CITY OF KUMBA**

### **6.8.1 Finding**

The current study revealed that the majority of the learners believed that certain interventions could motivate adolescents to access condoms and reproductive health services in the city of Kumba. Such interventions included providing more information on the benefits of condom use to prevent HIV/AIDS 352 (85,6%); having young people talk to their peers about the benefits of condom use 277 (69,4%); sensitising parents or guardians on condom needs of young people 266 (67,5%); providing special clinic hours for young people 247 (61,6%); providing mobile condom distribution 219 (57,5%) and having special room for young people at health care clinics 194 (50,4%) (see table 5.125).

## **6.8.2 Conclusion**

These findings support recommendations previously made with regard to sources of knowledge on HIV/AIDS, condoms and condom usage and on sexuality education. These findings also support the concern about private outlets providing learners with condoms without the necessary information on the correct use of condoms or sex education.

## **6.8.3 Recommendation**

A concerted effort should be made amongst all institutions involved in sexuality education and HIV/AIDS health education to implement the items mentioned in section 6.7.1.

## **6.9 SUMMARY OF CONCLUSIONS CONTEXTUALISED WITHIN THE MAJOR TENETS OF THE HEALTH BELIEF MODEL (HBM)**

The HBM was used to explore the knowledge, attitudes and perceptions relating to HIV/AIDS and sexual behaviours among senior secondary school learners in Kumba. 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 as these are presented by the three deductive hypotheses stated in 4.3.3.4 and 4.3.3.5.

### **6.9.1 Individual perceptions regarding HIV/AIDS**

Individual perceptions about HIV/AIDS could determine the adoption of preventive measures such as consistent use of condoms to prevent HIV/AIDS transmission. Learners who are aware of their risk of contracting HIV/AIDS would more likely take measures to prevent the spread of the infection.

### **6.9.1.1 *Perceived susceptibility to HIV/AIDS***

#### **6.9.1.1.1 Finding**

The current study revealed that the majority of the respondents manifested an overall accurate perception of their susceptibility to HIV/AIDS infection (see section 5.4.1). There was a statistically significant relationship between perception of risk of contracting HIV/AIDS and gender, with more males perceiving themselves to be at high risk of contracting HIV/AIDS than females ( $p=0,012$ ) (see table 5.56).

#### **6.9.1.1.2 Conclusion**

This finding indicates inaccurate perceptions as both socio-culturally and anatomically/physiologically, women are more prone to contracting the HI-virus than men.

#### **6.9.1.1.3 Recommendation**

Sexuality education and general HIV/AIDS health education should pertinently promote female learners' understanding and perception of the real threat of HIV/AIDS. The pertinence of this point cannot be overemphasised.

### **6.9.1.2 *Perceived severity of HIV/AIDS***

#### **6.9.1.2.1 Finding**

The current results revealed that the majority of learners were aware of the severity of HIV/AIDS infection (see section 5.4.2). However, the data also revealed widespread misconceptions regarding HIV/AIDS among learners: of the respondents, 294 (67.4%) believed that AIDS is the last stage of sexually transmitted disease (STD) (see table 5.59).

#### **6.9.1.2.2 Conclusion**

This inaccurate perception could lead to lack of action to take measures by learners to protect themselves against HIV transmission. The fact that many sexually transmitted diseases are curable might be incorrectly generalised to HIV/AIDS.

#### **6.9.1.2.3 Recommendation**

Sexuality education and general HIV/AIDS health programmes should pertinently indicate that HIV/AIDS is an “independent” disease, caused by a specific virus; the HI-virus, and that there is currently no cure for this. Course contents must point out that HIV/AIDS, as a sexually transmitted disease, is often found concurrent with other sexually transmitted diseases, but might be present in PLWA in the absence of other sexually transmitted diseases.

#### **6.9.2 Modifying factors**

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).

Statistical analysis crystallised the following variables as significantly determining modifying factors (see table 5.128(b)).

**Table 6.1: Significantly determining modifying factors**

Age group	Living with others
Gender	Sports club affiliation
Marital status	Church youth group affiliation
Academic profile	Other group affiliation
Present residential area	Father's highest qualification
Living with both parents	Guardian's highest qualification
Living with brothers and sisters	Father's source of income
Living with grand parents	Guardian's source of income.
Living with relations or guardians	

### **6.9.2.1 Demographic variables**

In the current study demographic variables that could influence the respondents (learners) to take steps to prevent the transmission of HIV/AIDS included age, gender, marital status, grade level, academic profile and highest qualification of parents/guardians.

#### **6.9.2.1.1 Age**

- **Finding**

As could be expected from a secondary school population and sample, respondents (learners) were aged between 11 and 23 years. Most of these learners, 444 (92,5%) were between the ages of 16 and 23 years.

- **Conclusion**

The age group 16-23 falls within the group of adolescents hardest hit by HIV/AIDS (table 5.1). Sexuality education at secondary school will, if implemented, reach a large population of those most in need of such education. It is also this age group in which inexperience leads to sexual experimentation and immediate gratification of needs, which emphasises the indispensability of sexuality education at secondary school level.

- **Recommendation**

The recommendation at this point is a recommendation on recommendations namely, that the recommendations made in this thesis be considered and that they be implemented meticulously and in conjunction with supporting recommendations and evidence from other studies and literature sources.

#### **6.9.2.1.2 Gender**

- **Finding**

As indicated in table 5.49, there was a statistically significant difference with regard to the following gender and the following aspects:

- More males, 37 (18.6%) than females, 23 (11.6%) strongly agreed that an HIV positive person on ART can transmit HIV/AIDS, and this belief was statistically influenced by gender ( $X^2$ :  $p < 0.05$ ).
- More females, 21 (10.0%) than males, 11 (5.7%) strongly agreed that it is safe to have unprotected sex with an HIV positive person on ART, and this belief was statistically influenced by gender ( $X^2$ :  $p < 0.05$ ).
- More females, 41 (18.82%) than males 33 (14.6%) strongly agreed that certain Cameroonian tribes are immune to HIV, and this belief was statistically influenced by gender ( $X^2$ :  $p < 0.05$ ).

- **Conclusion**

Female learners appear more at risk of contracting HIV/AIDS as far as the items included in the discussion are concerned than are their male counter parts. These differences could have a cultural origin. Gender could have an influence on one's perception and ability to take preventive measures, especially where there are gender inequalities related to cultures as is the case in most African countries, including Cameroon. Despite the statistical calculation available to compare samples of different sizes, the researcher's selection of equal numbers of respondent from the male and female gender was an attempt on his side not to discriminate on the grounds of gender (see table 5.2).

- **Recommendation**

Special effort needs to be made towards the sexuality education for female learners at the schools involved in the current study.

#### **6.9.2.1.3 Marital status**

- **Finding**

Marital status is one of the demographic variables which predispose one to take preventive action against HIV/AIDS infection due to repeated exposure to unprotected sexual intercourse among unmarried adolescents which increases their risk of HIV/AIDS infection. The majority of the respondents in the current study, 448 (94.3%) were single (see table 5.3).

- **Conclusion**

Based on literature findings, the fact that marital status predisposes one to take preventive action against HIV/AIDS infection, and the fact that learners in secondary schools are mostly unmarried and of an age in which sexual experimentation is rife, these learners need pertinent sexuality education.

- **Recommendation**

The principles of faithfulness and keeping to a single partner generally advocated by marriage should also be inculcated in programmes at secondary school level. In the absence of marriage general transgender appreciation and consideration should be promoted amongst learners

#### **6.9.2.1.4 Level of education**

- **Finding**

Most of the respondents in the current study had a good academic profile, as 353 (74.0%) of the respondents indicated that they passed their examinations (see table 5.5) and were promoted on merit.

- **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). Adolescents with high academic aspirations are more likely not to jeopardise their academics by unwanted pregnancies and STDs including HIV/AIDS by abstaining from sex, by being faithful to one sexual partner, or by using condoms when engaging in sexual intercourse with multiple partners. It is the researchers opinion that the relationship between higher academic aspirations and unwillingness to jeopardise this by the result of careless sexual practices, is a relationship of meaning and meaningfulness and of an experience of self-worth.

- **Recommendation**

It is recommended that in addition to pertinently assist learners to achieve higher educational goals and aspirations, learners' self-concepts and self-images should be nurtured and improved over a broad scope; intellectually, physically, socially, psychologically and spiritually. Learners should be truly *educated* not merely *learn or being taught*.

#### **6.9.2.1.5 Parents'/guardians' educational level**

- **Finding**

Most of the respondents' parents/guardians had qualifications above the first school level (see table 5.6). However parents were low on the list of sources for information on condom use and HIV/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 learners' (respondents') preference of parents as sources for knowledge on related issues.

- **Recommendation**

A concerted effort from all institutions involved (school, church and social organisations) to inform parents about HIV/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. It might be necessary to bridge certain age and culturally induced embargos to achieve this objective.

### **6.9.3 Socio-psychological variables**

#### **6.9.3.1 Religion**

##### **6.9.3.1.1 Finding**

In the current study, most of the respondents, 427 (90,1%) were Christians (table 5.7). This was to be expected because the City of Kumba, where the current study was conducted is in the Christian region of Cameroon. The statistically significant findings relating to religion are:

- More Christians, 57.8% than Muslims 0.00% agreed that HIV/AIDS is a disease like any other. This view was statistically influenced by religion ( $\chi^2$ :  $p < 0.05$ ).
- More Christians, 80.0%, than Muslims, 20.0%, agreed that correct and consistent condom usage could prevent sexual transmission of HIV/AIDS. Perceived benefit of condom use was statistically influenced by religion ( $\chi^2$ :  $p < 0.05$ ).

##### **6.9.3.1.2 Discussion**

Religions such as Christianity and Islam are factors which 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/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/AIDS. Although it has not been addressed during the current study, the difference between Christian and Muslim views on the naturalness of HIV/AIDS as a disease might be dogma related in that no Muslims view HIV/AIDS as such. Given their extreme viewpoint on sex and sexuality matters, it might be that Muslims perceive HIV/AIDS as a “curse from Allah.

### **6.9.3.1.3 Recommendation**

Notwithstanding the sensitivity of sex and sexuality matters from a religious point of view, every effort should be made to involve religious leaders in sexuality education. However, caution should be exercised to maintain the scientific facts surrounding HIV/AIDS and to separate these from value laden and emotive nuance provided by religion.

### **6.9.3.2 Social groups**

#### **6.9.3.2.1 Finding**

The majority of the respondents in the current study, 425 (90.2%) belonged to social groups (figure 5.1). The following represents statistically significant correlation between certain social groups and diverse variables of importance to the current research.

- Of the respondents who agreed that a healthy looking person can be HIV positive, 94.4% belonged to a sports club, and 75.0% did not belong to any social group. The belief that a healthy looking person can be HIV positive was statistically influenced by social group ( $\chi^2$ :  $p < 0.05$ ).
- Across the various social groups, the proportion of respondents who agreed that correct and consistent condom usage could prevent sexual transmission of HIV/AIDS differed significantly. Respondents who belonged to a social club had

the highest proportion (87.7%), while those who belonged to a Church youth group had 75.7% ( $\chi^2$ :  $p < 0.05$ ).

- The perception that should a condom slip off during sexual intercourse, it will land up in the stomach of the female partner was statistically dependent of social group. Across the various groups, the proportion of respondents who agreed with this perception differed significantly. Respondents who did not belong to any social group had the highest proportion (47.4%), while those who belonged to a sports group had the lowest (17.1%) ( $\chi^2$ :  $p < 0.05$ ).
- Across the various social groups, the proportion of respondents who agreed that they felt embarrassed to use condoms differed significantly. Respondents who, did not belong to any social group had the highest proportion (57.1%), while those who belonged to a social club had the lowest (39.4%) ( $\chi^2$ :  $p < 0.05$ ).
- Across the various social groups, the proportion of respondents who agreed that clinic staff were not being friendly when handing out condoms differed significantly. Respondents who did not belong to any social group had the highest proportion (55.0%), while those who belonged to a social club had the lowest (38.8%) ( $\chi^2$ :  $p < 0.05$ ).
- Across the various social groups, the proportion of respondents who agreed that demonstration on how to fit condoms was provided at the clinics differed significantly. Respondents who belonged to a social club had the highest proportion (82.8%), while those who did not belong to any social group had the lowest (47.6%) ( $\chi^2$ :  $p < 0.05$ ).
- Across the various social groups, the proportion of respondents who agreed that information on the prevention of HIV/AIDS was given at the clinics differed significantly. Respondents who belonged to a social club had the highest proportion (93.5%), while those who did not belong to any social group had the lowest (52.3%) ( $\chi^2$ :  $p < 0.05$ ).
- Across the various social groups, the proportion of respondents who agreed that information on sexual risk behaviours was provided at the clinics differed significantly. Respondents who belonged to a social club had the highest

proportion (88.9%), while those who did not belong to any social group had the lowest (47.6%) ( $\chi^2$ :  $p < 0.05$ ).

#### **6.9.3.2.2 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 and “positive” towards aspects relating to HIV/ADS and condom use and availability. Adolescents taking part in youth club activities are expected to be more knowledgeable with regard to HIV/AIDS and sexual behaviours since they have more opportunities to discuss sexual and HIV/AIDS related issues with their peers. One could therefore expect that belonging to youth club could motivate adolescents to practise safe sex. Youth clubs also appear to exert more influence on youths than religion.

#### **6.9.3.2.3 Recommendation**

Based on the influence social groups clubs exerts on its members, it is recommended that youths should be supported to join such clubs, provided these clubs are of “good” repute.

### **6.9.3.3 Residential arrangements**

#### **6.9.3.3.1 Finding**

The majority of the respondents in the current study, 378 (79,7%) were residing in the city and urban areas (see table 5.9). In addition, the majority of the respondents in the current study, namely 302 (63,3%) were living with either their parents or guardians during school periods (see table 5.10). The majority of the respondents’ fathers were farmers, while the majority of the respondents’ mothers and guardians were doing business (see table 5.14).

### **6.9.3.3.2 Conclusion**

This could mean that accessibility to health services and condom access points is good, unlike in the rural areas and suburbs where the services might not be readily available or accessible. In Cameroon, rural dwellers travel five times as far as urban dwellers to reach the nearest health facility, while 98,9% of people who travel over 6 kilometres to a health facility live in rural areas (Cameroon 2003).

### **6.9.3.3.3 Recommendation**

As many of the residential arrangements were specifically focussed on school attendance, (see next section), it is recommended that the previously recommended mobile units be rolled out in rural areas especially during long school holidays.

## **6.9.3.4 Socio-economic status**

### **6.9.3.4.1 Finding**

Of the respondents, the majority, 256 (53,7%) mentioned seven or more persons in their households (see table 5.21). Also as revealed from tables 5.15; 5.16 and 5.17, the majority of the respondents' parents and guardians had monthly incomes of less than 100 000 XAF. Of the respondents who indicated seven or more people in the household, most, 40,5% mentioned that their mother's monthly income was less than 100 000 XAF, while a few, 17,1% mentioned a monthly income of between 200 000 and 300 000 XAF ( $X^2$ :  $p < 0.05$ ) (see table 5.23).

### **6.9.3.4.2 Discussion**

Low economic status of parents may put the respondents at risk of engaging in undesirable sexual behaviours because the learners might not have the financial means

to practice safe sex such as buying and using condoms. The incomes as reflected by the findings cannot cater for seven or more persons in a household).

#### **6.9.3.4.3 Recommendation**

As a general recommendation of improving the socioeconomic status of all Cameroonians is beyond the scope of the current research, it is a worthy cause for Government to pursue. A more practical arrangement in the short term would be to provide condoms free of charge to learners who need them and to inform learners where these condoms can be obtained.

#### **6.9.4 Structural elements (variables) affecting likelihood of taking action**

In the current study variables affecting likelihood of action refer to a learner's perceived benefits of practising safer sex (using male condoms effectively) minus the perceived barriers to taking action (accessibility, affordability and acceptability of condoms). This equates to the likelihood of taking actions to change sexual behaviours to prevent contracting the HI-virus (see figure 2.1) (Onega 2000:253). This also accommodates the outcome variable of the current research namely how at risk learners are at contracting the HI-virus.

##### **6.9.4.1 *Perceived benefit of condom use***

###### **6.9.4.1.1 Finding**

The current study revealed that the majority of the learners believed in the effectiveness of condom use to prevent sexual transmission of HIV/AIDS (see table 5.67). However, despite these perceptions, only 30,0% of the sexually active learners were using condoms consistently (see figure 5.26), though as many as 239 (52,3%) were sexually active (see figure 5.17).

#### **6.9.4.1.2 Conclusion**

Knowledge and perceptions do not necessarily guarantee expected behaviour. With regard to condom use and safer sex practices, this type of behaviour is complicated by gender, age, peer group, situational and other factors. The tragedy is also that once might be just once too often.

#### **6.9.4.1.3 Recommendation**

As recommended earlier, sexuality education and HIV/AIDS health education should be much more than mere information giving sessions. These programmes must depart from a multi dimensional point of view integrating psychosocial and socio-cultural factors as well as gender etiquette, life skill straining and personal alertness and preparedness.

### **6.9.4.2 *Perceived barriers to condom use***

#### **6.9.4.2.1 Finding**

The current study revealed that many learners perceived some barriers which could prevent them from accessing and using condoms during sexual intercourse. These barriers as a percentage of responses to possible barriers are as follows: lack of knowledge of correct condom usage 244 (58.8%); embarrassment to use condoms due to religious beliefs 230 (55.5%); embarrassment to buy condoms 226 (55.3%); embarrassment to use condoms 191 (47.3%). Different views about condoms were also held by most of the respondents, influencing their perceptions regarding condom usage namely: the perception that condom use makes the partner feel untrusted 292 (68.9%); the perception that condom use decreases sexual sensation, making sex less enjoyable for either partner 277 (65,5%); the perception that condom use reduces the sexual urge 252 (62.5%). The availability of condoms also posed a barrier namely: long waiting time

at the clinic supplying condoms 227 (61.0%) and no specific time to attend to young people at the clinics supplying condoms 194 (50.1%) (see table 5.72).

#### **6.9.4.2.2 Conclusion**

All these perceived barriers could deter the respondents from using condoms consistently during sexual intercourse to prevent transmission of HIV/AIDS. These barriers might well be contributory to the fact that knowledge and perceptions do not always result in corresponding and expected behaviour. In the current study only 30.0% of the sexually active respondents were using condoms consistently (see figure 5.26).

#### **6.9.4.2.3 Recommendation**

It is recommended that that the secondary schools that were involved in the current research cooperate with national health agencies to address issues relating to these agencies. Sexuality education programmes at schools should also aim at “normalising” both HIV/AIDS and condom use (teen age sexual activity). All these actions call for cooperation among multiple organisations such as schools, parents, the community and national health agencies involvement in the school’s sexuality education programme.

#### **6.9.4.3 Self-efficacy regarding condom use**

##### **6.9.4.3.1 Finding**

The current study revealed that 328 (75,2%) respondents could confidently refuse sex with their partners if they refused to use condoms (see table 5.97). Of the respondents, 298 (69.5%) felt confident to discuss condom use with their partners, 299 (70.4%) felt confident that they could convince their partners to use condoms. (See table 5.97.)

### **6.9.4.3.2 Conclusion**

Self-efficacy is one's ability to successfully take action (ReCAPP 2007:4). One 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 (ReCAPP 2005:2). In the current study, self-efficacy refers to the confidence in one's ability to use condoms (Groenewold et al 2006:4) and to negotiate the use of condoms. From the current results it could be seen that majority of the respondents manifested confidence in their abilities to successfully use condoms and to negotiate the use of condoms. Notwithstanding the generally positive finding, enthusiasm is quenched by fact that only 30.0% of the sexually active respondents were using condoms consistently (see figure 5.26).

### **6.9.4.3.3 Recommendation**

Whether or not formal sexuality education is offered at the schools that participated in this research, self-efficacy must be understood by all involved as a fluid state in which the individual learner finds him or herself. Programme leaders should be always vigilant to detect possible changes in learners' self-efficacy levels. This might be established via open relationships with learners and via role play, values clarification and open discussion groups in life skills training sessions.

## **6.9.4.4 Cues to action for condom use**

### **6.9.4.4.1 Finding**

Most respondents 336 (83.0%) indicated that information on prevention of HIV/AIDS was given while 313 (78.7%) indicated that information on transmission of HIV/AIDS was given; 296 (76.1%) that information on sexual risk behaviours was given, and 289 (74.5%) that information on how to use condoms was given by the condom provider. Nonetheless, many of the respondents 244 (58.8%) indicated that they actually lacked

knowledge on the correct ways of using condoms (see table 5.69), which might suggest that the information they received might have been inadequate. Of the statistically significant findings in this regard are the following:

- More males, 153 (78.4%) than females, 136 (70.5%) agreed that demonstration on how to fit condoms was provided at the clinics, and this view was statistically influenced by gender ( $X^2$ :  $p < 0.05$ ).
- More males, 175 (87.5%) than females, 161 (78.6%) agreed that information on the prevention of HIV/AIDS was given at the clinics, and this view was statistically influenced by gender ( $X^2$ :  $p < 0.05$ ).
- More males, 76.1% than females, 76.0% agreed that information on sexual risk behaviours was provided at the clinics, and this view was statistically influenced by gender ( $X^2$ :  $p < 0.05$ ).

#### **6.9.4.4.2 Conclusion**

In general it seems that male learners picked up on more cues to action of condom use than female learners. This might be because condoms are more readily perceived as “male condoms”.

#### **6.9.4.4.3 Recommendation**

Sexuality education programmes must pertinently acquaint female learners with cues to action for (male) condom use. This is also vital in assisting the outcome variable of the current research namely levels of risk of learners for contracting HIV/AIDS

### **6.10 RELATIONSHIPS BETWEEN DIFFERENT COMPONENTS OF THE HBM OR DIFFERENT ITEMS WITHIN COMPONENTS AND ACROSS COMPONENTS**

The relationships among the different components were found to be of relative nature as not all relationships were significant at  $p < 0.05$ , however in mere descriptive form

some relationships are apparent (See section 5.8.4 for more details). Only statistically significant findings are presented at this point.

**6.10.1 Hypothesis 1:** There is a relationship between perceived susceptibility to HIV/AIDS and risk exposure to HIV/AIDS (See table 5.129).

#### **6.10.1.1 Finding**

Risk of contracting HIV/AIDS was statistically dependent of the perception that a healthy looking person can be HIV positive. Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that a healthy looking person could be HIV positive differed significantly. Respondents who indicated that they were at high risk of contracting HIV/AIDS had the highest proportion, (87.7%), followed by those who indicated not at risk, (67.8%), then small risk of contracting HIV/AIDS, (29.5%).

#### **6.10.1.2 Conclusion**

Learners' lack of knowledge that a healthy looking person could be HIV positive, could put them at risk of contracting HIV/AIDS due to unprotected sexual relationships with healthy looking people unaware aware of their HIV status.

**6.10.2 Hypothesis 2:** There is a relationship between perceived severity of HIV/AIDS and risk exposure to HIV/AIDS (See table 5.130).

#### **6.10.2.1 Finding**

Risk exposure to HIV/AIDS was statistically dependent of the perception that HIV/AIDS could be prevented. Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that HIV/AIDS could be prevented differed significantly. Respondents who indicated high risk of contracting HIV/AIDS had the

highest proportion (87.2%), while only 61.9% indicated that they were not at risk of contracting HIV/AIDS.

### **6.10.2.2 Conclusion**

This finding could be explained by the fact that learners who believed HIV/AIDS could be prevented, would perceive their risk of contracting HIV/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.

**6.10.3 Hypothesis 3:** There is a relationship between perceived benefit of condom use and the risk exposure to HIV/AIDS (see Table 5.131).

#### **6.10.3.1 Finding**

No statistically significant findings were made

#### **6.10.3.2 Conclusion**

See section 6.13 on the limitation of the current study.

**6.10.4 Hypothesis 4:** There is a relationship between perceived barriers to condom use and risk exposure to HIV/AIDS (see table 5.132).

#### **6.10.4.1 Finding**

Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they lack knowledge of correct condom use differed significantly. Respondents who mentioned high risk of contracting HIV/AIDS had the highest proportion, (83.0%), followed by those who mentioned not at risk, (79.2%), and then small risk, (26.2%). The risk of contracting HIV/IDS was statistically dependent of

the perception by respondents that they lacked knowledge of correct usage of condoms ( $X^2$ :  $p < 0.05$ ).

#### **6.10.4.2 Conclusion**

This finding indicates an inverse relationship between learners' knowledge and their perceived risk. Lower perceived knowledge seems to relate to higher perceived risk.

**6.10.5. Hypothesis 5:** There is a relationship between perceived condom use self-efficacy and risk exposure to HIV/AIDS (see table 5.133).

#### **6.10.5.1 Finding**

Across the various categories of risk exposure to HIV/AIDS, the proportion of respondents who agreed that they had confidence that they could refuse sex with their partners who refused to use condoms differed significantly. Respondents who indicated high risk of contracting HIV/AIDS had the highest proportion, (88.4%), followed by those who indicated not at risk, (65.8%), and then small risk of contracting HIV/AIDS, (25.1%). The risk of contracting HIV/AIDS was statistically dependent of confidence in ability to refuse sex with partner who refused to use condoms ( $X^2$ :  $p < 0.05$ ).

#### **6.10.5.2 Conclusion**

This finding is in line with expectations proposed by the HBM. If one does not perceive oneself to be at risk, there would be no need to negotiate condom use or refuse sex.

**6.10.6 Hypothesis 6:** There is a relationship between perceived information provided by clinics and risk exposure to HIV/AIDS (see table 5.134).

### **6.10.6.1 Finding**

No statistically significant findings were made.

### **6.10.6.2 Conclusion**

See section 6.13 on the limitations of the current study.

**6.10.7 Hypothesis 7:** There is a relationship between modifying factors and risk exposure to HIV/AIDS (see table 5.135).

### **6.10.7.1 Findings**

The risk exposure to HIV/AIDS was statistically dependent of gender. More females (40.3%) indicated that they were not at risk of contracting HIV/AIDS than males (29.3%) ( $X^2$ :  $p < 0.05$ ).

### **6.10.7.2 Conclusion**

This finding deserves further study as especially young females are at risk of contracting HIV/AIDS.

## **6.11 SUMMATIVE CONCLUSION ON THE OUTCOME VARIABLE**

Notwithstanding the limitations (see 6.13) of the current research, the researcher concluded that learners in the city of Kumba had adequate knowledge in some respect, but also harboured some misconceptions regarding HIV/AIDS and condom use; did not practise safe sex, received information regarding sexuality HIV/AIDS and condom from magazines/newspapers and teachers, and perceived several barriers to condom use. Learners also manifested some degree of empathy, tolerance and acceptance and

positive attitudes towards PLWHA. Their perceptions regarding HIV/AIDS were adequate. They manifested confidence in their abilities to successfully use condoms and they also manifested positive cues to action for condom use.

## **6.12 SUMMARY OF RECOMMENDATIONS**

Based on the findings of the current study, and previously indicated specific recommendations, the following broad recommendations are made to improve the knowledge, attitudes and perceptions regarding HIV/AIDS and to enhance the utilisation of condoms by learners in the city of Kumba in an attempt to lower the risk of these learners to contract HIV/AIDS. Recommendations with regard to future research are also proposed.

### **6.12.1 Knowledge, attitudes and perceptions regarding HIV/AIDS and condom use, and sexual behaviours**

To improve senior secondary school learners' knowledge, attitudes and perceptions regarding HIV/AIDS and their sexual behaviours, and to enhance their utilisation of condoms during sexual intercourse, might require the implementation of the following recommendations:

- The Ministry of Health and the Ministry of Secondary Education in Cameroon should develop and introduce training programmes and workshops for teachers and parents about communication between parents and children and between teachers and learners about sexuality, HIV/AIDS, condom use and safe sexual behaviours, so as to motivate and equip them to teach youths.
- Sexuality education programmes should integrate psychosocial, socio-cultural, gender, epidemiological and bio-medical sciences contents to explicated the real threat of HIV/AIDS to make these programmes real *educational* programmes..
- The Ministry of Secondary Education should incorporate sex education into the secondary school curriculum.

- Peer educators should be trained and sent to schools to ensure that they share accurate information with their peers. Education programmes for youths should include regular HIV/AIDS campaigns conducted countrywide to disseminate accurate information and reach as many youths as possible particularly in the rural areas where available services seem to be limited.
- Programmes should be developed and introduced to address socio-cultural norms that prevent parents from playing an effective role in the prevention of HIV/AIDS among youths. These programmes should include regular countrywide campaigns to address issues relating to HIV/AIDS, gender inequalities and cultural practices that promote the spread of HIV/AIDS.
- Credible programmes on HIV/AIDS should be presented on television, as many youths 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 in the high density suburbs to ensure accessibility to youths at affordable cost as the cost of transport to these services in the urban areas can be a barrier to the youths; many of whom are unemployed, and whose parents' monthly incomes are low.
- Special sexuality and HIV/AIDS education for primary school learners should be developed as the current research indicate initiation to sex practices at an age falling within the primary school years.
- In-service teacher training programmes should be provided and schools should offer both sexuality education and counselling services.
- Existing health services should be made more youth friendly, ensuring that special consulting rooms for youths are available at health facilities/clinics and that condom service providers are trained to make their services attractive to young people.

- Mobile condom distribution services should be conducted especially in the rural areas and semi-urban areas to ensure that youths have access to these services especially over holidays.
- Ways should be found to supply condom distribution services to learners outside normal school hours, especially during weekends, and in the evenings.
- Schools should promote open communication about HIV/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/AIDS and to reduce the stigma and discrimination against PLWHA.

### **6.12.2 Recommendations for further research**

The researcher recommends further research into the following topics:

- The current study should be repeated in other parts of Cameroon before generalisation of the research results can be made to all youths in Cameroon.
- The current study should also be conducted, targeting young people who have never attended to school or who have left school early.
- Conduct peer teaching research by identify learners who consistently and correctly used condoms and their roles as peer motivators to enhance consistent utilisation of condoms by other learners.
- Adequacy of knowledge and skills among teachers to give guidance to youths on sexuality, HIV/AIDS and condom use issues.
- Skills and information needs of parents to help them to communicate effectively with youths.
- Gender and cultural issues that could empower youths, especially young women, in the fight against HIV/AIDS.
- Resistance of youths to attitudinal and behaviour changes to prevent HIV transmission.

- Qualitative research on learners' perceptions of condom utilisation and being a sexually active youths in an era of HIV/AIDS to understand the life world on these youths better.

### **6.13 LIMITATIONS OF THE STUDY**

According to Burns and Grove (2005:39), 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.

#### **6.13.1 The Hawthorne effect**

Burns and Grove (2005:738); Polit and Beck (2004:180, 218-219, 719) as well as Polit and Hungler (1999:184-185,703) 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 the current 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.

#### **6.13.2 Sample size**

The sample was small and the sample was homogeneous as it was limited to participants from only two high schools in the city of Kumba. Because of economic factors, some adolescents who could not afford secondary education, and who dropped

out of school could therefore not be included in the current study. The inclusion of more learners and high schools might have had some effects on the results of the current study. The inclusion of more high schools and learners will increase the sample size and provide a larger variety of respondents.

### **6.13.3 Limited site sample**

The current study was conducted among senior secondary school learners in only two selected high schools in the city of Kumba. This greatly limits the generalisation potential of the findings of the current study to all senior secondary school learners in Cameroon. However the large sample size strengthens the application of the findings of the current study to senior secondary school learners in Kumba.

### **6.13.4 Adolescent respondents**

During data collection, the respondents, mostly adolescents 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/AIDS, condom use 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”.

### **6.13.5 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 learners 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 perceptions regarding HIV/AIDS and condom use and sexual behaviours as those who failed to answer the same questions or items.

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/AIDS and their personal sexual behaviours, attitudes and perceptions.

## **6.14 CONCLUSION**

The current study focused on determining the knowledge, attitudes and perceptions regarding HIV/AIDS and sexual behaviours among senior secondary school learners in the city of Kumba. A quantitative, exploratory, descriptive and correlational design was used, utilising a self-designed questionnaire to collect data from 480 senior school learners in two high schools in the city of Kumba, Cameroon.

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/AIDS transmission is the key strategy in the fight against the spread of HIV/AIDS. Sexual transmission is the most prevalent mode of transmission of HIV/AIDS worldwide. Youths are particularly at high risk of HIV transmission, due to engagement in risk behaviours such as substance abuse, multiple sexual partners, non-use of condoms and early sexual initiation. Abstinence, being faithful to one uninfected partner, correct and consistent use of condoms and delaying sexual initiation are among the strategies that could be adopted to curb the spread of HIV/AIDS among youths in Cameroon.

Youths need to be equipped with adequate and accurate information regarding HIV/AIDS and condom use so that they can accurately perceive their risks of infection

and be helped to adopt healthy life styles including health sexual practices. The establishment of more accessible youth-friendly health services nationwide is of the essence. The findings and recommendations of the current study should contribute significantly to controlling and preventing the spread of HIV/AIDS, among secondary school youths of Cameroon.

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