

**An HIV and AIDS intervention programme for high school
adolescents in Mpumalanga Province of South Africa**

by

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THESIS

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DECLARATION

I declare that the thesis hereby submitted to the University of Limpopo, for the degree of Doctor of Philosophy in Educational Psychology has not previously been submitted by me for a degree at this or any other university; that is my work in design and in execution, and that all material contained herein has been duly acknowledged.

Signed

Maliavusa N.J (Mr)

Date

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DEDICATION

I dedicated this study to the following members of my family for their continued support, encouragement, motivation and understanding throughout the period of my study:

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Abstract

The aim of this study was to adapt an HIV and AIDS intervention programme that may change the knowledge, attitudes and behaviour of adolescents in Mpumalanga high schools. Mixed-method of qualitative and quantitative designs were used to achieve the objectives. The qualitative design consisted of peer mentors (N=141) who were interviewed in the focus group to provide information pertaining to the HIV and AIDS intervention that may change the knowledge, attitudes and behaviour of vulnerable adolescents in Mpumalanga high schools. The quantitative design consisted of Grade 8 learners (N=1 085) who were used in the evaluation of the adapted HIV and AIDS intervention. Educators (N=11) piloted and monitored the administration of the adapted HIV and AIDS intervention.

Results from the qualitative study suggested a four unit HIV and AIDS intervention programme with the following aims: (a) to empower adolescents to respond to risky behaviours, (b) to enable adolescents in Mpumalanga to acquire necessary knowledge, attitudes and skills that will protect adolescents from HIV and AIDS infection, (c) the programme must also aim at the development of self-in-society and (d) an abridged programme that will run for one school term that is more suitable. Results from quantitative evaluation revealed that the adapted HIV and AIDS intervention managed to increase, slightly, the acquisition of the knowledge and behaviour of participants, although the significant tests indicated that the observed rate of increase was statistically not significant at 0.05 levels. No impact was found on attitudes scales. It was recommended that the support of both adolescents and parents is vital for the success of any of any HIV and AIDS intervention programme. Opening of the community youth friendly health clinics with highly trained practitioners was also recommended as an essential element in HIV and AIDS prevention.

Key concepts: Adolescents, Attitudes, Behaviour, HIV and AIDS intervention, Knowledge and Knowledge attitudes-behaviour practices.

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ANOVA	Analyses of Variances
ART	Anti-retroviral therapy
BART	Becoming a Responsible Teen
CDC	Centers for Disease control and Prevention
DoE	Department of Education
DoH	Department of Health
FGIs	Focus group interviews
GBEM	Girls-Boys Empowerment Movement
HEART	Helping Each other ACT Responsibly
HIV	Human Immunodeficiency Virus
HIV and AIDS	Human Immunodeficiency and Virus Acquired Immunodeficiency
HSRC	Human Science Research Council
IYG	It is Your Game
KABP	Knowledge-Attitudes-Behaviour Practices
LSBE	Life-Skills-Based education
PLWA	People Living with AIDS
PSABH	Primary School Action for Better Health
RADS	Radical different species
RBDSC	Responsible Behaviour- Delaying Sex Curriculum
SA	South Africa

SHAPE	Sustainability, Hope, Action, Prevention, Education
SS	Stepping Stones
STIs	Sexual transmitted infections
TV	Television
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
USA	United States of America
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

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CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

There has been endless search for both the cure and vaccine for Acquired Immunodeficiency Syndrome (AIDS) since the discovery of the Human Immunodeficiency Virus (HIV) in 1981. With the on-going search that cannot immediately come-up with a vaccine or cure for AIDS, countries resorted to HIV and AIDS interventions as a better strategy, for now, in preventing the spread of HIV and AIDS (Kirby, Laris & Rolleri, 2007). As such, this study explores for an HIV and AIDS intervention programme in one of the areas falling within the region of the sub-Saharan Africa which is experiencing high HIV infection rates.

This chapter is an orientation to the study. It discusses the background to the study and outlines problem statement, aim and objectives of the study. The chapter also discusses the significance of the study and outlines the research questions along with hypotheses that guide the study. Further, the chapter also give highlights of the theoretical framework and the research design that guide the study. As the last aspect, the chapter clarifies the major concepts used in the study, gives highlights of the ethics followed and the demarcation of chapters in this study.

1.2 BACKGROUND TO THE STUDY

HIV and AIDS pandemic remains a great challenge in the whole world. At one stage the nature and the magnitude of the HIV and AIDS tragedies were found to be far more catastrophic in comparison to other tragedies experienced in the world. Tragedies caused by AIDS surpasses, by far, the worst natural disaster experienced in 2004 Indian Ocean when the Tsunami killed more than 30,000 people in a single incident (Ghobarah, Saatcioglu & Nistor, 2006; Ioualalen, Rentería, Ilayaraja, Chlieh & Arreaga-Varga, 2010). In the whole world, AIDS pandemic was found, at one stage, to be the cause of the death of 300,000 people every thirty seven days (Knox, 2008). Apart from just decreasing the human population, HIV and AIDS also threatens the

continued existence of the human species. It impacts negatively on the economy, education and the well-being of the younger generation (Kidman, Hanley, Subramanian, Foster & Heymann, 2010).

1.2.1 Status of HIV and AIDS globally

Although the HIV and AIDS epidemic is reported to have stabilized in most continents of the world by the end of the year 2010, HIV and AIDS pandemic still presents challenges that need attention. Globally, 34.0 million people were living with HIV at the end of 2011 which increased to an estimate of 35.3 million by the end of 2012. In 2012 a global increase by 2.3% was also recorded although it showed a 33% decline in the number of new infections from 2001 (Joint United Nations Programme on HIV and AIDS {UNAIDS}, 2012 & 2013).

HIV infection is still a cause of concern in many regions of the world and some countries within those regions (United Nations International Children's Emergency Fund {UNICEF}, 2011). Since 2001, the number of people newly infected with HIV in the Middle East and North Africa has increased by more than 35%. In Eastern- Europe and Central Asia HIV incidence began to increase towards the end of the decade 2000 after it remained relatively stable for several years (UNICEF, 2011).

1.2.2 Status of HIV and AIDS in the sub-Saharan Africa

In sub-Saharan Africa, 39 countries had a reduction of more than 25% of the HIV infection whereas 23 of the countries had a steep decline of 25% from 2001 to 2011 (UNAIDS, 2012). Despite these gains, sub-Saharan Africa still accounted for 71% of the adults and children newly infected in 2011 (UNAIDS, 2012). Of utmost concern is the use of expensive interventions, which rely on the supply of Antiretroviral (ARV) drugs, to reduce the spread of HIV infection and to prolong and save the lives of millions of people who are already infected by the HIV in sub-Saharan Africa (UNAIDS, 2012). The use of ARV drugs, as compared to the use of behaviour change interventions, has serious consequences to most of the countries in the region of the sub-Saharan Africa which are too poor to cope with the supply of the future demand of the ARV drugs. According to UNAIDS (2013) the cost of coping with the demand of

supplying ARV's to infected people was estimated at a cost of US\$ 18.9 billion in 2011 and further increased by US\$ 4-6 billion in 2012.

1.2.3 Status of HIV and AIDS in South Africa

In the sub-Saharan region, South Africa is also amongst the countries which are still experiencing serious challenges regarding HIV and AIDS. Amongst the countries with a population of more than 10 million people, South Africa is currently leading in terms of HIV prevalence in the whole region of sub Saharan Africa (<http://www.indexmundi.com/g/r.aspx?t=10&v=37&l=en>). As it appears in Table 1.1 South Africa and Nigeria are ranked at the top of the table with over 100 000 people who died in 2012 due to HIV and AIDS related causes.

Table 1.1: HIV and AIDS related deaths in the sub Sarah African countries during 2012

Rank	Country	HIV and AIDS – deaths in 2012	
1	South Africa	310,000	
2	Nigeria	220,000	
3	Tanzania	86,000	
4	Zimbabwe	83,000	
5	Kenya	80,000	
6	Mozambique	74,000	
7	Uganda	64,000	
8	Malawi	51,000	
9	Zambia	45,000	

(<http://www.indexmundi.com/g/r.aspx?t=10&v=37&l=en>)

Nigeria, Tanzania, Zimbabwe, Kenya, Mozambique, Uganda and Malawi appears in the 3rd-8th positions with between 50 000 - 99 000 people who died in 2012 due to HIV and AIDS related causes, and lastly Zambia is at the bottom with 45 000 people who

died in 2012 due to HIV and AIDS related causes (<http://www.indexmundi.com/g/r.aspx?t=10&v=37&l=en>). UNICEF (2011) further indicates that according to the 2011 estimates of HIV prevalence, South Africa had nearly 31% of the people living with HIV in the Sub-Saharan region, a situation which needs immediate interventions. As is summarized in Table 1.2 the estimates of HIV prevalence have been increasing in South Africa by an average rate of 0.1% since 2002 to 2013 from 8.7% to 10.0%, a situation which is unpleasant (Statistics South Africa, 2013).

Table 1.2: Estimates of HIV prevalence, 2002-2014

Year	Prevalence	
	HIV Population in Million	HIV Population in Percentages
2002	4.00	8.7
2003	4.10	8.9
2004	4.18	8.9
2005	4.25	9.0
2006	4.34	9.1
2007	4.46	9.2
2008	4.59	9.3
2009	4.74	9.5
2010	4.88	9.6
2011	5.01	9.8
2012	5.13	9.9
2013	5.26	10.0

For example in the population of approximately 50 million people in South Africa by 2002, an estimate of 4 million people which represent 8.7%, was reported HIV positive. The estimates of HIV prevalence gradually increases by an average rate of 0.1% to 10.0% by the year 2013 (Statistics South Africa, 2013).

1.2.4 Status of HIV and AIDS in the provinces of South Africa

For the nine provinces of South Africa, figures in Table 1.3 below reveal variations in HIV prevalence during 2008-2011. The lowest HIV prevalence of below 20% was recorded in the Western Cape and Northern Cape, followed by North West, Limpopo and Eastern Cape which recorded figures between 20% and 30%. Kwazulu-Natal, followed by Mpumalanga and Gauteng had the highest HIV prevalence figure of above 30.0% (Department of Health {DoH}, 2011 & 2012).

Table 1.3: Estimates of HIV prevalence among antenatal women, 2008-2011

YEAR	2008		2009		2010		2011	
	N	%HIV+	N	%HIV+	N	%HIV+	N	%HIV+
Eastern Cape	4 216	27.6	4 225	28.1	3 994	29.9	4 099	29.3
Free State	2 016	32.9	2 336	30.1	2 223	30.6	2 292	32.5
Gauteng	7 498	29.9	7 187	29.8	6 714	30.4	6 948	28.7
Kwazulu-Natal	6 963	38.7	6 744	39.5	6 887	39.5	6 714	37.4
Limpopo	3 835	20.7	3 412	21.4	3 117	21.9	3 651	22.1
Mpumalanga	2 224	35.5	2 049	34.7	2 202	35.1	2 116	36.7
North West	2 112	31.0	2 227	30.0	1 963	29.6	2 352	30.2
Northern Cape	1 111	16.2	1 002	17.2	1 144	18.4	1 125	17.0
Western Cape	3 828	16.1	3 679	16.9	3 91	18.5	4 029	18.2
South Africa	33 803	29.3	32 861	29.4	32 225	30.2	33 326	29.5

In Table 1.3, the 2011 HIV prevalence figures still report variations in the provinces of South Africa. In general the 2011 HIV prevalence figures show a significant decline across the provinces of South Africa although the infection trend in the Mpumalanga Province was still high as the figures were still above 35%. Although the infection rate in Kwazulu-Natal Province was reported to be high, a notable decrease rate of 2.1% in the HIV prevalence was recorded in the year 2010 to 2011, whereas Mpumalanga Province recorded an increase of 1.6% in the same year. This trend brings hope to

Kwazulu-Natal Province whereas it presents a serious challenge to Mpumalanga Province (DoH, 2012).

1.2.5 Status of HIV and AIDS among young people

Another area of concern regarding the issues of HIV and AIDS relates to young people. It is estimated, globally, that 5.4 million young people are living with HIV of which about 59 % are female and about 41 % are male. In 2007 about 40 % of new infections were among the youth between 15-24 years of age. In the whole world, sub-Saharan Africa is home to almost two-thirds (61%) of all young people living with HIV (3.28 million) with 76 % of them being females (UNAIDS, 2010).

A similar trend was also found in South Africa. The 2008 South African national HIV prevalence survey reveals that the HIV prevalence among youth aged 15-24 years was 10.3%; age 15-19 years was 5.9%, while aged 20-24 years was 15.2%. This trend also needs intervention as it shows a slight increase by an average of 1.5% from 2009-2010, followed by a slight decline of 1.3% which is statistically insignificant (DoH, 2011).

1.2.6 Role of behaviour change intervention programmes in combating HIV and AIDS

World health organisations (WHO) classifies HIV and AIDS interventions into two main categories, namely: behavioural and biological interventions. Behaviour interventions employs different models of behaviour change such as self-efficacy, perceived risk, personal or interpersonal skills, HIV and AIDS knowledge, intentions to adopt risk-reduction behaviours and communication with partners to reduce the spread of HIV and AIDS. Behavioural interventions reduce the spread of HIV and AIDS by promoting the safe use of injected drugs, reducing the incidence of sharing drug paraphernalia, encouraging the use of male or female condoms, reducing the number of partners and frequency of unprotected sexual activity and encouraging HIV testing. Educational programmes are mainly employed in this category (Padian, et al., 2011; WHO, 2006).

The second category, namely: biological interventions reduces the spread of HIV and AIDS by applying medical drugs to treat the incidence or prevalence of HIV or other sexually transmitted infections and hepatitis. Thus, behavioural change interventions will apply more of strategies whereas the biological intervention will apply to the medical approach (WHO, 2006).

According to United Nations Educational, Scientific and Cultural Organisation (UNESCO) behavioural change based intervention programmes remain the best approach for the prevention of HIV infections in the absence of a vaccine for HIV infection (Richmond, 2008). Incorporation of HIV and AIDS lessons in the school curriculum is supposed to assist in providing young people with accurate information-necessary to reduce the transmission of HIV and sensitize those young people on risky behaviours associated with HIV and AIDS. Behavioural change intervention programmes offer young people HIV and AIDS related knowledge, helps young people to develop positive attitudes towards sexuality and teaches young people facts and information about HIV and AIDS, especially the transmission of and the protection against the HIV. Through behavioural change intervention programmes, learners in schools are assisted to assess their personal risk for acquiring the HIV infection and also helped to develop necessary life skills that would enable them to choose health-protective behaviour. Through behaviour change programmes school learners are also assisted in understanding themselves, assisted in making informed decisions and also assisted in acquiring skills such as assertiveness, communication and negotiation interventions (Richmond, 2008).

Furthermore, the United Nations Millennium Task Force on HIV and AIDS referred to behavioural change programmes as “essential foundation for HIV and AIDS prevention” as they provide learners with basic knowledge of sexuality which is necessary in reducing the transmission of HIV and AIDS transmission. Furthermore, behavioural change programmes promote the adoption of healthy behaviours that reduce the risk of HIV infection along with the related stigma and also dispel popular myths related to HIV (Richmond, 2008).

According to UNICEF, age-appropriate sexuality education, which is part of behaviour change intervention programmes, can increase knowledge and contribute to more responsible sexual behaviour. Of the 83 studies conducted in 2006 all over the world, 50% of the evaluated HIV and AIDS programmes showed a decreased sexual risk-taking among participants. Other evidence showed that sexuality education does not cause harm, nor does it lead children to start having sex at an earlier age than they otherwise would. In 2007, 88 out of 137 countries included HIV education as part of the primary school curriculum, and 120 included it in secondary schools. The percentage of schools in providing life-skills-based HIV education also increased between 2007 and 2009 (UNICEF, 2011).

Behaviour change intervention programmes were credited in different countries for promoting safety behaviours by raising awareness and knowledge necessary for the prevention of the spread of HIV and AIDS (Campero, Walker, Atienzo & Gutierrez, 2011; Malow, Stein, McMahon, Dévieux, Rosenberg & Jean-Gilles, 2009). Finally, behaviour change programmes pertaining to HIV and AIDS were also found vital in instructing young people on how to identify and manage barriers to behaviour change (Maticka-Tyndale, 2010; Poudel, Jimba, Poudel-Tandukar & Wakai, 2007; Tortolero, et al., 2010). It is therefore evident that HIV and AIDS preventative programmes based on behaviour change are fundamental and essential in preventing the further spread of HIV and AIDS.

1.3 PROBLEM STATEMENT

A number of HIV and AIDS intervention programmes has been implemented in South African schools since 1998. While the major objective of these intervention programmes was to combat the spread of HIV and AIDS among adolescents, this objective seems not to have been achieved due to various reasons. In examining the impact of HIV and AIDS programmes developed for schools in South Africa, Pengpid, Peltzer and Igumbor (2008) found that the delivery of HIV and AIDS programmes in schools was not practical due to content overloaded programmes versus the limited amount of teaching time. Thus before the inception of outcome based education curriculum in South African schools, School Guidance was offered a period of its own in the school time table. The provision of this independent School Guidance period allowed educators more time to

address issues of reproductive health including issues of HIV and AIDS. However, after the inception of the outcome based education curriculum, School Guidance was fused into Life Orientation learning area which limited educators' opportunities of addressing reproductive health issues like when School Guidance was an independent subject on its own. This was further complicated by the fact that Life Orientation learning area housed other traditional subjects like Physical Education, Sports and other cultural related activities (Department of Education {DoE}, 2011; Pengpid, et al., 2008).

On the other hand, review of literature on the evaluation of the HIV and AIDS intervention programmes offered to learners in South African schools also does not clearly reveal the positive effects of HIV and AIDS intervention programmes regarding the behaviour change of the participating young people (Edwards-Meyer, 2010; Maliavusa, 2010; Mantell, et al., 2006; Webb & Grapper, 2010). Research clearly indicates that for the sustainability of any HIV and AIDS intervention programme, there must be evidence of their effectiveness (Palmer, 2010). Without any evidence of effectiveness, programmes are stopped as the authority sees no reason for that programme to continue. It is for this reason that many HIV and AIDS intervention programmes were implemented since 1998 as one programme would be implemented and soon be followed by another.

Research reports further indicate that the success of any HIV and AIDS intervention programmes is influenced by a number of social and contextual factors. These social and contextual factors include amongst others; participation of all stakeholders in the fight against HIV and AIDS, the focus of the programme in addressing specific behaviour that causes the spread of the HIV in a particular community, creation of a safe environment during the implementation of the programme and the fitting of the strategies of combating the spread of HIV and AIDS into the existing values and resources of that community (Lee, Salman & Fitzpatrick, 2009). Meanwhile research reveal number of intervention programmes that were specifically developed, adapted and/or adopted for Gauteng and Kwazulu-Natal, a search on data bases hardly reveals a study on HIV and AIDS programmes that were specifically designed or developed for learners in Mpumalanga Province (Edwards-Meyer, 2010; Mantell, et al., 2006; Swart, et al., 2010).

With its unique community values and social context and problems, HIV and AIDS interventions programmes designed, adapted and adopted in other provinces of South Africa may not directly offer solutions to the factors responsible for the spread of HIV and AIDS among the adolescents in the Mpumalanga Province. Distinctive to the other nine provinces of South Africa, Mpumalanga Province is a permanent home for seven different ethnic groups which are; Swazi, Pedi, Zulu, Tsonga, Ndebele, English and Afrikaans speaking people. Apart from the seven ethnic groups, the province is further made multicultural by other ethnic groups which migrated for work purposes, which amongst others include Venda and Xhosa speaking people and other people from neighbouring countries. In terms of economic activities, Mpumalanga Province consists mainly of primary activities in which farming, transport and mining are dominate (Kalichmana, et al., 2006; Khosa, 2009). Owing to this type of economic activities the majority of people in Mpumalanga are poor and most areas of the Mpumalanga Province are rural in nature and consist of isolated farmsteads. These unique characteristics of Mpumalanga Province have been linked to some of the crucial factors responsible for the exacerbation of the spread of HIV and AIDS. This needs unique HIV and AIDS intervention based on the prevailing cultural context of Mpumalanga Province (Durevall & Lindskog, 2012; Kartha, 2011; Maticka-Tyndale, 2010; Rodrigo & Rajapakse, 2010; Tenkorang, Maticka-Tyndale & Rajulton, 2011).

As such, this study attempts to respond to the challenges faced by the HIV and AIDS intervention programmes that are offered to young people in Mpumalanga high schools. The intention of the study is to adapt HIV and AIDS intervention programmes that may successfully change knowledge, behaviour and attitudes of vulnerable adolescents within the high schools of Mpumalanga Province. The problem statement that guides this study is therefore formulated around the question: What is the nature of an HIV and AIDS intervention programme that can be adapted for Mpumalanga Province to change knowledge, attitudes and behaviour of the adolescents pertaining to HIV and AIDS?

1.4 AIM OF THE STUDY

The aim of the study is to evaluate different HIV and AIDS intervention programmes with the intention of adapting an HIV and AIDS intervention programme that may

change the knowledge, attitudes and behaviour of high school adolescents in Mpumalanga Province.

1.5 OBJECTIVES OF THE STUDY

The research objectives of this study are as follows:

Research objective 1: To conduct a baseline evaluation of any available HIV and AIDS intervention programme targeting high school adolescent learners in Mpumalanga Province.

Research objective 2: To conduct the needs analysis for an adaption of HIV and AIDS intervention programme that may change knowledge, behaviour and attitudes of high school adolescent learners in Mpumalanga Province.

Research objective 3: To administer, support and monitor the HIV and AIDS intervention programme adapted for high school adolescent learners in Mpumalanga high schools.

Research objective 4: To evaluate the strength of the adapted HIV and AIDS intervention programme in changing the knowledge, behaviour and attitudes of high school adolescents in Mpumalanga Province.

1.6 RESEARCH QUESTIONS

Following four research objectives given in 1.5 the research questions are as follows:

Research question 1: What was the status of the HIV and AIDS intervention programmes that were meant for high school adolescent learners in Mpumalanga Province prior to the onset of this study? This research question was further split into two sub research questions as follows:

Sub research question 1.1: Was there documented evidence regarding any HIV and AIDS intervention programme developed or adapted for high schools adolescent learners in Mpumalanga Province prior to the onset of this study?

Sub research question 1.2: Was there any documented evidence regarding positive impact made by HIV and AIDS intervention programmes delivered to high schools adolescent learners in Mpumalanga Province prior to the onset of this study?

Research question 2: What are the most important elements that need to be considered of an effective HIV and AIDS intervention programme that is adapted for high school adolescents in Mpumalanga Province?

Research question 3: What are the challenges regarding the administration of the HIV and AIDS intervention programme adapted for high school adolescent learners in Mpumalanga Province?

Research question 4: Pertaining to **knowledge, behaviour** and **attitudes**, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status? This research question was further split into three sub research questions as follows:

Sub research question 4.1: Pertaining to knowledge, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Sub research question 4.2: Pertaining to behaviour, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Sub research question 4.3: Pertaining to attitudes, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

1.7 HYPOTHESES

As research question 4 employed test of significance, the tested hypothesis for each of the three research questions were formulated as follows:

Hypothesis 1: Pertaining to **knowledge**, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for high school adolescent learners in Mpumalanga and those learners who did not receive the training as accounted by training and demographics namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Hypothesis 2: Pertaining to **attitudes**, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for high school adolescent learners in Mpumalanga and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Hypothesis 3: Pertaining to **behaviour**, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for high school adolescent learners in Mpumalanga and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

1.8 SIGNIFICANCE OF THE STUDY

The development and an evaluation of an HIV and AIDS intervention programme will be of great assistance to different people and organizations in the Mpumalanga community. Lives of young people in the community will be saved from HIV and AIDS, as it is hoped that this study will appeal to the youth as agents for change. For those organisations and people who have an interest in the issues of HIV and AIDS, this study will save them time and money, as it will offer them an alternative HIV and AIDS intervention programme for combating the spread of HIV and AIDS in the Mpumalanga Province.

1.9 THEORETICAL FRAMEWORK

This research was based Knowledge-Attitudes-Behaviour Practices (KABP) model of HIV and AIDS prevention which was guided by social cognitive theory. Social cognitive theory was chosen because of its assumption of human nature which is in line with the preventing HIV and AIDS through education. For behaviour change, social cognitive theory advocates the instilling of beliefs in individuals so that they may believe that they have the ability to change their minds and handle the situation effectively. The theory also holds that the environment can also shape a person and that a person can increase self-efficacy through personal persuasion such as receiving suggestions from others. In line with social learning theories, social cognitive theory also believes that new behaviours are learned either by modelling the behaviours of others or by being directly influenced by the experience of others (Pastorino & Doyle-Portillo, 2012; Woolfork, 2004). In this way, social cognitive theory advocates classroom education as a form HIV and AIDS prevention, which was in line with the approach in this research. Therefore, social cognitive theory was chosen to guide this research.

Furthermore KABP model was chosen in this research for its assumption which supports the prevention HIV and AIDS through education. The KABP model assumes that behavioural change is determined by different elements of which knowledge, skills, and attitudes are essential. KABP further postulates that educational programmes which focus on the provision of knowledge and skills, instilling attitudes, values and belief, necessary for HIV and AIDS prevention are therefore necessary for behaviour change (Liu, et al., 2010; Vipul & Srikant, 2010; World Health Organisation {WHO}, 2006). This was in line with the aim of this research which sought to prevent HIV and AIDS by making use of the HIV and AIDS intervention programme as a strategy of HIV and AIDS prevention.

Over and above this, KABP model and social cognitive theory were considered as a theoretical framework that guided this study for their good reputation. Research reveals that the KABP model and social cognitive theory had been the desirable model and theory with a proven success in HIV and AIDS prevention (Cok & Gray, 2007; Liao, Jiang, Yang, Zeng & Liao, 2010; Malow, et al., 2009).

1.10 RESEARCH DESIGN

A mixed method of qualitative and quantitative was the design chosen for this study. With the qualitative approach the researcher was able to conduct the needs analysis and monitor the implementation of the adaptation of the HIV and AIDS intervention programme for adolescents in Mpumalanga. With the second approach, namely: quantitative approach, the researcher was able to evaluate the effectiveness of the adopted HIV and AIDS intervention programme after its implementation on adolescents in Mpumalanga.

1.10.1 Site of the study

This research was conducted in high schools falling in the townships and rural areas of the Mpumalanga Province. During the time of the study, the province had 113 high schools which were distributed over four districts which were; Bohlabela, Ehlanzeni, Gert Sibande and Nkangala as indicated in the map which appears in figure 1.1, page 17. Ehlanzeni, Gert Sibande and Nkangala districts are clearly indicated in the map, whereas Bohlabela is the area in the western side of Ehlanzeni district indicated as Greater Sekhukhune. The area Greater Sekhukhune was formerly falling in Limpopo and incorporated into Mpumalanga in 2008 and thereafter renamed Bohlabela.

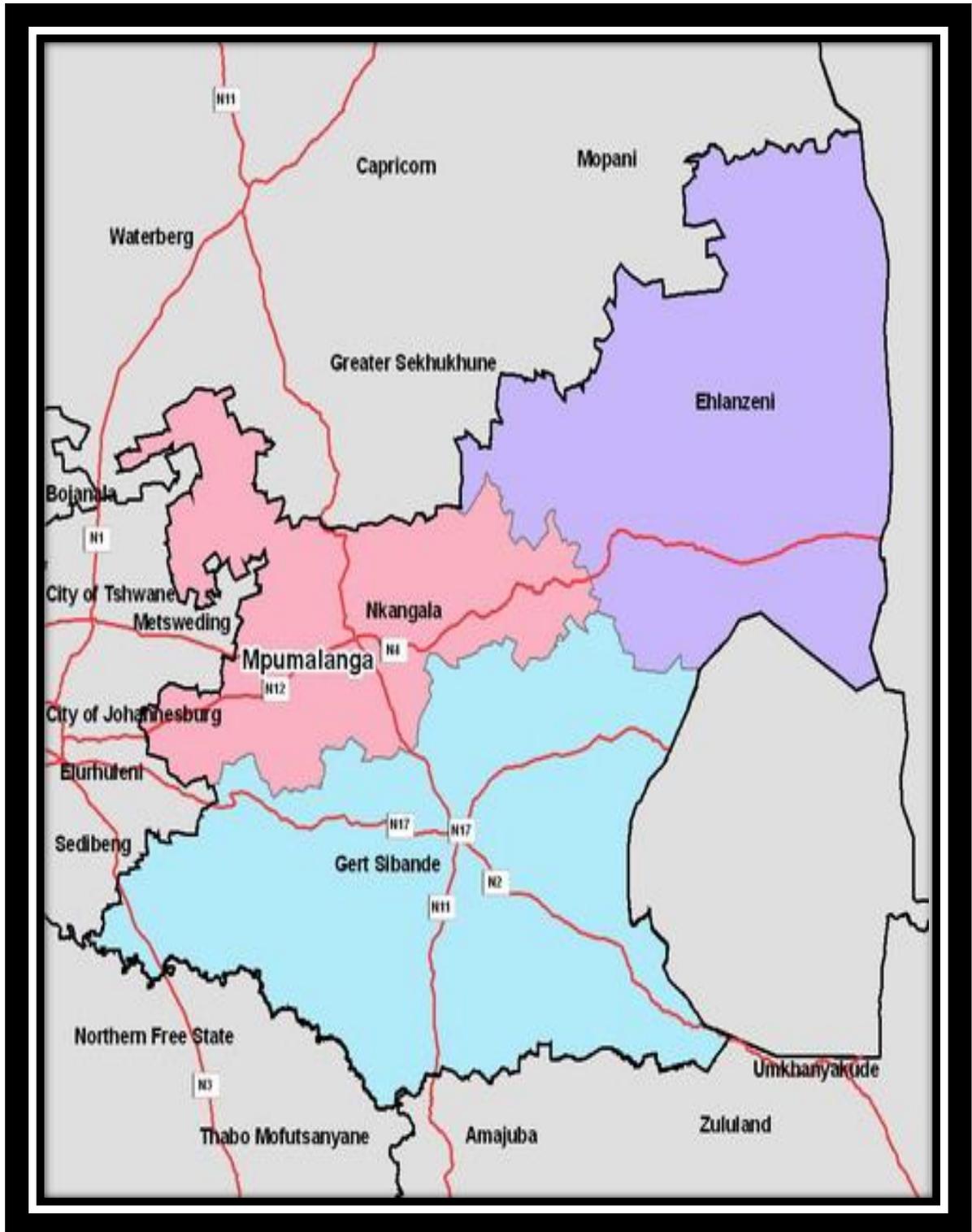
1.10.2 The population and the sample

The sample was organised differently following the two research approaches that were chosen for this research. With regards to the first research approach, namely: qualitative approach, the sample consisted of 28 peer educators out of 281 peer educators that existed in the year 2011 in Mpumalanga high schools. Purposive sample method was used to select the peer educators.

Note that peer educator refers to a learner who is trained to guide other learners in the school through a variety of sexuality problems including HIV and AIDS issues, whereas a peer mentor refers to an educator trained to guide, monitor and support the activities of peer educators in schools (Boucher, 2011).

In the second research approach, namely: quantitative approach, the sample consisted of 1 263 Grade 10 learners out of the 10 263 learners who enrolled. The 1 263 Grade 10 learners came from the 11 high schools that were randomly selected from the 113 high schools in the province.

Figure 1.1 : A map showing the location of the four districts of the Mpumalanga Province



(SA-VENUES.com.online)

1.10.3 Data collection methods

In the study, four methods of data collection were used, namely: document analysis, focus group interviews, self-design questionnaire and a standardized KABP questionnaire. Document analysis was used to conduct a baseline evaluation of the available HIV and AIDS interventions for learners in Mpumalanga Province high schools, prior to the onset of the study. Focus group interviews, along with the voice-recorder, were used to interview and record peer educators in the process of conducting the need analysis for the adaption of an HIV and AIDS intervention programme. Self-designed questionnaire was used for monitoring purposes, i.e., to gather information regarding the obstacles and challenges that research assistants encountered during the implementation of the adapted HIV and AIDS intervention programme experienced during its administration. The last method of data collection, namely: the structured KABP question was used to collect data for the purpose of the evaluation of the adapted HIV and AIDS intervention programme.

1.10.4 Data analysis

For the document analysis and the focus group interviews content analysis was used to analyse the data. As it was indicated in 1.10.3, self-design questionnaire was used for the monitoring purposes, no analysis was actually done on this method of data collection. However, a report on the obstacles and challenges that research assistants encountered during the administration of the adapted HIV and AIDS intervention programme is given. For the analysis of data from the standardized KABP questionnaire both descriptive and inferential statistical methods were used whereby the mean scores of the groups were compared and repeated measure of ANOVA applied.

1.10.5 Trustworthiness, validity and reliability

In the case of qualitative approach, peer review and triangulation strategies were used to make sure that the methods and procedure followed for data collection were trustworthy. Content validity and split half reliability tests were conducted to establish both the validity and the reliability of the items of the questionnaires used in the quantitative research approach.

1.10.6 Delimitations

This study focused on black adolescents, between the ages of 16-19 years who attend schools in the nodal areas of Mpumalanga Province. Thus, other adolescent learners in other races were excluded from the study. The study targeted adolescents age up to 19 years who were enrolled in Mpumalanga high schools during 2010-2012. The research focused on this age group mainly because the HIV infection seemed to start in this cohort, with a tendency of increasing prevalence over time (HSRC, 2009). The data that was collected focused on the issues that will develop knowledge, attitude and behaviour that are necessary for the prevention of HIV and AIDS.

1.11 CLARIFICATION OF CONCEPTS

There are five main concepts which need to be clarified as they guide this study. The concepts are HIV, AIDS, intervention, programme and adolescent. As such, this item will cover the discussion of only those concepts and other concepts will be clarified when they are used in a particular section.

1.11.1 HIV

HIV is an acronym for Human Immunodeficiency Virus. The concept specifically refers to a virus which is a member retroviruses group. According to Woods (2008) the HIV virus destroys special cells in the immune system called lymphocytes which carry Cluster differentiation 4 or cell differentiation 4 antigens abbreviated as CD4. When the immune system is infected with HIV, the body is unable to fight infections. This special weakness of the immune system is then called immunodeficiency.

1.11.2 AIDS

AIDS is an acronym for Acquired Immunodeficiency Syndrome, which refers to a severe immunological disorder caused by the retrovirus HIV, resulting in a defect in cell-mediated immune response that is manifested by increased susceptibility to opportunistic infections and to certain rare cancers, especially Kaposi's sarcoma. It is transmitted primarily by exposure to contaminated body fluids, especially blood and semen (<http://www.thefreedictionary.com/AIDS>).

1.11.3 Intervention

In simple terms intervention refers to any interference or mediation that may affect the interests of others (<http://ardictionary.com/Intervention/6256>). In the medical field intervention refers to any measure whose purpose is to improve health or alter the course of disease (<http://medical-dictionary.thefreedictionary.com/intervention>). Following these explanations, intervention, in this context of HIV and AIDS, will refer to an HIV and AIDS programme whose measure is to improve primary prevention of HIV and AIDS. Following the two types of HIV and AIDS intervention, namely: medical/biological/clinical based interventions and psycho-social based interventions, unless otherwise specified, in this research report, HIV and AIDS intervention will refer to intervention that are psycho-social in nature.

1.11.4 Programme

According to Louw and Louw (2007) programme refers to “a set of related measures or activities with a long-term aim”. In this study, programme will specifically refer to a set of long-term learning activities with an aim of equipping adolescents with knowledge, acceptable attitude and behaviour relating to HIV and AIDS.

1.11.5 Adolescents

According to the Gouws, Kruger and Burgers (2008) adolescent refers to a process of developing from childhood. In this study, the concept is used interchangeably with learners.

1.12 ETHICAL CONSIDERATION

In this research study ethical measures were fully considered. Firstly, an approval to conduct the study was obtained from the Mpumalanga Department of Education through the Department's research unit. Ethical clearance was also obtained from the Ethics and Research Committee of the University of Limpopo. Informed consent was obtained from each respondent's parents or guardians, before the commencement of the research process in each school. The researcher and research assistants explained the nature of the study to the learners' parents or guardians, including the study's

purpose, that the learner would be required to complete a questionnaire anonymously, and that all information would be treated confidentially. The research assistants, who were used, were available while the learners completed the questionnaires.

The parents or guardians of potential respondents were also informed about the study and its intentions. Parents and guardians were also informed that participation of their children or wards, in the study, would be completely voluntary. Furthermore parents, guardians and learners themselves were also assured that refusal to participate in the study would not affect their relationships with the researcher or other persons in any manner whatsoever. Consenting and accenting forms were given to learners and parents for completion as an undertaking for voluntary participation in the study.

1.13 CHAPTER DEMARCATION

Chapter 1 titled “Orientation to study” deals with the background, aims objectives and significance of the study. It further deals with the general overview of the reviewed of the literature, theoretical background, research methodology and ethical aspects. Furthermore, key concepts in this study are clarified and the delimitation of the study also outlined.

Chapter 2 titled “Theoretical framework” deals with four theories and a model that guided this research. The chapter also discusses the necessary background information regarding HIV, AIDS and interventions as the major concepts in this study.

Chapter 3 titled “Review of literature” deals with the intensive review of literature on previous research that were conducted pertaining to HIV and AIDS interventions. It further deals with the intensive review of literature on the elements of KABP model.

Chapter 4 titled “Research methodology” contains a detailed outline of the designs and the methods followed in conducting this study. It also contains the procedures and processes followed in selecting the participants and the designing of the data collection

instruments. It also contains a detailed outline on the processes and procedures followed to collect the data and the consideration of ethics.

Chapter 5 titled “Presentation and discussion of results” contains answers to the research questions of the study following the three methods of data collection used in the study. The chapter further gives an account of the findings and further compares the findings with findings from other studies previously conducted.

Chapter 6 titled “Summary, recommendations and conclusions contains the summary of this study, some recommendations derived from the findings and statistical analysis. The chapter also suggests future studies that can broaden this research and also gives the limitations that may have hampered this study.

1.14 SUMMARY

The present chapter dealt with the orientation to the study by giving the background, aims and objectives of the study. It also dealt with the orientation of the theoretical framework and the clarification of concepts in the study. It also included the delimitation of the study and demarcation the chapters. The next chapter will deal with the review of the literature on theoretical framework, background to HIV and AIDS and background to HIV and AIDS interventions.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This chapter focusses mainly on the discussion of the knowledge-attitudes-behaviour practices (KABP) model as a theoretical framework chosen to guide this study. However a background regarding the theoretical background to HIV, AIDS and interventions pertaining to HIV and AIDS is added to the discussion of the intended theoretical framework.

The discussion in this chapter is divided into three main sections. The focus of the first section is on the discussion of the theoretical framework that guides this study. This discussion of the theoretical framework deals with two perspectives; namely: behavioural perspective and cognitive perspective theories. This theoretical framework will end by a discussion of the KABP model itself, as a theoretical framework chosen to guide this study, specifically by indicating the role that it can play in HIV and AIDS intervention and the different strategies that it employs in HIV and AIDS intervention.

The last two sections in this chapter will focus on the discussion of the concepts HIV and AIDS and interventions, in the context of HIV and AIDS. The purpose of including these sections is to give the necessary background information regarding the concepts HIV and AIDS and interventions, as two concepts that are crucial in this study.

2.2 THEORETICAL FRAMEWORK

In the absence of a medical cure or vaccine for HIV and AIDS, changing high-risk behaviour remains the only available means to prevent HIV infections. According to Kok, Schaalma, Ruiters and Van Empelen (2004) and Steyn (2005) the contribution and systematic application of psychological or behavioural science theory to achieve the required behaviour change has been well supported. Kok et al., (2004) maintained that a health promotion programme is more likely to be successful when it is guided by social

and behavioural science theories of health behaviour and health behaviour change. Theory-driven health promotion programmes require an understanding of the components of theories, as well as an understanding of the operations of these theories.

Munro, Lewin, Swart and Volmik (2007) and Noar (2007) outlined a number of theories and models that could be applied to the understanding of behaviour change pertaining to HIV and AIDS. These theories and models amongst others include social learning theory, self-efficacy theory, social influence theory, AIDS risk reduction model, the theory of reasoned action and KAPB model.

For the purpose of this research, KAPB model which is guided by social cognitive theories was the model chosen to guide this study. As such, social cognitive theory and KAPB model will be discussed as a theoretical framework that guided this study. However, this discussion of social cognitive theories and the KAPB model will be preceded by the discussion of the social learning theories as theories in which social cognitive theories were developed from.

2.2.1 Social learning perspective theories

Social learning perspective theories start from the premise of Skinner's behavioural perspective which recognises that many aspects of human behaviour are a result of the stimulus-response formula. However, social learning perspective theories further considers people's internal interpretations of the environment and the influence of people's social interactions in learning (Swartz, De Lang & Townsend, 2008).

In HIV and AIDS prevention, social learning perspective theories focus on the environment and teaching of skills to manage behaviour change. Social learning perspective is characterised by the use of the principles of antecedents and consequences and their influence on behaviour. Antecedents are either internal (thoughts) or external (environmental cues) while consequences may be punishments or rewards for a behaviour. Thus, the probability of a patient following a specific behaviour will partially depend on these variables (Passer, et al., 2009). As indicated in

2.2, the three theories of social-learning perspective theories will be discussed to give a background of the development of the social cognitive theory and KAPB model which guide this study.

2.2.1.1 Self-efficacy theory

In HIV and AIDS intervention, the first social learning perspective theory; namely: self-efficacy was applied by Bandura to exercise control over HIV infection (Webb & Gripper, 2010). Self-efficacy refers to a person's belief in his/her personal ability, which determines what course of action that person will choose, how long it would be sustained in the face of resistance, and his/her resilience to persevere after crises. What is more important in self-efficacy is what a person thinks he or she is capable of doing, or perceived self-efficacy. Self-efficacy has four components which include information, the development of social and self-regulatory skills, skill enhancement and development of resilient self-efficacy and social support. Self-efficacy assumes that for behaviour change to occur, an individual requires the skill as well as perceived self-efficacy or perceived personal control (Bandura, 1994; Webb & Gripper, 2010).

2.2.1.2 The social modelling theory

The second learning perspective theory, which influenced the development of social cognitive theory, namely: the social modelling theory is based on the principle that people subconsciously do what is "normal" through observing the actions of others. According to Webb and Gripper (2010) in social learning theory, Bandura maintained that an individual is more likely to assess his/her capabilities, through observing the coping mechanism of his/her significant peers. Social modelling theory is influenced by social components which include; information, skills, motivation and social support (Webb & Gripper, 2010).

2.2.1.3 The social influence theory

The last social learning perspective theory, which influenced the development of social cognitive theory, namely: the social influence theory, was developed by Fisher. In the social influence theory Fisher proposed that behaviours associated with HIV risk, like

sexual intercourse, needle sharing, are predominantly social or interpersonal (Gross, 2010).

According to this theory, when reference group norms and values are consistent with preventative behaviours, positive social influence will result in higher levels of preventative behaviours and lower levels of risky behaviours. Conversely, if reference group norms are inconsistent with preventative behaviour, positive social influence will result in lower levels of preventative behaviours and high levels of risky behaviours. Regarding HIV and AIDS prevention, Fisher applied social marketing techniques in HIV and AIDS education. In the case of HIV and AIDS education the product to be promoted is behavioural risk education and behavioural risk education resources such as condoms and clean needles. According to the marketing strategy of social influence it is important to determine the appeal and utility of behaviour or product, the price/cost of adopting the behaviour or using the product (social, psychological, financial, time, effort), the best marketing strategy to promote the behaviour or product, and where the behaviour is distributed (Gross, 2010).

Targeting of the behaviour/ product to a particular group is essential to this approach which requires pilot-testing and formative evaluation. Social marketing entails developing campaigns that are culturally relevant, sensitive and salient and take into account social and peer norms (Gross, 2010).

2.2.1.4 Strength and weakness of social learning theories

Social learning theorists have been found to play a vital role in the field of health promotion. Adherence promoting strategies informed by social learning theories, such as patient reminders, have been found to improve adherence. Several interventions have incorporated elements of social learning theories and have also been reported to be effective in behaviour change (Munro, et al., 2007).

On the other hand social learning theories have been criticized for lack of an individualised approach and for not considering less conscious influences on behaviour

not linked to immediate rewards. These influences included, for example, past behaviour, habits, or lack of acceptance of a diagnosis (Munro, et al., 2007).

A major weakness that made this group of theories not to be considered for this research is the fact that social learning theories are limited on external influences on behaviour. In the development of HIV and AIDS intervention, social learning theories require that intervention planners should have to consider carefully individuals' perceptions of appropriate rewards before using them to inform programme design. Interventions drawing on social learning theories are often used in combination with other approaches, although seldom explicitly. No meta-analyses were found that examined this group of theories (Munro, et al., 2007).

2.2.2 The cognitive perspective theories

According to Munro, et al., (2007) cognitive perspective theories includes theories such as the health belief model, social-cognitive theory, the theories of reasoned action and theories of planned behaviour and the protection motivation theory. These theories focus on cognitive variables as part of behaviour change, and share the assumption that attitudes and beliefs, as well as expectations of future events and outcomes, are major determinants of health related behaviour. In the face of various alternatives, these theories propose, individuals will choose the action that will lead most likely to positive outcomes. For the purpose of this research social cognitive theory will be discussed as it is a theory that was chosen to guide this research.

2.2.2.1 Social cognitive theory

According to Woolfork (2004) social cognitive theory evolved from Bandura's social learning perspective theories that were explained in 2.2.1. Contrary to social learning perspective theories, social cognitive theory is based on the assumption that human behaviour evolves from a composite of interrelated intellectual and affective functions. As component of cognitive theories, social cognitive theory believes that consciousness, judgment and reasoning depend primarily on the individual's evolving intellectual capacity to organize experiences (Woolfork, 2004).

According to Pastorino and Doyle-Portillo (2012) in HIV and AIDS prevention, social cognitive theory views a person's behaviour as a result of cognition, behaviour, environmental factors and psychology. Social cognitive theory 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. The theory holds that the environment can also shape a person and that a person can increase self-efficacy through personal persuasion such as receiving suggestions from others. In line with social learning theories, social cognitive theory also believes that new behaviours are learned either by modelling the behaviours of others or by been directly influenced by the experience of others (Pastorino & Doyle-Portillo, 2012).

2.2.2.2 Strengths and weakness of social cognitive theory

As component of cognitive theories, social learning theory has noticeable weaknesses. Firstly, social cognitive theory has been criticized for its assumption that non-voluntary factors can affect behaviour (Munro, et al., 2007). This assumption limits intervention planners to only focus on conscious aspects of behaviour in dealing HIV and AIDS issues. Furthermore, Munro et al., (2007) also indicated that social cognitive theory is not effective at times, as there are unconscious aspects that cause behaviour (Munro, et al., 2007).

Secondly, this theory did not adequately address the behavioural skills needed to ensure behaviour change (Munro, et al., 2007). Thirdly, these theories gave little attention to the origin of beliefs and how these beliefs may influence other behaviours (Munro, et al., 2007). In addition, it has been argued that they ignore other factors that may impact on behaviour change, such as power relationships and social reputations and the possibility that risk behaviour may involve more than one person. It has also been suggested that they focus on a single threat and prevention behaviour and do not include possible additional threats competing for the individual's attention (Munro, et al., 2007).

Despite these limitations, social cognitive theory was considered in this research for its number of advantages. Researchers in the field of HIV and AIDS intervention identified

social cognitive theory as one of the most comprehensive theories of behaviour change. Social cognitive theory offers a multifaceted causal structure in the regulation of human motivation, action and well-being and offers both predictors of adherence and guidelines for its promotion. The basic organizing principle of behaviour change proposed by this social cognitive theory was reciprocal determinism in which there was a continuous, dynamic interaction between the individual, the environment and behaviour. HIV and AIDS interventions programmes built on social cognitive theory integrate information and attitudinal change to enhance motivation and reinforcement of risk education skills and self-efficacy (Munro, et al., 2007).

Munro, et al., (2007) further indicated that social cognitive theory contributed a lot in the field of HIV and AIDS intervention programmes. Number of popular peer education and parental involvement strategies in the HIV and AIDS intervention programmes were informed by the strategies of social learning theory. Social cognitive theory also contributed to develop many models in the field of HIV and AIDS interventions which amongst others include health belief model, the AIDS risk-reduction model and the KABP model which was chosen to guide this research and discussed in 2.2.3.

2.2.3 The knowledge-attitudes-behaviour practices model

The knowledge, attitudes and behaviour model or knowledge, attitudes and behaviour practices postulates that behavioural change is determined by different elements of which knowledge, skills, and attitudes are essential. Based on previous research, adolescents were found to be prone to HIV and AIDS infections because they lack adequate; knowledge, skills and attitudes, which are elements necessary for the prevention of HIV and AIDS (Liu, et al., 2010).

With the first element, namely: knowledge, previous research on the spread of HIV and AIDS among adolescents indicated that adolescents have inadequate knowledge to HIV and AIDS prevention and hold number of misconceptions about HIV and AIDS (Liu, et al., 2010). Based on this premises, a number of educational programmes which focus on the provision of knowledge have been designed as a mechanism of decreasing the spread of HIV and AIDS. Further research on knowledge revealed that, although

knowledge is a prerequisite for effective behaviour change, knowledge alone has not been a powerful mediator of behaviour change. Other element which includes attitudes, values, belief, support by parents and fellow peers are also necessary in behaviour change. As such, good HIV and AIDS intervention programme must consider integration of those elements (Vipul & Srikant, 2010).

2.2.3.1 The role of KABP model in HIV and AIDS intervention

KABP is a behaviour change theory that aims at reducing the risk of acquiring HIV and AIDS through the elimination of risky behaviour. The theory makes use of the major three elements of behaviour change which are knowledge, behaviour, and attitudes. KABP model seeks to delay the onset of sexual intercourse, reduce the number of sexual partners a person has and reduce incidence of unprotected sex by equipping one with knowledge, skills and attitudes. Among the drug users, KABP model seeks to reduce or eliminate the incidence of drug injecting and the incidence of sharing needles, syringes and other drug-use equipment through education (Liu, et al., 2010 & WHO, 2006).

As a component of behaviour change theories, KAPB model, also aims at changing knowledge, behaviour and attitudes through counselling individuals, couples and small groups (and these interventions sometimes include HIV testing) and running workshops and other programmes that provide information and skills (including, for example, sex education, instructions on how to use condoms and other harm reduction strategies). KAPB intervention also aims at changing social norms by seeking the involvement of opinion leaders or they may be peer-based, use social networks or be targeted at the community. Additionally, it may include social marketing, communications and mass media campaigns. This intervention is based on psychological theories that emphasize the importance of knowing about the risks of HIV transmission, instilling motivation to protect one-self and others, changing expectations of outcomes, developing skills for engaging in protective behaviours and the ability to maintain protective behaviours, and providing social support for protective actions. Evaluation designs have included experimental and observational studies (WHO, 2006).

2.2.3.2 Strategies for HIV and AIDS interventions in KABP model

A cure for HIV has not been found and the only way to reduce the spread of the virus is through primary prevention. As such, this section pays attention to the discussion of some of the preventive strategies of HIV and AIDS interventions based on KABP model. The discussion suggested some of the strategies that the researcher could consider in the adaptation of an HIV and AIDS intervention for adolescents in Mpumalanga.

- Promotion of abstinence

According to Smylie, Maticka-Tyndale, Boyd and the Adolescent Sexual Health Planning Committee (2008) abstinence is the practice of refraining from some or all aspects of sexual activity for medical, psychological, legal, social, philosophical or religious reasons. They further explained abstinence as the most effective way to avoid infection among adolescents. Unprotected sexual intercourse is the most common mode of transmission of HIV worldwide and over 95% of HIV infections are transmitted sexually (Garnett, Garcia-Calleja, Rehle & Gregson 2006; WHO, 2004). During sexual practices with an infected person, HIV-infected blood, semen or vaginal fluid comes to contact with the bloodstream or mucous membranes of the other person. This can happen during vaginal and anal intercourse (Woods, 2008).

Although abstinence was widely promoted by many faith-based organizations as the ideal measure for preventing HIV infections amongst the youths who were not ready for marriage, this approach had not been successful (Aguwa, 2010; Smylie, et al., 2008). Research across the globe indicated that the age of sexual debut was gradually getting lower with many young people getting exposed to sex at an age of younger than 15 years (Hazarika, 2010; Njoroge, Olsson, Pertet & Ahlberg, 2010; Philips & Malcom, 2006; Visser, 2005a).

- Promotion of condom use

Behavioural change programmes that emphasize condom use have been found to be particularly cost-effective among those who are most at-risk like injecting drug users and sex workers (Heeren, Jemmott, Mandeya & Tyler, 2009; <http://www.globalhealth>.

org/hiv_aids/interventions/prevention/ - 7; Kabiru & Orpinas, 2009; Maticka-Tyndale & Tenkorang, 2010). These studies further indicated that promotion of condom use should include not only high-risk groups, but also young people who choose to have sex and people who may not know the HIV status of their partner. Given that an HIV-positive person may be asymptomatic and that they may have been infected years earlier, use of protection until testing can be considered.

In sub-Saharan Africa, where HIV prevalence is high among the general population, behavioural change programmes that promote condom use have been designed to target high-risk groups, including youths and anyone engaging in casual or commercial sex (Malow, et al., 2009; Tortolero, et al., 2010; Underwood, Hachonda, Serlemitsos & Bharath-Kumar, 2006). Noticing the weakness of abstinence and early sexual debut among the adolescent, condom use as the strategy of HIV and AIDS prevention have been encouraged for adolescents between ages 10 and 19 years old by many public health officials (Aguwa, 2010; Hazarika, 2010; Njoroge, et al., 2010; Philips & Malcom, 2006; Smylie, et al., 2008; Visser, 2005a).

Both male and female condoms provide a barrier to HIV transmission. More than 90% of HIV is transmitted through sexual contact and about 85% via heterosexual sex. The risk of HIV infection can be lowered by 80-90% with consistent and correct use of condoms. Teaching individuals both in high-risk groups and in the general population how to use condoms properly and routinely is important to stemming the spread of HIV (UNAIDS, 2010).

Researchers estimated that condoms are used in only 9% of sexual acts worldwide and that 19-24 billion condoms were needed worldwide to prevent the transmission of HIV and other sexually transmitted infections. The female condom has proved to be a successful alternative for prevention among many women, although they are often unavailable or unaffordable alternatives to male condoms (UNAIDS, 2010).

- Promotion of male circumcision

Male circumcision is the surgical removal of some or the entire foreskin (prepuce) from the penis. A series of recent rigorous clinical trials have shown that the male circumcision can reduce the risk of transmission to males by at least 50% or, in some cases, 60% and it must therefore be promoted. Clinical trials from Kisumu, Kenya, Rakai District, Uganda and the South Africa Orange Farm Intervention Trial showed a 53%, 51% and 60% reduction, respectively, in HIV infection among men who were circumcised (Auvert, et al., 2009; Gray, et al., 2007).

Recent research data also demonstrated the benefits of male circumcision in relation to heterosexual transmission of HIV as well as protection against other sexually transmitted infections. For example, in a randomized trial carried out in Uganda to assess the effects of male circumcision on high-risk human papillomavirus, male circumcision was found to reduce the incidence of multiple infections due to high-risk human papillomavirus in HIV-infected and uninfected men, and had a beneficial effect on clearance of high-risk¹ human papillomavirus in HIV-negative men (Gray, et al., 2010).

Many countries are prioritising male circumcision and in Southern Africa, discussion is going on about how to implement voluntary, culturally appropriate, adult male circumcision programmes (Gray, et al., 2010; Green, et al., 2010; Olalekan, et al., 2011). Although these studies indicated that male circumcision would not provide complete protection from HIV, they also indicated that male circumcision can substantially reduce the risk of HIV infection if used in conjunction with other preventive measures such as condoms. WHO (2010) projected that if 70% of the male population is circumcised by 2015, there would be a 14% reduction in the number of new HIV infections, with a reduction of 5.7 million new infections and 3 million deaths of men and women in sub-Saharan Africa.

- Promotion of voluntary counselling and testing

Voluntary counselling and testing (VCT) refers to a process by which an individual undergoes counselling which enable him or her to make an informed choice about being tested for HIV. This decision must be entirely the choice of the individual and he or she must be assured that this process will be confidential (WHO, 2008).

According to Padian, et al., (2011) and Siegel, Lekas, Olson and Van Devanter (2010) the establishment of VCT programmes has been a feature of national HIV prevention strategies in a number of countries. The key goals of these programmes are to provide people with opportunities to learn their HIV status, to counsel people about how to avoid becoming infected or spreading HIV and to refer people to appropriate medical and psychosocial care.

A number of studies in developed and developing countries have been undertaken to determine if, in addition to its diagnostic and referral benefits, voluntary counselling and testing may lead to reductions in risky behaviours and reductions in HIV infection rates (Burnett, Weaver, Mody-Pan & Thomas & Mar, 2010; Hazarika, 2010). Overall, data from these studies show that VCT is one of the effective components of preventative strategies to reduce the spread of HIV and AIDS infections.

- Mass media campaigns

Mass media refers collectively to all media technologies that are intended to reach a large audience via mass communication (UNICEF, 2011). Several recent media campaigns have demonstrated the potential of reaching large numbers of adolescents with HIV prevention messages to increase knowledge and change behaviours, especially if the messages are complemented with sexuality education and other communication content used with adolescents (Li et al., 2010; Sullivan, et al., 2010).

In South Africa, Baelden, Van Audenhove and Vergnani (2011) found that new technologies and interpersonal communication were more appropriate than traditional

channels to stimulate interpersonal communication relating to HIV and AIDS as a result of their unique characteristics, such as interactivity and anonymity. In evaluating the effect of campaigns on changing people's knowledge, attitudes, and/or behaviours, Randolph, Whitaker and Arellano (2012) found that mass-media based campaigns were more effective in changing knowledge and behaviour. Borzekowski (2010) also demonstrate the power of mass media campaigns by citing an impact made by the mass media television drama and film "Shuga" and "Embrace me" broadcasted in Kenya, Zambia and Ukraine. Finally, UNICEF (2011) acknowledges the cell phones, Internet and television technological innovations in transmitting HIV information to young people as they have proved to be successful in different countries.

- Promotion of cash transfers

Cash transfer refers to a governmental social grant programme aiming at reducing poverty by giving money to people, especially young people from a disadvantaged background (UNICEF, 2011). In many African countries social protection programmes, including modest cash transfers, have had an impact on promoting healthy behaviours and improving health outcomes in low and middle income countries cross-generational relationships (Ranganathan & Lagarde, 2012).

In Zomba, district of Malawi, conditional and non-conditional cash transfers to adolescent girls increased school attendance and decreased child marriage, early pregnancy and self-reported sexual activity, including fewer and younger – rather than older – sexual partners. HIV incidence also declined. Among girls enrolled in school at the start of the study who received the cash subsidy, incidence was 60% lower than in the experimental group, a drop attributed to their decreased need to rely on age-disparate relationships for economic support, (Baird, Garfein, McIntosh & Özler, 2012).

With the cash transfer programmes early marriage, pregnancy, and self-reported sexual activity declined notably among beneficiaries of both types of cash transfers. Published work suggests that improvement of young women's socioeconomic status can reduce risk of HIV infection, giving greater financial autonomy and less dependence on male partners. Additionally research further find well-established protective effect of

schooling on HIV risk and cash transfer programmes (Dunbar, et al., 2010; Hargreaves, et al., 2008; Jukes, Simmons & Bundy, 2008; Pettifor, et al., 2008).

- Enhancing the protective environment

Protective environment is a concept developed by UNICEF to specify a range of factors that serve to protect children from risks and vulnerabilities in any given environment. It acknowledges the importance of actions targeted directly at minimising such risks, such as peace processes to reduce the exposure of civilian populations to military action (Ager, Boothby & Bremer, 2009).

According to UNICEF (2011) parental death, particularly that of a mother, can lead to a child's increased risk of contracting HIV, especially for young girls. A study in Zimbabwe found that children who have lost their mothers were less likely to complete schooling and more likely to start having sex or to marry early, leading to early pregnancy and sexually transmitted infections, including HIV. Improved child protection systems can prevent the abuse and neglect that can make children more vulnerable to such negative outcomes and provide a more effective safety net for the most vulnerable (Gregson, et al., 2005).

As indicated in 2.2.3.2, on the discussion of cash transfer as a strategy of HIV and AIDS reduction, social protection systems that were HIV-sensitive could contribute to greater financial security of affected households through cash or commodity transfers, improvement of access to health and social services and ensuring that services were delivered to the most vulnerable young people. Investments in social protection can have an immediate protective impact on young women and girls, and a positive impact on communities overall (Hargreaves, et al., 2008; Jukes, et al., 2008; Pettifor, et al., 2008).

- Parent-child communication

According to Zolten and Long (2006) parental-child communication refers to a good relationship, characterised by an open effective communication, between parents and their children. Studies on sexuality education including HIV and AIDS, have shown that increasing communication between very young adolescents and the adults in their lives delays the age at which adolescents start having sex and increase their use of condoms when they do start (UNICEF, 2011).

In exploring parental support and condom use among transgender female youth in the United State of America, Wilson, Iverson, Garofalo and Belzer (2011) found a potential link between HIV related risk behaviour and parental support. In this study, youth with parental support reported regular condom use, while those without such support reported inconsistent condom use. A reoccurring theme from this study was on the importance of parental support in HIV and AIDS prevention.

In examining the effect of Suubi intervention on family support variables and their role in mediating the change among Ugandans adolescents' attitudes toward sexual risk-taking, Ismayilova, Ssewamala and Karimli (2012) reported that 16.8% of the reduction in adolescents' attitudes toward sexual risk-taking behaviour among adolescents with parent support. Furthermore, it was also found in this study that adolescents in the treatment group were more willing to talk to caregivers about their problems, and felt more comfortable talking about sexual risk behaviours with their caregivers as compared with adolescents from the experimental group.

Families Matter was developed by the USA Centres for Disease Control and Prevention to improve HIV-prevention knowledge and the communication skills of parents in the United States, and then adapted culturally for use with very young adolescents (aged 9–12) and their caregivers in Kenya. An outcome evaluation of the programme conducted in Nyanza Province found increased 'positive parenting' behaviours, better parent-child communication around sexuality and sexual risk reduction, and a positive effect on parents' attitudes towards sexuality education (Vandenhoudt, et al., 2010).

In Nicaragua, the *Entre Amigas* (Between Girlfriends) project seeks to empower girls aged 10–14 and reduce barriers to their sexual and reproductive health by building friendships among them and providing them with safe environments in which to discuss their problems. The project activities include a soap opera with a 12-year-old girl as the lead, an all-girls soccer team and regular gatherings at community centres and churches for discussions among mothers, teachers and the girls themselves. An evaluation found increased knowledge of sexual and reproductive health among girls and their mothers, as well as changes in behaviour in many girls (Palmer, 2010).

- Education on HIV and AIDS

According to the World Food Programme (undated), HIV and AIDS education means to promote health and prevent disease by providing the knowledge, the skills and the means to foster and sustain behaviour that reduces risks, improves care and lessens the impact of illness. According to United Nations Educational Scientific and Cultural Organization (UNESCO) (2008) more than half of men and women in many countries are unaware or misinformed of how to properly prevent HIV transmission. The UN Millennium Task Force on HIV and AIDS called education and behavioural change programmes an essential foundation for other interventions; as they provide students with basic knowledge of sexuality and HIV and AIDS transmission and disease, promote the adoption of healthy behaviours that reduce the risk of HIV and reduce stigma and dispel popular myths related to HIV.

UNESCO (2008) further reported that education was found to play a critical role in preventing HIV and AIDS among young people. Education offers young people knowledge, develops positive attitudes towards sexuality and teaches facts and information about HIV and AIDS, especially the transmission of and the protection against the virus. Through education, learners were assisted to assess their personal risk for acquiring the HIV infection and to develop the life skills that would enable them to choose health-protective behaviour. They were also assisted in understanding themselves, to make informed decisions and to acquire skills such as assertiveness, communication and negotiation.

Age-appropriate sexuality education, focus on HIV and AIDS, could increase knowledge, foster healthy lifestyles and lower HIV and AIDS related risk behaviours (Liao, et al., 2010). Around 50% of HIV and AIDS programmes evaluated in a 2006 showed decreased of 83% sexual risk-taking among participants (Liao, et al., 2010). Other evidence showed that sexuality education did not cause harm, nor did it lead children to start having sex at an earlier age than they otherwise would. In 2007, 88 out of 137 reporting countries included HIV education as part of the primary school curriculum, and 120 included it in secondary schools. The percentage of schools providing life-skills-based HIV education also increased between 2007 and 2009 (UNICEF, 2011).

However, the teaching of content related to sexual behaviour and HIV prevention practices (including condoms) depend on the existence of a supportive policy, on appropriate teacher training and on the dissemination of clear curricula and teaching materials. Age-appropriate HIV and sexuality education in a supportive environment is important for developing self-efficacy in young people, a skill that will play a critical role in helping them recognize their HIV risk and reducing their vulnerability in the event of unwanted sexual advances or negative peer pressure. Yet, young people with disabilities are often left out of such programmes (UNICEF, 2011).

As a conclusion to this section on the strategies for HIV and AIDS interventions by KABP theory, it will be important to indicate that there are still more strategies that can be used to prevent HIV and AIDS. This includes strategies like prevention of mother-to-child transmission, treatment of STIs, male circumcision and pre-exposure prophylaxis (UNICEF, 2011; WHO, 2010). However, these strategies were excluded in this discussion as they are clinical based and are not be suitable for the school environment.

2.3 BACKGROUND TO HIV AND AIDS

HIV and AIDS were two related concepts upon which this research study was grounded. As the main aim of this research study, as given in Chapter 1, was to explore for an HIV and AIDS intervention programme that will change knowledge, attitudes and behaviour of vulnerable adolescents in Mpumalanga high schools. It was therefore necessary to

compliment the short definitions given in Chapter 1 by giving a more detailed discussion of these two concepts. In this background to HIV and AIDS, two aspects were considered, namely: phases of HIV and AIDS infection and the factors that exacerbate the spread of HIV and AIDS among the youth.

2.3.1 The phases of HIV infection

In Chapter 1, short definitions of HIV and AIDS were given. However, the definitions were not really to bring out the distinction between these two concepts that are closely related. This sub section on the phases of HIV infection gave a detailed account of the distinction between the state of HIV and the state of AIDS.

According to Woods (2008) after the transmission of HIV virus from one person to another, five phases have been identified that the infected person will undergo namely: the HIV infection, asymptomatic latent, minor symptomatic, major symptomatic and severe symptomatic phase. Although the five phases of HIV-infection can theoretically be divided into different phases, it is important to note that they cannot in practice be precisely demarcated into separate and distinct phases with easily identifiable boundaries. This means that an infected person does not necessarily move in order from phase 1 to 5 of infection, as those phases are not separated by easily identifiable boundaries. Following below are characteristics of the five stages ranging from HIV state to AIDS state.

2.3.1.1 Primary HIV infection phase

This stage begins as soon as the person incepts the virus and last for about few weeks. It also emerges with sero-conversion, which is a point at which a person's HIV status converts, or changes from HIV-negative to HIV-positive. It is often accompanied by a short flu-like illness which includes headache, sore throat and some glandular swelling. In up to about 20% of people the HIV symptoms are serious enough to consult a doctor, but the diagnosis of HIV infection is frequently missed since an infected person is still on a window period when no reaction to the virus is detected. A decrease in CD4 cell

count with a high HIV viral load is usually very high during this stage (Van Dyk, 2005; Woods, 2008).

2.3.1.2 Asymptomatic latent phase

This is called the clinical latency period when nothing seems to be happening, but the CD4 cells continue to decline and opportunistic infections start to appear. At this stage there seems to be some sort of balance between the HIV and the immune system, the viral production continues with each HIV cell provoking its host cell to make about 250 HIV clones before destroying the cell and resulting in a disease. In this phase the CD4 cell count of the infected person will decrease from its normal range of 800-1200 cells/mm to a decrease range of 500-800 cells/mm (Van Dyk, 2005; Woods, 2008).

2.3.1.3 Minor symptomatic phase

Minor symptoms start in this stage, as declared by the stage title. These include sudden and unexplained loss of weight, fever, or night sweats, swelling of the lymph nodes, herpes or shingles, skin rashes and itches, fungal nail infections, mouth ulcers, upper respiratory tract infections and acute tiredness. In this phase the CD4 cell count can be 350-500 cells/mm. A person in this stage is usually able to carry on with normal activities even although they are symptomatic (Van Dyk, 2005; Woods, 2008).

2.3.1.4 Major symptomatic phase

As the immune system deteriorates, the CD4 count becomes very low and the viral load increases. There are signs of more severe HIV-related diseases. Many of the symptoms are due to overgrowth of the body's natural flora with fungal infection and reaction of old infections such as TB and herpes. In this phase the CD4 count can be 200-350 cells/mm. Common symptoms include; oral and vaginal thrush, cold sores, chronic diarrhoea, drastic loss of weight and opportunistic diseases such as TB (Van Dyk, 2005; Woods, 2008).

2.3.1.5 Severe symptomatic or AIDS phase

When a person enters the last phase of HIV infection, they are said to have AIDS. In this stage, people become infected with rare and unusual organisms that do not respond well to antibiotics. The immune system deteriorates dramatically and more untreatable opportunistic conditions and cancers begin to take hold. In this phase the person usually has an extremely high viral load and severe immune deficiency, with a CD4 count below 200cells/mm. The most marked symptoms of this phase include; more than 10% weight loss and emaciation, thrush and ulcers in the mouth and throat, swelling of glands and lymph nodes, intermittent diarrhoea, night sweats, fatigue, skin infections, persistent coughing and TB, pain and numbness in the hands and feet (Woods, 2008).

As previously indicated in the beginning of this section, the first purpose of discussing the background to HIV and AIDS is to further clarify the definitions of the concepts HIV and AIDS as to give a clearer indication between HIV and AIDS as given in Chapter 1. It is therefore evident from the five phases of HIV and AIDS infection that were just discussed above that state of HIV develops right from the stage of the primary HIV infection phase through the asymptomatic latent phase, minor symptomatic phase and major symptomatic phase whereas the AIDS state develops in the severe symptomatic or AIDS phase. Thus HIV simply refers to a state in which the immune system is infected with HIV to a stage in which there are more signs of severe HIV-related diseases. On the other hand AIDS state refers to the beginning of health complications due to the severe immune deficiency.

2.3.2 Factors exacerbating the spread of HIV and AIDS

Since the general aim of the study was to explore an intervention aimed at combating HIV and AIDS, it was therefore necessary to gain insights on some of the factors that accelerate the spread of HIV and AIDS especially among the youth. As a way of concluding the discussion in this sub section, it was also necessary to identify those factors that exacerbate the spread of HIV and AIDS among the youth in Mpumalanga as the focus of this research study.

As the cause of HIV and AIDS are mainly classified into biological, social and cultural realms, attention in this section was paid on the later categories as the focus of this study was on the HIV and AIDS intervention which is educational in nature (Wood, 2008). Research revealed that the main socio-cultural causes of HIV and AIDS in African countries include (a) poverty; (b) gender inequality; (c) lack of knowledge; (d) cultural and traditional practices (Wood, 2008). Following is a detailed discussion of each of the four identified factors, specifically indicating what each factor entails and how it exacerbates the spread of HIV and AIDS.

2.3.2.1 Poverty

Poverty can be explained as a state of lacking socially acceptable amount of money or material possessions necessary for survival or standard of living in the community (Giddens, 2009). Furthermore, a state of poverty has also been associated with poor health, low levels of education or skills, an inability or an unwillingness to work, high rates of disruptive or disorderly behaviour, and improvidence (Giddens, 2009). Although other definitions of poverty exist the underlying fact is that authorities and laypersons commonly assume that the effects of poverty are harmful to both individuals and society.

Durevall and Lindskog (2012) indicate that poverty causes higher susceptibility to HIV infection because poor people are less able to afford health care, as such they are less likely to be in good health, and less likely to get treatment for sexually transmitted infections (STIs) which give HI virus entry to the body. HIV and AIDS impact economic development and growth in several ways. Becoming infected with HIV worsens all the issues surrounding poverty, and makes one vulnerable to full-blown AIDS. Nattrass (2008) further indicated that in most households the socio-economic impacts of HIV and AIDS reduce the household security by decreasing the number of breadwinners, and thereby the household income, and increasing household expenditures because of AIDS-related medical costs.

Rodrigo and Rajapakse (2010) indicate that poverty caused by inter alia unemployment and an inadequate welfare system, is one of the contributing factors to people's

vulnerability to contracting HIV. Abject poverty and the daily struggle to survive may far outweigh any concerns about contracting HIV, and for single mothers, commercial sex work can become a survival strategy that can expose them to HIV infection. This was confirmed by a study conducted by Tenkorang, et al., (2011) which indicated that vulnerability to HIV and AIDS was affected by multiple rationalities which amongst other include poverty that is characterized by a lack of financial resources. This view was also shared by Alsan (2006) who found that women were forced into unfavourable unions due to poverty.

2.3.2.2 Gender inequality

Gender inequality can be explained as unequal treatment between the sexes that is characterized by devaluing of sexes and the provision of unequal opportunities given to sexes (Aveling, 2012). According to Durevall and Lindskog (2012) and Tsai and Subramanian (2012) gender inequality continues to be a key driver of the HIV and AIDS epidemic in most African countries.

Too often women have little capacity to negotiate safer sex, access the services they need, and utilize opportunities for empowerment. In nearly all countries in sub-Saharan Africa and certain Caribbean countries, the majority of people living with HIV are women, especially girls and women aged 15–24 years. The cause of all these consequences are gender inequalities in terms of low socioeconomic and political status, unequal access to education, and fear of violence, add to the greater biological vulnerability of women and girls being infected with HIV (Durevall & Lindskog, 2012; Rodrigo & Rajapakse, 2010).

Gender inequality, often reinforced by intergenerational sex, further weakens women's negotiating power. Female sex workers report poverty and lack of means to obtain food are reported to be the root cause of women to join the sex trade, and to engage in unprotected sex with clients (UNAIDS, 2010; Tenkorang, et al., 2011).

Conversely, traditional roles and societal values related to masculinity are also found to encourage boys and men to adopt risky behaviours, including excessive alcohol use and concurrent sexual relationships, so increasing their risk of acquiring and transmitting HIV. Many harmful norms related to masculinity and femininity also stigmatize transgender people, men who have sex with men and other sexual minorities (UNAIDS, 2010).

2.3.2.3 Lack of knowledge

The concept lack of knowledge is normally equated to ignorance which is explained as a state of being uninformed (Sook-Ling, Choo-Kim & Razak, 2013). In the context of HIV and AIDS, lack of knowledge will therefore refer to a state of being uninformed pertaining to issues of HIV and AIDS (Odu & Akanle, 2008).

Lack of knowledge on issues of HIV and AIDS has been cited as one of the key drivers of the HIV and AIDS pandemic throughout the world with vast majority of young people having no idea of how HIV and AIDS is transmitted or how to protect themselves from the disease (Hazarika, 2010; Maticka-Tyndale & Tenkorg, 2010; UNAIDS, 2010). In China Liao, Jiang, Yang, Zeng and Liao (2010) and Tan, Pan, Zhou, Wang and Xie (2007) found that majority of young people had a moderate level of HIV/ AIDS knowledge. In Nigeria Odu and Akanle (2008) and Uzochukwua, Ugurub, Ezeokea, Onwujekweb and Sibeuduc (2011) found that youth have knowledge of key basic concepts on HIV and AIDS but majority of them still have misconceptions about the cure of AIDS. In Uganda and Zimbabwe, Råssjö and Kiwanuka (2010) and Terry, Mhloyi, Masvaure and Adlis (2006) found that young people lack of information and life skills necessary for HIV and AIDS prevention. In South Africa Bana, et al., (2010); Malcom and Philips (2006); Nduna and Mendes (2010) and Tenkorang, et al., (2011) found that majority of young people acknowledged to have had heard about HIV and AIDS but they lack adequacy knowledge related to transmission and prevention of HIV and AIDS.

2.3.2.4 Cultural, religious and traditional norms and practices

Cited in Kartha (2011), Tylor explains culture as a complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits created and acquired by both man and women as a member of society. On the other hand, Harrison (2006) defines religion as a collection of cultural systems, belief systems and worldviews that establish symbols that relate humanity to spirituality and, sometimes, to moral values. Furthermore, Nunn and Qian (2010) defines tradition as a ritual, belief or object passed down within a society, still maintained in the present, with origins in the past.

The African society is strongly permeated by cultural, religious and traditional influences that are different and affect different parts of the continent which exacerbates the spread of HIV and AIDS (Aaron, Yates & Criniti, 2011; Alsan, 2006). As an example, Woods (2008) reports that in the indigenous society, traditional healers claim that HIV and AIDS result from people forgetting traditional ways and turning to Western practices. This traditional claim tends to reinforce the social stigmatization of having HIV and AIDS, such that infected people often keep silent jeopardizing their chances of obtaining treatment.

Modernization is another era which came with new cultural practices that put young people in a risk of HIV infection. According to Woods (2008) youth culture, which is a desire to portray 'cool' by the youth, lends youth to a high-risk for the contraction of HIV. Young women exchange sex with older men to gain money, fancy clothes, jewellery, cell phones and iPods which put them at high risk of contracting HIV and AIDS. On the other hand, young men are admired if they have lots of girlfriends which lead them to a risky behaviour of engaging in multiple sexual partners, which prone them to HIV and AIDS infection.

Church beliefs and practices also have elements exacerbating the spread of HIV and AIDS. Meanwhile most of the church laws are stringent on sexual morality and gender interactions, some church laws also exacerbate the prevalence of HIV and AIDS among the youth. For example HIV-related stigmas have been seen as a barrier to greater religious congregation involvement in HIV prevention and care in the United States

(Aaron, et al., 2011; Bluthenthal, Palar, Mendel, Kanouse, Corbin & Derose, 2012). The Catholic Church advocates abstinence and condemning condom use as a method of preventing the spread of HIV and AIDS among the youth. This prevents young people who in reality are engaging in sexual practices to seek health resources, putting them at a risk of contracting HIV and AIDS virus (Tenkorang, et al., 2011).

According to Aguwa (2010) faith healing is another major preoccupation of many Christian churches that affect HIV and AIDS prevention in two ways. Firstly, faith healing requires belief in supernatural powers that cause illness and influence healing. Since there is no known cure for AIDS, it means that people living with HIV and AIDS at some point are inclined to seek divine cure at faith-healing churches and services. Such church beliefs can take people's attention away from real practical and natural health resources, making members to be vulnerable to HIV and AIDS.

Secondly, the practice of faith healing can strengthen the tendency of blaming a person for the suffering. Most faith-healing practices tend to identify the cause of the suffering in personal moral flaws or in some action of angry supernatural powers. In most cases, the sufferer is made to accept some blame. As it is well known, both in the African continent and elsewhere, the blame game promotes stigmatisation which also plays a bigger role in spreading HIV and AIDS (Amuzu, 2008).

2.3.2.5 Neighbourhood organizations

"Neighbourhoods" is a new concept in child and adolescent development studies that is derived from an ecological paradigm which views neighbourhoods as part of a larger ecosystem affecting childhood development. Neighbourhoods are viewed as an environment which is experienced and as an entity that can be objectively conceptualized and measured relative to health outcomes. Using this paradigm, study design and definitions of neighbourhood have generally found that children from neighbourhoods characterized by socioeconomic disadvantage experience adverse health outcomes (Akers, Muhammad & Corbie-Smith, 2011).

Survey of neighbourhoods social and organizational issues demonstrate that in structural neighbourhoods characterized by socioeconomic disadvantage, young people have higher rates of early sexual onset, teen pregnancy, STIs and lower rates of adolescent condom and contraceptive use. Several mechanisms are believed to explain neighbourhood effects on adolescent sexual behaviours. Neighbourhoods are although to shape the knowledge, attitudes and opportunity structures available to adolescents thereby influencing their sexual and reproductive decisions. For example, neighbourhood characteristics can shape adolescents' perceptions of the costs and benefits associated with sexual activity or teenage parenting. Community features such as poverty and unemployment may create a climate in which adolescents see few role models of economic or social success to justify the types of long term planning, such as obtaining higher education, that may encourage delayed sexual onset or contraceptive use (Akers, et al., 2011).

Moreover, adults in disadvantaged neighbourhoods may have a limited capacity to monitor adolescent's activities or to provide access to alternative social and recreational outlets creating additional opportunities for sexual involvement. Socially organized neighbourhoods in which adults collectively supervise adolescent behaviours are likely to reduce adolescent risk behaviours by supplementing the caregiver and supervisory role of parents. The availability and utilization of neighbourhood recreational opportunities by adolescents influences adolescent sexual behaviours (Akers, et al., 2011).

Previous studies conducted in Mpumalanga show that poverty, gender inequalities and cultural norms are the main factors responsible for the transmission of HIV and AIDS in Mpumalanga Province (Khosa, 2009). According to Khosa (2009) many people are living in poor conditions at Mpumalanga. Poverty operates through a variety of mechanisms as risk factor for infection with HIV and AIDS. Poverty works through a myriad of interrelations, including unequal income distribution, economic inequalities between men and women which promote transactional sex. According to Kalichmana, et al., (2006) poverty has been associated with the increased risk of HIV transmission in Mpumalanga. Poverty appears to be most prevalent in rural and informal settlements

surrounding the towns. The study also found that HIV parity around employment also make women dependable upon men which put them at a high risk of HIV infection.

In the study conducted in Mpumalanga and Limpopo Provinces, Jewkens, Levin and Penn-Kekana (2002) found that gender inequalities and cultural norms are responsible for transmission of HIV and AIDS. The study found that women in Mpumalanga lack education and employment which make it difficult for them to negotiate safer sex resulting in them being vulnerable to HIV. The study also found that social norms promote an imbalance in sexual interactions which also increases vulnerability of women to HIV. For women social norms defining their acceptable behaviour, characteristics and responsibilities, economic dependency, and violence make them vulnerable, whereas ideals of masculinity associated with risk taking and sexual conquest also create vulnerability in men.

2.4 BACKGROUND TO HIV AND AIDS INTERVENTIONS

Just like HIV and AIDS, intervention is another major concept in this study. As such, it will also be necessary to further clarify the nature of HIV and AIDS intervention for the sake of giving a good background to this research study. Specifically, the focus of the discussion of HIV and AIDS intervention is on the nature of HIV and AIDS interventions, aims of HIV and AIDS interventions and classification of HIV and AIDS interventions.

2.4.1 Nature of HIV and AIDS interventions

As indicated in Chapter 1, intervention refers to any interference or mediation that may affect the interests of others (<http://ardictionary.com/Intervention/6256>). In the medical field intervention refers to any measure whose purpose is to improve health or alter the course of disease (<http://medical-dictionary.thefreedictionary.com/intervention>). Following these explanations, intervention, in this context of HIV and AIDS, will refer to an HIV and AIDS programme whose measure is to improve prevention of HIV and AIDS.

2.4.2 Aims of HIV and AIDS Interventions

According to the WHO the goal of HIV and AIDS interventions is to reduce the risk of contracting HIV and AIDS by applying behavioural change interventions. HIV and AIDS interventions seek to delay the onset of sexual intercourse, reduce the number of sexual partners a person has and reduce the incidence of unprotected sex by increasing condom use. HIV and AIDS interventions also target drug use and seek to reduce or eliminate the incidence of drug injecting and the incidence of sharing needles, syringes and other drug-use equipment. True reductions in such behavioural risks would reduce the transmission and acquisition of HIV infection (WHO, 2006).

Furthermore, the aims of HIV and AIDS interventions are explained as counselling individuals, couples and small groups (and these interventions sometimes include HIV testing) and running workshops and other programmes that provide information and skills (including, for example, sex education, instructions on how to use condoms and other harm reduction strategies). HIV and AIDS interventions may also aim to change social norms by seeking the involvement of opinion leaders or they may be peer-based, use social networks or be targeted at the community. Additionally, they may include social marketing, communications and mass media campaigns. These interventions are based on psychological and social science theories that emphasize the importance of knowing about the risks of HIV transmission, instilling motivation to protect oneself and others, changing expectations of outcomes, developing skills for engaging in protective behaviours and the ability to maintain protective behaviours, and providing social support for protective actions (WHO, 2006).

2.4.3 Classification of HIV and AIDS interventions

WHO classifies HIV and AIDS interventions into the three categories based on their nature and namely: psychosocial, behavioural and biological interventions. Psychosocial interventions employs different models of behaviour change such as self-efficacy, perceived risk, personal or interpersonal skills, HIV and AIDS knowledge, intentions to adopt risk-reduction behaviours, communication with partners to reduce the spread of HIV and AIDS (Padian, et al., 2011; WHO, 2006). The second category, namely: behavioural interventions reduces the spread of HIV and AIDS by promoting

the safe use of injected drugs, reducing the incidence of sharing drug paraphernalia, encouraging the use of male or female condoms, reducing the number of partners and frequency of unprotected sexual activity and encouraging HIV testing. Educational programmes are mainly employed in this category (WHO, 2006). The last category, namely: biological interventions reduces the spread of HIV and AIDS applying medical drugs to treat the incidence or prevalence of HIV or other sexually transmitted infections and hepatitis. Thus, psychosocial and behavioural interventions will apply more of educational strategies whereas the biological intervention will apply medical approach (WHO, 2006).

According to Bulduk and Erdogan, (2012); Palmer (2010); Saad, et al., (2012) and Surgevil and Akyol (2011) HIV and AIDS interventions can also be classified in terms of their approaches, for example teacher, peer-led, community-led and nurses-led HIV and AIDS interventions. Teacher-led HIV and AIDS and peer-led interventions have been the interventions that are prominent in the context of school environment.

2.5 SUMMARY

The purpose of this chapter was to give a theoretical framework to the study and also to discuss major two concepts, namely: HIV and AIDS and HIV and AIDS intervention. The discussion unfolded in two parts.

In the first section, background to the KABP model was given through the discussion of the discussion difference theories that played a role on the development of the KABP model. Furthermore, the KABP model itself was discussed focusing on its role in the HIV and AIDS intervention and the strategies that it employs in HIV and AIDS intervention. Important highlights from this discussion include the point that KABP model is a component of behaviour change theories which make use of knowledge, skills and attitudes as major agents of behaviour change. Promotion of abstinence, promotion of condom use, promotion of male circumcision, promotion of VCT, mass media campaigns, cash transfers, enhancing of the protective environment, parent-child communication and education are some of the major strategies of promoting behaviour change in the KABP model.

In the second part of the discussion, major concepts in the study, namely: HIV, AIDS and interventions were discussed for the purpose of giving more clarity to concepts and issues that are fundamental to this study. From this discussion it was evident that there is a difference between HIV and AIDS. Furthermore, it was also evident that poverty, gender inequality, lack of knowledge, neighbourhood organizations, cultural, religious, traditional norms and practices are some of the most important factors that exacerbate the spread of HIV and AIDS in African countries and in Mpumalanga Province as a site for this study.

The next chapter is on the review of the literature. The focus of this literature review is on the HIV and AIDS interventions that were conducted internationally and nationally, specifically discussing the content of the programme, its delivery and its impact. The chapter will also review the research conducted regarding the elements of the KABP as a model which guides this study.

CHAPTER 3

REVIEW OF LITERATURE

3.1 INTRODUCTION

A short discussion regarding research previously conducted, both internationally and locally, on HIV and AIDS intervention programmes and the theoretical framework that guided this research was given in Chapter 1. In this chapter an in-depth discussion of the review of the literature review on HIV and AIDS interventions and the elements of the KABP model will be provided.

3.2 HIV AND AIDS INTERVENTIONS IMPLEMENTED INTERNATIONALLY

This section presents HIV and AIDS intervention programmes that were recently employed and identified to be working in HIV and AIDS prevention for young people in the other countries outside South Africa. The discussion covers 11 commonly used HIV and AIDS intervention programmes targeting young people in Asia, Europe, America and Africa, including South Africa. The purpose of including this discussion was to generate a scope from which the researcher would explore a suitable HIV and AIDS intervention for adolescents in Mpumalanga.

3.2.1 Becoming a Responsible Teen

Becoming a Responsible Teen (BART) is an HIV risk reduction programme designed primarily for African-American adolescents, ages 14-18, in non-school, community-based settings in Haiti. It has its theoretical basis in the information, motivation, and behaviour change model and social learning theory. Furthermore, this programme aims at reducing adolescents' risk of contracting HIV by promoting both abstinence and consistent, correct condom use (Hurd, Melissa, Valerio, Garcia & Scott, 2010).

In terms of its curriculum, BART consisted of eight sessions, 90-120 minute each, designed to be delivered over eight weeks to groups of 5-15 youth. The eight sessions comprised of the following eight modules: understanding HIV and AIDS, making sexual

decisions and understanding your values, developing and using condom skills, learning assertive communication skills, practicing assertive communication skills, personalizing the risks, spreading the word and taking BART with you (Advocates for Youth, 2008; Centers for Disease Control and Prevention {CDC}, 2011; Summer Training Institute, 2006).

According to Georgia, et al., (2008), BART HIV and AIDS intervention programme aimed at providing participants with information on HIV and AIDS along with related risk behaviours and the importance of abstinence and risk reduction. The sessions were designed to help participants clarify their own values and teach technical, social, and cognitive skills. Through discussions, games, videos, presentations, demonstrations, role plays, and practice, adolescents learnt problem solving, decision-making, communication, condom negotiation, behavioural self-management, and condom use skills. The participants also had a discussion with local, HIV-positive youth, to promote risk recognition and improve their perception of vulnerability. In addition, the intervention encouraged participants to share the information they learnt with their friends and family and to provide support for their peers to reduce risky behaviour (Georgia, et al., 2008).

Several studies had outlined the effectiveness of BART in empowering the youth with necessary skills pertaining to HIV and AIDS prevention. A mixed-method study of 246 African American youth in Mississippi found that the youth in the BART intervention group scored higher on HIV and AIDS knowledge at both post-test and 12-month follow-up than the youth in the BART experimental group. Youth from the BART intervention group demonstrated more skill in handling pressure to engage in unprotected sex and in providing information to peers than the youth from the control youth. Specifically, results from the study indicated that less than 12% of the youth in the BART intervention group initiated sex one year later, compared to 31% in the experimental group. Among sexually experienced youth, 42% of the youth in the BART experimental group reported continuing to have sex across the following year of the experiment as compared to 27% of the youth in the BART experimental group. Compared to BART intervention males, females in the BART intervention group reported a relatively low level of unprotected sexual intercourse at BART pre-intervention. Furthermore, throughout the year

following the experiment, youth in the BART intervention group reported low levels of unprotected sexual intercourse and increased condom use as compared to the youth in the BART experimental group (Brasfield, Jefferson, Alleyne, O'Bannon & Shirley, 2007).

In a study examining the effectiveness of an adapted HIV prevention programme for incarcerated youth in the United States of America, Hurd, et al., (2010) reported other benefits from BART. Analysis of scores indicated mean changes in HIV-related knowledge, attitudes, self-efficacy, and behavioural intentions between participants in both the four session programme (N=274) and the eight session programme (N=216). Specifically, the baseline and exit means of AIDS risk knowledge had a significant increase by 1.52, i.e., from 16.69 to 18.21 in the four session programme and also had a significant increase of 0.95, i.e., from 17.83 to 18.78 in the eight-session programme. The baseline and exit means of condom knowledge had a significant increase by 3.04, i.e., from 4.46 to 7.50 in the four-session programme and also had a significant increase by 1.47 i.e., from 5.6 to 7.07 in the eight-session programme. The baseline and exit means of attitudes to condom scale had a significant increase by 3.27, i.e., from 74.21 to 77.48 in the four-session programme and also had a significant increase by 2.39, i.e., from 68.97 to 71.36 in the eight-session programme. The baseline and exit means of preventative behaviour had a significant increase by 1.46, i.e., from 14.65 to 16.11 in the four-session programme and also had a significant increase by 0.89, i.e., from 15.42 to 16.32 in the eight-session programme. The baseline and exit means of intention to use condom had a significant increase by 0.56, i.e., from 5.81 to 6.37 in the four-session programme whereas the eight-session programme had increase by 0.36, i.e., from 6.22 to 6.58 which was not significant. Table 3.1, on page 56, gives a comparison summary of the mean score increase patterns from baseline to exit between the four and eight week of the USA BART HIV and AIDS intervention programmes.

Table 3.1: Summary of mean score increase patterns from baseline to exit between four and eight week of USA BART HIV and AIDS intervention programmes

Item	Four Week Programme			Eight Week Programme		
	Baseline Mean score	Exit Mean score	Mean score Incr.	Baseline Mean score	Exit Mean score	Mean score Incr.
AIDS risk knowledge	16.69	18.21	1.52	17.83	18.78	0.95
Condom knowledge	4.46	7.50	3.04	5.6	7.07	1.47
Attitude towards Condom use	74.21	77.48	3.27	68.97	71.36	2.39
Preventative behaviour	14.65	16.11	1.46	15.42	16.32	0.89
Intention to use a Condom	5.81	6.37	0.56	6.22	6.58	0.36

Mean score incr. = Mean score increase

Another study of 145 adolescents in Haiti showed a significant increase of the BART intervention group's mean score as compared to the BART experimental groups' mean score. From pre-test to post-test there was an increase of 1.11, i.e., from 13.34 to 14.45, in the mean score of the BART intervention group as compared to a mean increase of 0.54, i.e., from 13.36 to 13.90 by the BART experimental group in HIV and AIDS knowledge. From pre-test to post-test there was an increase of 0.41, i.e., from 3.17 to 3.58, in the mean score of the BART intervention group as compared to a mean increase of 0.09, i.e., from 3.13 to 3.22 by the BART experimental group in the attitudes towards condom safety. From pre-test to post-test there was an increase of 0.18, i.e., 3.69 to 3.87 in the mean score of the BART intervention group as compared to a mean increase of 0.01, i.e., 3.75 to 3.76 by the BART experimental group in the preventative behaviour (intention to use condoms¹). From pre-test to post-test there was an increase of 0.2, i.e., 3.53 to 3.73 in the mean score of the BART intervention group as compared to a mean decrease of 0.02, i.e., 3.58 to 3.56 by the BART experimental group in the preventative behaviour (intention to use condoms 2). From pre-test to post-test there was an increase of 0.26, i.e., 3.56 to 3.82 in the mean score of the BART intervention group as compared to a mean decrease of 0.02, i.e., 3.63 to 3.61 by the BART experimental group in the preventative behaviour (intention to use condoms 3). From

pre-test to post-test there was an increase of 0.44, i.e., 2.96 to 3.40 in the mean score of the BART intervention group as compared to a mean increase of 0.07, i.e., 3.11 to 3.18 by the BART experimental group in the self-efficacy intention 1. From pre-test to post-test there was an increase of 0.41, i.e., 3.20 to 3.61 in the mean score of the BART intervention group as compared to a mean increase of 0.18, i.e., 3.28 to 3.46 by the BART experimental group in the self-efficacy intention 2. From pre-test to post-test there was an increase of 0.34, i.e., 3.20 to 3.54 in the mean score of the BART intervention group as compared to a mean increase of 0.02, i.e., 3.28 to 3.30 by the BART experimental group in the self-efficacy intention 3. From pre-test to post-test there was an increase of 0.3, i.e., 0.5 to 0.8 in the mean score of the BART intervention group as compared to a mean increase of 0.16, i.e., 0.43 to 0.59 by the BART experimental group in the condom skills test. Furthermore, BART was identified by the CDC and Advocates for Youth as an effective evidence-based curriculum for HIV prevention (Malow, et al., 2009; Georgia, et al., 2008). Table 3.2, on page 58, gives a comparison summary of the mean score increase patterns from baseline to exit between the intervention and experimental groups of the Haiti BART HIV and AIDS intervention programme.

Although the limitations of BART were not indicated from the two studies that were cited above, there were still serious challenges in considering BART for high schools learners in Mpumalanga schools. According to CDC (2011), BART was a community-based programme. This means that it lacked the necessary didactical design features necessary for school implemented programmes. It was therefore decided that unless BART was adapted to school setting it was not going to be considered for learners in Mpumalanga high schools.

Another drawback for considering BART for high schools learners in Mpumalanga related to the adaptations. In exploring the involvement of parents and community members in supporting the implementation of the imported HIV and AIDS intervention programme, like BART, in schools, Pengpid, et al., (2008) found that the community accepted such a move but they raised concern regarding the lack of cultural sensitivity of such imported programmes.

Table 3.2: A comparison summary of the mean score increase patterns from baseline to exit between the intervention and experimental groups of the Haiti BART HIV and AIDS intervention programme

Item	Intervention Group			Experimental Group		
	Mean score at Pre-test	Mean score at post-test	Mean score Incr.	Mean score at Pre-test	Mean score at post-test	Mean score Incr.
HIV and AIDS knowledge	13.34	14.45	1.11	13.36	13.90	0.54
Attitudes towards condom safety	3.17	3.58	0.41	3.13	3.22	0.09
Preventative behaviour 1 (intention to use condoms 1)	3.69	3.87	0.18	3.75	3.76	0.01
Preventative behaviour 2 (intention to use condoms 2)	3.53	3.73	0.2	3.58	3.56	-0.02
Preventative behaviour 3 (intention to use condoms 3)	3.56	3.82	0.26	3.63	3.61	-0.02
Self-efficacy intention 1	2.96	3.40	0.44	3.11	3.18	0.07
Self-efficacy intention 2	3.20	3.61	0.41	3.28	3.46	0.18
Self-efficacy intention 3	3.20	3.54	0.34	3.28	3.30	0.02
Condom skill test	0.5	0.8	0.3	0.43	0.59	0.16

Mean score incr. = Mean score increase pre-test to post-test

This point was also strengthened by other research results that raised concern regarding the imported HIV and AIDS programmes that were developed for a particular group and thereafter used for another foreign group. Research by Griessel-Roux, Ebersöhn, Smit and Eloff (2005), Visser (2005b) and Visser (2007) concur that HIV and AIDS intervention programmes that take into account the social and contextual factors of the targeted population were more successful than programmes that do not. Since BART was primarily developed for African-American adolescents and there is no documented evidence for its adaptation to any community in South Africa, including

Mpumalanga, it may be therefore necessary to adapt it before it is administered to adolescents in Mpumalanga as a targeted population in this research.

Furthermore, BART could not be considered for learners in Mpumalanga due to the fact that it contravened the policy of the Department of Education in South Africa. In outlining the curriculum of BART, Advocates for Youth (2008); CDC (2011) and Summer Training Institute (2006) indicated that amongst the eight modules of BART, one module was on developing skills of using a condom. This contravened the policy of the Department of Education in South Africa as the Department promoted abstinence, character building and responsible behaviour, instead of condom use, as one of its strategies for HIV and AIDS prevention among learners in schools (Cheunyane, 2008; Cheunyane, Hlongwa & Sokana, 2008; Department of Education {DoE}, 2001a; DoE, 2001b; Edwards-Meyer, 2007).

Finally, BART HIV and AIDS intervention programme was not found suitable for learners neither in Mpumalanga schools nor elsewhere in South African schools because of its loaded content. Previously implemented HIV and AIDS intervention programmes in South African schools, like the Planned Parenthood Association of South Africa (PPSA) and the South African Life Skills-Based Education were not found successful because of their heavy content (Vergnani, Flisher, Lazarus, Reddy & James, 1998; Visser, 2007). Unlike in other countries, Social Guidance periods (in which education on HIV and AIDS was included) no longer exist in the school time tables. In cases where such Social Guidance was needed, provision needed to be made outside contact time or else such guidance was slotted in the Life Orientation period which also has its prescribed amount of work (DoE, 2011). As such, the amount of time needed for the delivery of BART during contact time was not available making it difficult for it to be administered for learners in Mpumalanga schools.

3.2.2 Helping Each other Act Responsibly Together

Helping Each other Act Responsibly Together (HEART) was an HIV and AIDS intervention programme designed for young people ages 13-19 years in the 12 districts of Zambia that are located in the Copperbelt, Central, Southern, Eastern, Luapula, and

Northern Provinces. The HEART campaigns used multimedia approach that was transmitted through a television channel, radio spot, songs, music videos, posters, billboards, and other print material. HEART campaigns promoted HIV and AIDS prevention through messages around abstinence, consistent condom use, and the fact that “you can’t tell by looking” if someone is HIV-positive. Although condom messages were present, they were balanced with the abstinence messages that further strengthened the ideals that Zambia as a Christian nation preaches (Underwood, 2004).

In the first impact evaluation of HEART in Zambia, the research team used a quasi-experimental, separate sample pre- and follow-up design comprising a sample of 533 young men and 656 young women. Over a three-week period researchers conducted a follow-up cross-sectional sample survey of 618 male and 621 female respondents. The study results indicated that about 64% of urban respondents reported that they had seen all or some of the television spots, while approximately 14% of rural respondents saw one or more. HEART viewers were significantly more likely than non-viewers to mention abstinence as a way to avoid transmission in both survey years. In 2003, HEART viewers compared with non-viewers were more likely to mention condom use and having only one partner as ways to avoid HIV and AIDS. Approximately 53% of HEART viewers reported that they took at least one action as a result of having seen the campaign. Overall, respondents were more likely to say they chose “to abstain” than to report that they decided to use a condom as a result of seeing the spots. HEART viewers were significantly more likely than non-viewers to report primary or secondary abstinence. Holding background variables constant, the odds that respondents abstained was 1.4 times greater for viewers compared with non-viewers in 2000 and 1.7 times greater in 2003 (Underwood, Hachonda, Serlemitsos & Bharath, 2001).

The 2000 and 2003 results were also confirmed by other follow-up quasi experiments in 2004. Making use of 496 adolescents male and 660 adolescents female aged 13-19 years, still in Zambia, Underwood et al., (2006) compared HEART campaign viewers and non-campaigns viewers to evaluate the impact of HEART. Results from logistic regression analyses demonstrated that, compared with HEART non viewers, campaign viewers were 1.61 times more likely to report primary or secondary abstinence and 2.38 times more likely to have ever used a condom. The odds ratio of condom use during

last sex was 2.1 for respondents who recalled at least 3 television spot advertisements compared with other respondents. The positive correlations between HEART campaign viewership and HIV risk reduction practices demonstrate that mediated messages can influence behaviour change among adolescents (Underwood, et al., 2006).

In another quasi-experimental study comprising of 533 young men and 656 young women, Underwood (2004) measured the effects of HEART making use of the pre- and follow-up design. Results indicated that HEART programme largely met its goals. Results indicated that about 64% of urban respondents reported that they had seen all or some of the television spots, while approximately 14% of rural respondents saw one or more. HEART viewers were, significantly more likely than non-viewers to mention abstinence as a way to avoid transmission in both survey years (Underwood, 2004).

A success story pamphlet by Bureau Global Health report in Zambia reported that youths aged 13 to 19 decided to remain abstinent as a direct result of exposure to the HEART television and radio advertisements. Contrary to the argument that advertising prevention messages promoted promiscuity, respondents reported they were more likely to say that they chose to abstain than to report condom use. In addition, HEART viewers reported more discussions about abstinence and were 1.68 times more likely to report primary or secondary abstinence (return to abstinence) than were youths who did not see the HEART advertisements (Hachonda, 2003).

Despite the above given strengths, HEART was criticised due to its self-evaluations. As it appears from the above discussion, all the cited studies were conducted by Underwood and Hachonda, which they are acting as both the referees and players at the same time. As such, this practice is unacceptable as it rendered such evaluation biased. This problem was further compounded by the fact that all the evaluation studies of HEART use the same comparative approach in its studies (Underwood, et al., 2006).

Secondly HEART was not the only reproductive health campaign for youth in Zambia during the period of these studies, i.e., 1999-2003. It is likely that young people who

saw the HEART campaigns were also exposed to other programmes. Although the researchers were able to measure recall of specific campaign advertisements, the effects of the campaign cannot be attributed solely to that HEART intervention. It is likely that other interventions were responsible for all the advantages claimed by HEART (Underwood, et al., 2006).

HEART was also criticised mainly for its strategies that heavily relied on the media to relay their messages. As indicated above, about 64% of urban respondents reported that they had seen all or some of the television spots of HEART, while approximately 14% of rural respondents saw one or more. This way people living in urban rural areas benefitted from HEART campaigns more than people who lived in the rural areas as they hardly accessed television, radio or the Internet as forms of communication (Underwood, et al., 2006). However, this criticism sounds unfair as media is in a better position of reaching many people than programmes that are confined to school learners in class.

Furthermore, there were also serious drawbacks in considering HEART for school-going youth in South Africa, Mpumalanga. Similar to the BART HIV and AIDS intervention programme discussed in 3.2.1., HEART was also a foreign programme in South Africa which needed to be adapted before it was considered for learners in any of the South Africa schools or Mpumalanga. Secondly, the fact that HEART made use of television, radio spot advertisements and music videos as some its campaign strategies, it therefore presented challenges of featuring the delivery of HEART in a school setting in which programmes were delivered in a didactical form (Underwood, 2004). It would be therefore be necessary to adapt HEART strategies first to be suitable to a school environment before it is considered for learners in Mpumalanga.

Finally, HEART, could not be considered for learners in Mpumalanga or other learners in South African schools due to the fact that it also contravened the policy of the Department of Education in South Africa. Similar to BART, HEART also promoted the use of condom as one of its preventative strategies (Underwood, 2004). As indicated

earlier, this practise contravened the policy of the Department of Education in South Africa.

3.2.3 It is Your Game HIV and AIDS intervention programme

It is Your Game (IYG) HIV and AIDS intervention programme was developed for the youth in United States of America. The IYG targeted population consisted of English-speaking middle school students in Grades 8-9 from a large, urban, predominantly African-American and Hispanic school district. The primary aims of the IYG HIV and AIDS intervention programme were to encourage learners to delay in the initiation of sex, usage of condom and contraceptives among sexually active youth (CDC, 2011; Resource Centre for Adolescent Pregnancy Prevention {RECAPP}, 2009).

IYG is a two-year middle school curriculum implemented as a 24-lesson curriculum consisting of 45-minute lessons delivered by trained facilitators. The programme integrated group-based classroom activities with personal journaling and individual activities delivered on laptop computers. IYG also made use of a life skills decision-making paradigm making use of “select, detect, protect” approach that taught students to select personal limits regarding risk behaviours, to detect signs or situations that might challenge these limits, and to use refusal skills and other tactics to protect these limits. Specific topics covered in Grade 8 included characteristics of healthy friendships; setting personal limits and practicing refusal skills in a general context (e.g., regarding alcohol and drug use, skipping school, cheating); information about puberty, reproduction and STIs; and setting personal limits and practicing refusal skills related to sexual behaviour. The ninth-grade curriculum reviews the Grades 8-9 topics and further proceeded to cover the following topics: the characteristics of healthy dating relationships; the importance of HIV, STIs, and pregnancy testing if a person is sexually active; and skills training regarding condom and contraceptive use (CDC, 2011; RECAPP, 2009; Tortolero, et al., 2010).

The IYG curriculum also included six parent–child homework activities at each grade level, designed to facilitate dialogue on such topics as friendship qualities, dating, and sexual behaviour. The computer component included a virtual world interface,

educational activities (quizzes, animations, peer video, and fact sheets) that targeted determinants of sexual risk taking and are tailored to gender and sexual experience, and “real world”-style teen serials with on-line student feedback that allows for real-time group discussion in the classroom. Journaling allowed students to express their own opinions and feelings on sensitive topics in a confidential setting (RECAPP, 2009; Tortolero, et al., 2010).

In a study evaluating the effectiveness of the IYG programme by comparing the intervention (N=509) and comparison (N=308) groups in delaying sexual behaviour, results demonstrated considerable delay of sexual behaviour of the participants in intervention group. For example, regarding general knowledge of HIV and AIDS, the intervention group had a mean score of 1.76 as compared to a mean score of 1.64 by the comparison group. Regarding the knowledge of condom, the intervention group had a mean score of 0.57 as compared to a mean score of 0.55 by the comparison group in the condom knowledge. Regarding HIV related behaviour; the intervention group had a mean score of 3.06 as compared to a mean score of 3.14 by the comparison group in the condom knowledge in the general beliefs about waiting to have sex. The intervention group had a mean score of 2.86 as compared to a mean score of 2.80 by the comparison group in the beliefs about abstinence until marriage. The intervention group had a mean score of 3.09 as compared to a mean score of 3.14 by the comparison group in the self-efficacy to refuse sex. The intervention group had a mean score of 2.32 as compared to a mean score of 2.28 by the comparison group in the self-efficacy to use condoms. The intervention group had a mean score of 0.51 as compared to a mean score of 0.52 by the comparison group in the exposure to risky situations. Regarding preventative intentions, the intervention group had a mean score of 1.87 as compared to a mean score of 1.82 by the comparison group in the intention to have vaginal sex in the next year. The intervention group had a mean score of 3.04 as compared to a mean score of 3.22 by the comparison group in the intention to remain abstinent until end of high school. The intervention group had a mean score of 2.91 as compared to a mean score of 2.90 by the comparison group in the intention to remain abstinent until marriage. Furthermore, it also emerged in this study that almost 30% of students in the comparison condition initiated sex by ninth grade, compared with 23% of those in the intervention condition. Students in the comparison condition were 30% more likely to initiate sex by the ninth grade than were students in the intervention

condition (Tortolero, et al., 2010), Table 3.3 below gives a comparison summary of the mean score increase patterns between the intervention and experimental groups of the United States of America.

Table 3.3: A comparison summary of the mean score increase patterns between the intervention and experimental groups of the United States of America

Item	Intervention Group	Comparison Group
General HIV and AIDS knowledge	1.76	1.64
Knowledge Condom	0.57	0.55
Behaviour: waiting to have sex	3.06	3.14
Behaviour: Abstinence until marriage	2.86	2.80
Behaviour: Self-efficacy to refuse sex	3.09	3.14
Behaviour: Self-efficacy to use condoms	2.32	2.28
Behaviour: Exposure to risky behaviour	0.51	0.52
Behaviour preventative intention: Vaginal sex in the next year	1.87	1.82
Behaviour preventative intention: Intention to remain abstinent until end of high school	3.04	3.22
Behaviour preventative intention: Intention to remain abstinent until marriage	2.91	2.90

IYG was also not considered usable for Mpumalanga learners for various reasons. Firstly the evaluation study, as cited above, was reported to have number of limitations which include, self-reported outcome measures, unknown generalizability to other populations, a small sample of sexually active youth in seventh grade, leaving little statistical power among these youth; a higher proportion of female participants; and the study participation rate, albeit similar to many school-based studies (Tortolero, et al., 2010).

Secondly the available documentation revealed that IYG HIV and AIDS intervention programme was meant for the English-speaking African-American and Hispanic middle school students from a large, predominantly urban, South-eastern Texas. This population background is completely different from that of learners in South Africa in Mpumalanga Province. Without any information regarding the adaptation of the IYG, it was difficult to consider it for learners in Mpumalanga. Of course some of the challenges that made IYG not suitable for learners in Mpumalanga were related to problems of importation, promotion of abstinence and content loaded programme that were elaborated in 3.2.1 and 3.2.2 above. Overall, IYG was not considered for learners in Mpumalanga due its limited documentation.

3.2.4 Life Skills Based Education

Life-skills-based education (LBSE) was an HIV and AIDS prevention model developed by United Nations International Children's Emergency Fund and implemented in different countries in the world. The aim of this programme was to foster healthy lifestyles and lower HIV and AIDS related risk behaviours by providing HIV and AIDS prevention knowledge education with adolescents' psychosocial and interpersonal skills development. The programme targeted the fifth grade students in rural primary schools learners (Van Rensburg & Human, 2005).

The content of the programme included four lessons on adolescent development, HIV transmission and prevention, drug prevention, and risk behaviour rejection. Each lessons lasted 45 min, and a lot of participatory activities were used, such as brain storming, role playing, group discussion, case study and games (Pohan, et al., 2011).

Results on the evaluation of the programme in the two provinces of China showed positive total effects of the curriculum on knowledge and attitudes of the participants in the intervention group. A 2008 quasi-experimental study of 1174, 14-18 years old youth in Henan Province showed a significant different pertaining to knowledge and attitudes median scores between the intervention and experimental groups. A significant increase of the intervention group's median score was observed. At post-test there was

an increase of 28.8 in the median score of the intervention group as compared to an increase of the experimental group which increased by 7.6.

Regarding the attitudes towards people living with HIV and AIDS, the study results indicated a slight differences between the intervention and experimental groups. At baseline approximately 42% of the participants reported unwillingness of doing any daily activities with people infected with HIV such as eating together, studying together, and receiving services from them, going to their homes, or using the same telephone, indicating high stigma levels. Although the proportion decreased in both the control and intervention groups after the intervention period, the decrease in the intervention group (29.1%) was significantly higher than that in experimental group (10.2%). The same positive effect was also found in behaviour. At baseline, there were 69.1%, 69.0%, and 47.8% subjects who reported they could refuse unwanted sex, protect themselves from sexual harassment, and have safe sex, respectively. The proportions increased in the intervention group, whereas they decreased in the experimental group at post-test, to 74.1%, 75.4%, and 56.3% in the intervention group, respectively, while being 61.6%, 59.6%, and 34.9% in the control, respectively (Cheng, et al., 2008).

Similar impact of the LSBE was also found in the study which was conducted in 2010 in Hainan Province. A report of 2010 quasi-experimental study of 2 413 students aged 9 -14 years old youth in Hainan Province also showed a significant difference pertaining to knowledge and attitudes scores between the intervention and experimental groups. Specifically the study results of this Hainan 2010 quasi-experimental indicated that the proportion of students who knew the three routes of HIV transmission increased from 18.5% in the baseline (16.5% of intervention group, 23.5% of experimental group) to 43% in the short-term survey (45.2% of intervention group, 37.6% of experimental group). In addition, the intervention group had a slightly lower total attitude score (ranged 0~18, 10.7 ± 2.8 vs. 11.5 ± 2.8) at baseline, and the discrepancy between two groups still existed but was smaller (11.9 ± 2.7 vs. 12.0 ± 2.8) in the short-term survey. At the mid-term survey, students who were previously in the intervention group had significant higher knowledge score than those who had not attended the curriculum (8.6 ± 4.8 vs. 7.5 ± 4.1) although their levels of knowledge score decreased in comparison to their own levels in the short-term survey. There was a slight difference in attitudes

score between the students who attended the curriculum before and did not (12.6 ± 3.0 vs. 12.8 ± 2.9) although the follow-up group's attitude score increased from baseline to the short-term survey (Liao, et al., 2010).

Research, on the other hand, also identified major setbacks regarding the consideration of the LSBE for learners in Mpumalanga high schools. During the study conducted in Henan Province of China, two major drawbacks relating to the LSBE were identified. Firstly LSBE was unable to change participants' attitudes toward premarital sex. Study report indicated that at baseline, 32% of respondents approved of premarital sex. At post-test, the proportion increased 2.4% in the intervention group compared to 2.0% in the control, but those who opposed premarital sex accounted for a larger proportion (44.5%) than in the experimental group (35.5%). No significant difference was observed between two groups in either survey. Multinomial Logistic regression analysis was done to evaluate the effect of intervention; results showed that the intervention had no effect on changing respondents' attitudes toward premarital sex (Cheng, et al., 2008). This is a major drawback as premarital sex was reported to be major cause of HIV and AIDS infections among the youth world-wide (UNICEF, 2011).

The second drawback of the LSBE identified in Henan Province of China was related to its lack of increasing communication between parents and the youth. Report from the study indicated that at baseline, there were 52.6%, 65.7%, and 22.8% of subjects who reported having communicated with parents, peers, and teachers on HIV and AIDS issues, respectively, and no significant differences were observed between the two groups. Report on the binary logistic regression analysis showed that the intervention increased respondents' communication behaviour with peers and teachers significantly. Communication with teachers on HIV and AIDS issues increased most significantly, with 5.876 of ordinary least squares regression (OR) (95% CI: 3.828–9.020, $p < .0001$) for the group X time interaction effect, followed by the communication with peers (OR = 2.638, 95% CI: 1.734–4.012, $p < .0001$). However, a group X time interaction effect was not found on respondents' communication with parents (OR = 0.913, 95% CI: 0.623–1.338), (Cheng, et al., 2008:190). This is a major drawback as the importance of parental-child communication in reducing the spread of HIV and AIDS was fully demonstrated in 2.2.3.2 (Liao, et al., 2010).

Other problems that made it difficult for the consideration of the LSBE in Mpumalanga schools were found to relate to importation programmes and loaded content. Challenges of administering imported and content loaded programmes were fully elaborated in 3.2.1 and 3.2.2. As such, LSBE was still not considered as a better option for administration in Mpumalanga schools.

3.2.5 Primary School Action for Better Health

Primary School Action for Better Health (PSABH) is a school-based HIV intervention programme developed in North America for Grade 6-8 learners. In Kenya PSABH programme was adopted as a result of the collaborative effort between Kenya Education Trust and the Kenya Ministry of Education. The pedagogy of PSABH was based on social learning theory with role modelling, practice of desired behaviours, and activities for building self-efficacy included together with didactic instruction. The primary goal of PSABH was to reduce HIV and AIDS related risk of infection by delaying first sexual intercourse and decreasing sexual activity. For those who were sexual active the goal was to increase condom use (United States Agency for International Development {USAID}, 2012).

The PSABH content and focus of its learning activities included challenges to beliefs about the irrepressible nature of the male sexual drive and the impossibility of abstaining from sexual activity. Through the delivery of PSABH learners were also equipped with skills to enhance their self-efficacy and the development of critical thinking skills to guide them in decision-making about sexual activity risk and risk reduction. Unlike many school-based interventions that were designed for delivery in fixed time periods (e.g., 7 or 14 hours of instruction during the year) PSABH activities and lessons were designed to be on-going components of the school curriculum (USAID, 2012; Palmer, 2010).

An evaluation of the effects of PSABH on 3403 pupils' knowledge, attitudes and behaviours related to reducing the sexual transmission of HIV was conducted at 18 and 30 months post-programme in Kenya. The results from the study revealed that students who had attended primary schools, with PSABH programme were significantly more

likely to have higher levels of knowledge and attitudes that were more supportive of sexual restraint, condom use and HIV testing in the odds ratios from logistic regression analysis (Marticka-Tyndale, Wildish & Gichuru, 2007; Marticka-Tyndale, Wildish & Gichuru, 2010).

For boys, at pre-programme to 18 month post programme, the knowledge scores of boys who attended PSABH increased by 0.56, i.e., from an average of 0.55 to 1.11, whereas their knowledge score increased by 1.63, i.e., from an average of 2.64 to 4.27 at 18 months to 30 months. Pertaining to attitudes “I can say no to sex” score for boys who attended PSABH increased by 0.74, i.e., from an average of 1.18 to 1.92 whereas the score increased at 18-30 months by 0.28, i.e., from an average of 0.49 to 0.77. “You should use a condom” score for boys who attended PSABH increased by 0.54, i.e., from an average of 0.89 to 1.43 whereas the score increase by 0.75, i.e., from an average of an average of 1.23 to 1.98 at 18-30 months. Pertaining to the behaviour, “sexual debut in past year” score for boys increased by 0.91, i.e., from an average of 0.53 to 1.44 whereas the score increased by 1.06, i.e., from an average of 0.61 to 1.67 at 18-30 months. “Engaged in sex in past three months” score for boys increased by 0.91, i.e., from an average of 0.53 to 1.44 whereas their score increased by 1.06, i.e., from an average of 0.61 to 1.67 at 18-30 months. “Condom used at last sexual intercourse” score for boys who attended PSABH increased by 0.72, i.e., from an average of 0.72 to 1.44 whereas the score increased by 0.68, i.e., from an average of 0.74 to 1.42 at 18-30 months (Marticka-Tyndale, et al., 2007; Marticka-Tyndale, et al., 2010). Table 3.4 gives a comparison summary of the mean score increase patterns on boys between the 0-18 and 18-30 months programme of PSABH in Kenya.

On the other hand the knowledge scores of girls who attended PSABH also increased by .054, i.e., from an average of 0.48 to 1.02 at pre-programme to 18 month post programme whereas at 18 to 30 months their knowledge scores increased by 0.93, i.e., from an average of 1.34 to 2.27. “I can say no to sex” score for girls who attended PSABH also increased by 1.44, i.e., from an average of 1.89 to 3.33 at pre-programme to 18 month post programme whereas the score increased from an average of 0.49 to 0.77 at 18-30 months (Marticka-Tyndale, et al., 2007; Marticka-Tyndale, et al., 2010).

Table 3.4: A comparison summary of the mean score increase patterns on boys between the 0-18 and 18-30 month programme of PSABH in Kenya

Item	0-18 months			18-30 months		
	Mean score at Pre-test	Mean score at post-test	Mean score Incr.	Mean score at Pre-test	Mean score at post-test	Mean score Incr.
HIV and AIDS knowledge	0.55	1.11	0.56	2.64	4.27	1.63
Attitudes: I can say no to sex	1.18	1.92	0.74	0.49	0.77	0.28
You must use a condom	0.89	1.43	0.54	1.23	1.98	0.75
Sexual debut in past year	0.53	1.44	0.91	0.61	1.67	1.06
Engaged in sex in past three months	0.53	1.44	0.91	0.61	1.67	1.06
Condom used last sexual intercourse	0.72	1.44	0.72	0.74	1.42	0.68

Mean score incr. =Mean score increase

“You should use a condom” score for girls increased by 0.62, i.e., from an average of 0.85 to 1.47 at pre-programme to 18 month post programme whereas the score increased by 0.95, i.e., from an average of 1.37 to 2.32 at 18-30 months. “Sexual debut in past year” score for girls increased by 0.66, i.e., from an average of 0.26 to 0.92 at pre-programme to 18 month post programme whereas the score increased by 1.25, i.e., from an average of 0.47 to 1.72 at 18-30 months. “Engaged in sex in past three months” score for girls who attended PSABH increased by 0.3, i.e., from an average of 0.18 to 0.48 at pre-programme to 18 month post programme whereas the score increased by 1.31, i.e., from an average of 0.84 to 2.15 at 18-30 months. “Condom used at last sexual intercourse” score for girls increased by 1.55, i.e., from an average of 0.93 to 2.48 at pre-programme to 18 month post programme whereas the increased by 1.3, i.e., from an average of 1.00 to 2.30 at 18-30 months (Marticka-Tyndale, et al., 2007; Marticka-Tyndale, et al., 2010). Table 3.5, gives a comparison summary of the mean score increase patterns on girls between the 0-18 and 18-30 months programme of PSABH in Kenya.

Table 3.5: A comparison summary of the mean score increase patterns on girls between the 0-18 and 18-30 month programme of PSABH in Kenya

Item	0-18 months			18-30 months		
	Mean score at Pre-test	Mean score at post-test	Mean score Incr.	Mean score at Pre-test	Mean score at post-test	Mean score Incr.
HIV and AIDS knowledge	0.48	1.02	0.54	1.34	2.27	0.93
Attitudes: I can say no to sex	1.89	3.33	1.44	0.49	0.77	3.33
You should use a condom	0.85	1.47	0.62	1.37	2.32	0.95
Sexual debut in past year	0.26	0.92	0.66	0.47	1.72	1.25
Engaged in sex in past three months	0.18	0.48	0.3	0.84	2.15	1.31
Condom used last sexual intercourse	0.93	2.48	1.55	1.00	2.30	1.3

Mean score incr. =Mean score increase from pre-post

Maticka-Tyndale (2010) also supported the benefits of PSABH among learners. In the follow-up comparison study between learners who attended PSABH as compared to none PSABH attendants, students who attended PSABH sessions were found to be inclined of embarking in several safer sex practices as compared to those who never attended PSABH. Majority of students who attended the PSABH in their primary schooling endorsed both sexual restraint and HIV testing, with mean and median scores of 3.38 and 4.00, respectively, out of a possible maximum of 5 for sexual restraint and 1.44 and 2, respectively, out of a maximum of 2 for testing. On average, condom use attitudes and intentions were neutral (medians of 0) to mildly positive (mean of 0.28 out of a maximum of 4 for attitudes); although intentions were more positive (mean of 0.44 out of a maximum of 2). For those who had experienced sexual intercourse, the mean number of years sexually active was 3.49 over a range of 0 (those initiating intercourse in the past year) to 12 years, and condoms were reported with under half of the possible types of sexual partners (mean 0.47). The effects were strongest in the first year of secondary school and decreased thereafter showing that PSABH programme continued to have a beneficial effect for students who continue to secondary school.

Similar to LSBE and IYG, there were still drawbacks in considering PSABH for Mpumalanga learners. A first limitation was that PSABH, as evident from the name itself, was meant for primary school learners (Fatusi & Hindin, 2010). There was no evidence of the programme being adapted and delivered to high schools learners. Research indicated that effective HIV and AIDS intervention programme consider the age level of targeted group (Griessel-Roux, et al., 2005; Pengpid, et al., 2008; Visser, 2005a; Visser, 2007).

Similar to the LSBE and IYG, PSABH was developed for learners in Kenya, with both social and cultural background that is completely different from that of Mpumalanga in South Africa. As challenges of delivering a foreign developed HIV and AIDS intervention programme were elaborated in 3.2.1 there was still a need of adapting PSABH before it was considered for learners in Mpumalanga.

3.2.6 Responsible Behaviour: Delaying Sex Curriculum

Responsible Behaviour: Delaying Sex Curriculum (RBDSC) interventions were aimed at delaying the initiation of sexual intercourse among the youth. These interventions were school-based and were tailored to accommodate the cultural and gender differences of the targeted group. For example, Responsible Behaviour: Delaying Curriculum at Cameroon was designed for 10-12 years old girls. Its curriculum consists of 12 units which were arranged in two sections. The first section is an introduction which covers topics on bodily changes during puberty and HIV prevention information. The second section is on HIV prevention through delaying sexual intercourse and covers topics on reasons for delaying sex, life mapping, affirmations, assertive skills, management of sexual pressure and negotiation skills (Comfort, Sommers, Moneyham, Long, & Childs, 2010). In America an eight one-hour module programme was designed for Latino and Black American youth. The programme was designed to be implemented in eight classroom sessions, in four two-module sessions or in two four-module sessions among middle school-aged youth (Guilamo-Ramos, et al., 2011).

Furthermore, Guilamo-Ramos, et al., (2011) revealed number of benefits among RBDSC participants. In Uganda a significant positive effect was found among the secondary school learners who participated on delaying sex programme World Starts with Me (WSWM). In a survey of 1864 students aged between 14-18 years old, multilevel analysis revealed a reversed effect of intervention on knowledge scores relating to non-causes of HIV (petting, fondling and deep kissing). At pre-test, a significant difference between intervention and experimental groups was found, $F(1, 1182) = 18.27, p < .000$), with the intervention group scoring significantly higher on knowledge of non-causes of HIV than the comparison group. Pertaining knowledge, behaviour and attitudes, results also indicated an increased mean score on the intervention as compared to the comparison group. For example, regarding the knowledge of HIV and AIDS, the mean score for the intervention group increased by 0.04, i.e., from 0.38 to 0.34 whereas the comparison group increased by 0.03, i.e., from 0.27 to .0.30 on knowledge about non-causes of HIV (petting, fondling, deep kissing).

Regarding HIV and AIDS behaviour, the mean score for the intervention group increased by 0.14, i.e., from 3.60 to 3.74 whereas the comparison group increased by 0.19, i.e., from 3.53 to 3.72 on beliefs about causes of HIV. The mean score for the intervention group increased by 0.02, i.e., from 3.92 to 3.90 whereas the comparison group increased by 0.06, i.e., from 3.89 to 3.95 on risk perception towards HIV. Regarding attitudes the mean score for the intervention group increased by 0.04, i.e., from 3.78 to 3.82 whereas the comparison group increased by 0.07, i.e., from 3.81 to 3.74 on attitude (wise to use a condom). The mean score for the intervention group increased by 0.25, i.e., from 3.52 to 3.27 whereas the comparison group increased by 0.17, i.e., from 3.54 to .3.37 on attitude (pleasant to use a condom). Table 3.6 below gives a comparison summary of the mean score increase patterns from pre-test to post-test between the intervention and comparison groups of the RBDSC in Uganda (Guilamo-Ramos, et al., 2011).

Table 3.6: A comparison summary of the mean score increase patterns from pre-test to post-test between the intervention and comparison groups of the RBDSC in Uganda

Item	Intervention group			Comparison group		
	Mean score at Pre-test	Mean score at post-test	Mean score Incr.	Mean score at Pre-test	Mean score at post-test	Mean score Incr.
Beliefs about the causes of HIV	3.60	3.74	0.14	3.53	3.72	0.19
Risk perception towards HIV	3.92	3.90	0.02	3.89	3.95	0.06
Attitudes: wise to use a condom	3.78	3.82	0.04	3.81	3.74	0.07
Attitudes: pleasant to use a condom	3.52	3.27	0.25	3.54	3.37	0.17

Mean score incr. = Mean score increase from pre-post

However, the intervention group still scored significantly higher at post-test than the comparison group, $F(1, 1257) = 4.22, p < .05$. Regarding delaying sexual intercourse an interaction effect for intervention over time for perceived social norm was found. At pre-test, there was no significant difference ($F(1, 1745) = .13, p = 1.30$) between intervention and experimental groups. At post-test, both intervention and experimental groups agreed significantly more with the statement, "My friends believe that people my age should postpone sexual intercourse until they are older", as compared to pre-test. However, this change was only significant for the intervention group. Furthermore, students who had followed WSWM were more convinced at post-test as compared to pre-test that they would wait with sexual intercourse until they were older (condition x time interaction effect), ($F(1, 1385) = 11.18, p = .001$). No significant increase in agreement with this statement for the experimental group at post-test as compared to pre-test. At pre-test, there was no difference between intervention and experimental groups ($F(1, 1655) = 1.01, p = 3.15$). The students from the intervention group also held a stronger intention to delay sexual intercourse at post-test, $F(1, 1257) = 7.22, p = .007$, again with no significant difference between the two groups at pre-test, ($F(1, 1695) = .01, p = .937$) (Rijsdijk, et al., 2011).

In United States of America, however, sex delaying curricula, Sex Can Wait and Brothers to Brother were administered for two years to 928 young people aged 10-12 years and different results were found. Regarding sexual attitudes and knowledge there were no significant intervention effects on the attitudinal outcomes. However, the intervention effect over time on the boys' knowledge about puberty was significant. Among both treatment groups, boys' knowledge of puberty increased over time. At baseline, intervention boys averaged 3.6 out of nine possible points on male pubertal development and 3.1 on female pubertal development. The corresponding average scores for control boys were 3.9 and 3.7. At the end of the sixth grade, intervention boys scored significantly higher on male and female pubertal development (6.9 and 6.5, respectively) compared with control boys (6.2 and 5.6, respectively). The intervention effect was nearly significant for male pubertal development (adjusted p -value $\frac{1}{4}$ 0.068) and statistically significant for female pubertal development. There was also a statistically significant programme effect on the intervention girls' pubertal knowledge. For intervention girls, knowledge of female pubertal development increased from 5.3 at baseline to 8.0 at the end of the sixth grade, and knowledge of male pubertal development increased from 3.8 at baseline to 7.3 at the end of the sixth grade. Control girls also reported increases in knowledge of female and pubertal development from baseline to sixth grade (5.4 to 7.2 for female pubertal development and 3.2 to 6.0 for male pubertal development). However, these were lower than the intervention girls' scores. The intervention effect was statistically significant for both female and male pubertal development. Intervention girls (compared with control girls) showed nearly significant increases in their ability to identify benefits to postponing sex (adjusted p -value $\frac{1}{4}$ 0.062) and psychosocial influences to have sex (adjusted p -value $\frac{1}{4}$ 0.082) (Koo, et al., 2011). Table 3.7 gives a comparison summary of the mean score increase patterns from baseline to exit between the intervention and control groups of the RBDSC in United States of America.

Table 3.7: A comparison summary of the mean score increase patterns from baseline to exit between the intervention and control groups of the RBDSC in United States of America

Item	Intervention Group				Control Group			
	Boys		Girls		Boys		Girls	
	Base line	Exit	Base line	Exit	Base line	Exit	Base line	Exit
Sexual attitudes and knowledge	3.6	6.9	3.1	6.5	3.9	6.2	3.7	5.6
Postponing sex	3.8	7.3	5.3	8.0	3.2	6.0	5.4	7.2

An evaluation of the programme in Cameroon indicated that for the intervention the findings on the efficacy of the intervention, assess cultural sensitivity of the intervention and study protocols, included 100% participation of all eligible participants with a majority (78%) of participants reporting positive perceptions of the intervention. The intervention was estimated to be potentially effective with significant increases in immediate post intervention sexual-abstinence behaviour skills and intentions to postpone sexual activity (Comfort, et al., 2010).

Despite their advantages of promoting of abstinence, by delaying sexual initiation, there are still few challenges regarding the consideration of sexual delaying programmes as suitable HIV and AIDS intervention in South African schools including Mpumalanga high schools. The content of sexual delaying programmes did not address the issues of HIV and AIDS directly. For example the Sex Can Wait and Brothers to Brother programmes, which were cited above, were too general as it covered issues of sexual development that do not address issues of HIV and AIDS directly. As it was previously indicated the current set up in South African schools allows for shorter programme as heavy content loaded programme were found not to be successful because of lack of social guidance period (Vergnani, et al., 1998; Visser, 2007).

3.2.7 Sustainability, Hope, Action, Prevention, Education

Sustainability, Hope, Action, Prevention, Education (SHAPE) is an initiative of non-governmental organization, in Zimbabwe, dedicated in promoting health and preventing the spread of HIV and AIDS through teaching, research, mentoring and advocacy for gender equity. SHAPE's goals included improving university- and school-aged youth with STD prevention capabilities through training programmes, clubs, workshops, networking, and shared learning (Terry, et al., 2006).

Although the curriculum of the programme was not well documented, SHAPE offers numerous educational opportunities. SHAPE's strategies included a week-long seminars for training peer counsellors and teaching life skills, gender equity workshops, talk shows seminars and sports teams (Masvawure, 2010).

A comparison of intervention programme participants and non-participants, carried out on 933 Zimbabwean students (aged 15-29 years), showed that SHAPE members were having significantly more likely (67%) than non-SHAPE respondents (48%) to indicate that they knew their HIV sero-status and to state that they knew their status because they had been tested, 85% versus 71%. Participants also reported being sexually abstinent, and understood the prevention benefits of condom use as compared to non-SHAPE members. Furthermore, SHAPE members also had fewer sexual partners in the previous year than non-SHAPE members (Terry, et al., 2006).

Despite the given positive impact of SHAPE, there were serious challenges that were identified in considering SHAPE as an HIV and AIDS intervention for adolescents in Mpumalanga high schools. Firstly SHAPE HIV and AIDS intervention was developed for tertiary students, who are highly developed and more responsible compared to the targeted learners in high schools. Research indicated that effective HIV and AIDS intervention programme consider the age level of targeted group (Griessel-Roux, et al., 2005; Pengpid, et al., 2008; Visser, 2005a; Visser, 2007).

Secondly, SHAPE, just like the other eight HIV and AIDS intervention discussed above, is a foreign programme in South Africa (Terry, et al., 2006). Therefore, an adaptation was needed before it was offered to learners in South Africa including Mpumalanga.

3.2.8 Stepping Stones HIV and AIDS intervention programme

Stepping Stones (SS) was developed by Alice Welbourn from work in Uganda and published by Strategies for Hope. The programme was adapted to different countries of Africa including South Africa (Bhattacharjee & Costigan, 2005).

SS was an approach to HIV prevention that aimed to improving sexual health through building stronger, more gender-equitable relationships with better communication between partners. It did this through building knowledge of sexual health and providing opportunity for facilitated self-reflection on behavioural motivations. Regarding HIV and AIDS prevention, the programme was designed to address the prevention and spread of HIV and AIDS through promoting communication and relationship skills within households and communities. It also aimed at enabling individuals and communities to find their own solutions to dealing with the reality of HIV and AIDS, to discover how to negotiate and cope through self-realization, learning, sharing and caring for those most affected (Bhattacharjee & Costigan, 2005).

SS curriculum consisted of 13 core sessions which were delivered in three hour sessions each. The issues covered in the 13 sessions included reflecting on love, sexual health joys and problems, body mapping, menstruation, contraception and conception (including infertility), sexual problems, unwanted pregnancy, HIV, STDs, safer sex, gender-based violence, motivations for sexual behaviour, and dealing with grief and loss. The three sessions were specifically geared towards building of the assertive communication skills (Bhattacharjee & Costigan, 2005).

Existing qualitative evaluation reports of SS HIV and AIDS intervention were overwhelmingly positive such that Stepping Stones was considered as a valuable tool for individual change. Most of the studies reported an improvement of Stepping Stones

participants in communication, increase in knowledge and understanding of HIV/ AIDS, and positive changes in behaviour, such as increased condom use, more respect for women, less domestic violence, better communication and more domestic co-operation. For example, a cluster randomized controlled trial in Eastern Cape, South Africa, undertaken to measure the impact of SS on HIV and HSV-2 incidence and sexual behaviour showed that participation in the SS programme was associated with a reduction in male and female herpes simplex type 2 (HSV-2) and intimate partner violence (Jewkes, et al., 2006).

Another cross sectional evaluation of SS was conducted in India, Karnataka, 2-3 years after its implementation. Results from this study also confirmed the impact of SS on personal knowledge, attitudes and behaviours of Stepping Stones participants and their close friends. At the community level, knowledge, attitudes and behaviour were also examined among general community members in a selection of 20 SS villages and 20 non-Stepping Stones villages in the same district. Overall, the changes noticed from the programme participants were increased knowledge of HIV and AIDS, more progressive behaviours at an intermediate level more discussions in the home, more awareness of, and empathy with, people with HIV in their community, more participation in meetings and more HIV testing. Furthermore, it was also noticed that these changes lead participants to reduced risk behaviours such as violence against women, alcohol use, engaging in commercial sex, anal sex and sex without condoms (Bradley, Bhattacharjee, Ramesh, Girish & Das, 2011).

Although many studies had shown that SS training appeared to benefit the participants, few data exist to show diffusion to the participants' social networks or the wider community. It was also noted that although SS had been widely used, much of the evidence of its success is based on short term reviews or on anecdotal data. Therefore, there is a need of conducting a longitudinal review regarding the impact of SS. Another study in South Africa also showed that SS failed to significantly affect the incidence of HIV, and failed to positively affect reported female risk behaviours (Jewkes, et al., 2008).

Furthermore, SS, just like IYG, LSBE, PSABH and RBDSC HIV and AIDS intervention programmes discussed in 3.2.3-3.2.6, had a loaded content and also promoted condom usage as one of its HIV and AIDS preventative strategy as other drawbacks. Therefore, it could not be a better option for learners in Mpumalanga.

As a concluding remark to this section on HIV and AIDS interventions that were implemented internationally, it will be important to note that there were still other HIV and AIDS interventions programmes that were also identified and also proven to be effective. These includes for example the India Nepalese HIV and AIDS intervention programme, Melrose-Mexico HIV and AIDS intervention programme, the Malawian Save the Children HIV and AIDS programme and Kenya Girl Guides Association (KGGA) HIV and AIDS peer education programme (Campero, et al., 2011; Cok & Grey, 2007; Palmer, 2010; Poudel et al., 2007). However, these programmes were not included in this discussion, simply because they were far from being considered in serving the adolescents in Mpumalanga Province, which was the aim of this research. For example, some of those programmes, like the Malawian Save the Children HIV and AIDS programme, the Indian Nepalese HIV and AIDS intervention programme, Melrose-Mexico HIV and AIDS intervention programme were not found to be didactical in nature which will not serve well in the school classroom environment. Therefore, this discussion on the available HIV and AIDS interventions covered only those interventions that could possibly have a positive contribution towards the achievements of the aim and objective of this research study.

3.3 HIV AND AIDS INTERVENTIONS IMPLEMENTED NATIONALLY

This section presents HIV and AIDS intervention programmes that were identified as having made an impact on HIV and AIDS prevention for young people in South Africa. This includes well-known Lovelife HIV and AIDS programme, Soul Buddyz HIV and AIDS programme and some of the piloted HIV and AIDS intervention programmes.

3.3.1 Lovelife HIV and AIDS programme

Lovelife was a community based HIV and AIDS intervention programme developed in South Africa by a non-governmental organisation, Lovelife. This HIV and AIDS intervention programme was introduced in 1999 to target all high school learners in the nine provinces of South Africa. The Lovelife programme was based on international best practice to achieve behaviour change grounded in social cognitive and ecological theory and diffusions of innovations. It aimed at changing risky sexual practices, both at an individual and community level, by providing information about sexual health, and working to change beliefs, attitudes and social norms concerning sexuality and sexual practices. It also promoted testing for HIV and uptake of anti-retroviral therapy (ART). Key messages to prevent HIV include “love life”, “power to decide”, “do not want HIV” and “peers are used as key opinion leaders” (Taylor, et al., 2010).

Lovelife made use of a combination of education and mass media campaigns through a television programme, printed media, and the provision of contraceptives to young people. The printed media included the billboards and mini-bus taxi advertisements aiming at introducing the organization. The television programmes included the *Jika-Jika* and *Scam* show which promoted the knowledge of HIV and AIDS issues. *Thethanathi* is a publication in newspapers which also promotes the awareness of HIV and AIDS issues. Education and contraceptives are provided by peer educators who are called groundbreakers and also by nursing sisters in Y-centre clinics (Delate, 2003).

Research on the effectiveness of Lovelife resulted in different findings. Firstly a household community survey of 1294 respondents undertaken in Melmoth area of Kwazulu-Natal found that cumulative exposures to Lovelife interventions empowered the community pertaining to HIV and AIDS prevention. Regarding the awareness and perceptions about HIV and AIDS, 60.6% of the respondents believed that HIV and AIDS can be prevented while 24.0% believed that it can be treated and 46.2% knew someone with AIDS. Of the 262 respondents who gave reasons why HIV cannot be prevented, 128 (47.6%) of the respondents, i.e., nearly half, emphasised that youth do not listen, whilst 77 (28.6%) indicated that people do not like to use condoms. Slightly more than half of the respondents (53.4%) believed that condoms prevent the spread of HIV and AIDS (Taylor, et al., 2010).

Regarding HIV testing, disclosure and ART, the majority of respondents, 92.7%, believed that people should test for HIV, and 87.1% agreed that couples should test together. Many respondents, 97.8%, indicated that people do not test because they would rather not know their status. Furthermore, 60.3% were aware of the availability of ART from public health facilities, but various obstacles appeared to exist in accessing ART (Taylor, et al., 2010).

Regarding the influence of Lovelife exposure on perceptions concerning HIV and AIDS, less than 5 cumulative exposures to Lovelife intervention increased the proportion of the younger respondents who would not let stigma deter them from testing for HIV. With regard to Lovelife exposure effects on behaviour concerning condom use, voluntary counselling and testing (VCT) and anti-retroviral therapy (ART), condom usage was more likely amongst respondents exposed to Lovelife messages. Exposure to Lovelife was associated with increased use of condoms at last sex, with the odds of respondents using condoms 1.5 times higher amongst respondents reporting any exposure to Lovelife. Cumulative exposure to Lovelife was associated with increased use of condoms at last sex and a dose response effect was observed for 0-3 exposures (51.4%), 4-5 exposures (62.6%) and less than 5 exposures (66.7%). The higher uptake of condoms due to exposure to Lovelife appears to be one of the successes of the programme in the area, with over half of the rural respondents (52.2%) reporting using condoms at last sex (Taylor, et al., 2010).

According to Delate (2003) Lovelife campaigns were found to advocate the best opportunity of making a positive impact on the life of adolescent's behaviour prior to the onset of sexual activity. The programme was also found to stand a good chance of promoting healthy living and positive lifestyles among the adolescents. Its high-powered media awareness and education provided adolescents with reproductive health services, as well as outreach and support programmes.

On the other hand some of the Lovelife's campaigning messages and advertisements were criticized for containing sexually explicit material that some young people felt might even reinforce the behaviour Lovelife seeks to discourage (Delate, 2003). Apart from being criticised of its contradicting messages, numbers of other limitations were identified in the Lovelife programme. Similar to HEART, Lovelife intervention strategies rely heavily on the media to relay their messages. People living in poor areas do not always have access to television, radio or the Internet as forms of communication. Secondly, teenagers mostly access their youth centres for recreational purposes (basketball courts and games rooms), and not for the use of clinical and advice services, i.e., AIDS help lines and health clinics (Delate, 2003; Pettifor et al., 2005).

Finally, just like HEART and Lovelife, HIV and AIDS intervention programmes contradicted the South Africa National Department of Education policy on HIV and AIDS prevention by promoting the use of condoms as a preventative strategy of HIV and AIDS among learners in public schools. As previously indicated, the Department of Education in South Africa promotes abstinence, character building and responsible behaviour, instead of condom use, as some of its strategies for HIV and AIDS prevention among learners in schools. Furthermore, Lovelife lacked a formal didactical programme that could be transmitted in a classroom environment (Cheunyane, 2008; Cheunyane, Hlongwa & Sokana, 2008; Department of Education 2001a; Department of Education, 2001b; Edwards-Meyer, 2007).

3.3.2 Soul Buddyz HIV and AIDS programme

Just like Lovelife HIV and AIDS programme, Soul Buddyz HIV and AIDS programme was a community based HIV and AIDS intervention programme developed in South Africa by a non-governmental organisation, Soul City. Soul Buddyz HIV and AIDS programme was a media based HIV and AIDS intervention programme developed as a co-production between Soul City and SABC Education. The Soul Buddyz HIV and AIDS programme strategy consisted of a multimedia intervention through a drama and life skills education programme. The television (TV) drama consisted of a two-series TV show with six half-hour episodes, two series of a 26-part radio magazine show in nine languages, and two million copies of two parenting booklets which were distributed through the Sunday Times and through non-governmental organizations. Furthermore,

Soul Buddyz HIV and AIDS programme also consisted of two Grade seven Life Skills books that were based on the television component and distributed to learners countrywide. The books were designed in compliance with Outcomes Based Education (the National Educational Curriculum). Key topics in the Soul Buddyz intervention were: AIDS and sexuality, trauma (which includes bullying, abuse, road safety and accidents), and disability (Soul Buddyz, 2003).

The aims of Soul Buddyz HIV and AIDS intervention programme were described as broader from just addressing issues of HIV and AIDS. According to Peltzer and Promtussananon (2003), the Soul Buddyz HIV and AIDS intervention programme aimed at providing relevant information on the emotion and physical changes of puberty including contraceptives and pregnancy. Relating to HIV and AIDS prevention, the programme's aims were described as for improving HIV and AIDS related knowledge and promote practices that effectively prevent the transmission of HIV and AIDS and other STIs. The aims were also described as developing skills that would enable young people to develop safe sexual behaviour or change risky behaviour and make healthy choices for their lives. Other aims were described as: to build young people's capacity, to develop healthy relationship and promote positive values and attitudes towards people living with HIV and AIDS (Peltzer & Promtussananon, 2003).

Advantages of the Soul Buddyz HIV and AIDS intervention programme were well documented in South Africa. Firstly, the Soul Buddyz HIV and AIDS programme show was the most successful family television show ever produced in South Africa. It has been re-broadcast four times. After only one season of broadcasting, 74% of respondents aged between 8 and 13 years recognized Soul Buddyz, with 67% reporting that they had watched, listened to, or used the primary Soul Buddyz material (Soul Buddyz, 2003). According to Usdin (2009), Soul Buddyz HIV and AIDS intervention programme had become a force for social change offering a diverse intervention reaching more than 80% of South Africa's population of some 45 million people.

Both qualitative and quantitative evaluations indicated that Soul Buddyz was an effective HIV and AIDS intervention programme that impacted positively on the life of the youth. The Soul Buddyz HIV and AIDS programme messages were reported to be accurate and explicit regarding the issues of HIV and AIDS. Quantitative evaluation report that nationally, 36% of teachers utilized the Soul Buddyz Life Skills booklet for Grade seven learners and 32% made use of other Soul City materials in preparing their life skills lessons. Furthermore, the quantitative evaluation found that 81.2% of children, who had watched all or some Soul Buddyz television episodes, reported that Soul Buddyz programme had assisted them in dealing with daily events in their lives. However, Soul Buddyz materials were criticized for not addressing issues of interpersonal communication, stigmatization, and tolerance for diversity, youth sexuality and peer support (Soul Buddyz, 2003).

According Peltzer and Promtussananon (2003) there were serious challenges in implementing the Soul Buddyz programme in schools due number of reasons. Firstly, there was little research on how to translate and disseminate research-based HIV prevention interventions to be implemented by schools on a large scale. Secondly there were no pre-post longitudinal long-term research designs that investigated sustained stronger evidence of longer term impact of the soul Buddyz HIV and AIDS intervention programme.

Finally, similar to PSABH, Soul Buddyz intervention programme was an HIV and AIDS intervention programme for primary school learners. It was therefore impossible to consider it for high schools learners in Mpumalanga. As previously indicated, research indicated that effective HIV and AIDS intervention programmes consider the age level of the targeted group (Griessel-Roux, et al., 2005; Pengpid, et al., 2008; Visser, 2005a; Visser, 2007).

3.3.3 Other HIV and AIDS intervention programmes in South Africa

Apart from the two popular HIV and AIDS interventions discussed in 3.3.1 and 3.3.2, other HIV and AIDS interventions were also identified. However, most of them were implemented as pilot projects and limited to certain communities of South Africa. In this

category, evidence-based HIV and AIDS programme, like Mpondombili, RADS Peer Education programme and Vhutshilo were considered.

In terms of the aims, targeted population and curriculum, piloted HIV and AIDS intervention programmes slightly differ as each one was developed based on particular needs as well as the challenges experienced by the community in which it was developed for. However, most of the piloted HIV and AIDS intervention programmes implemented in schools normally targeted high schools learners in risky areas. Most of them aimed at promoting the delay in the onset of sexual activity and the condom use as complementary strategies for both sexually experienced and inexperienced youth. Most of these piloted HIV and AIDS intervention programmes also aimed at increasing adolescents' comfort in talking about sexual issues and to create a concept of healthy sexuality. The curriculum content mostly included topics on HIV and AIDS transmission, risk behaviours, HIV testing, pregnancy and contraception, gender inequality, sexual communication and negotiation, managing abusive situations, fear of AIDS, stigma, discrimination and sexual rights. Furthermore, these HIV and AIDS intervention programmes were also designed to focus on the provision of factual and realistic information on HIV and STIs transmission, awareness on risk behaviours, HIV testing and rights, pregnancy and contraception and the dangers of substance use (Edwards-Meyer, 2007; Mantell, et al., 2006; Swart, et al., 2010).

Although a quantitative evaluation of some of these piloted HIV and AIDS intervention programmes failed to find a statistically significant impact on some of these piloted HIV and AIDS interventions programmes, qualitative evaluation revealed a number of advantages to young people. Firstly, positive effects on knowledge, beliefs and attitudes of learners pertaining to HIV and AIDS were reported. Learners primarily identified the intervention with HIV prevention and condom use, and less so with pregnancy prevention and delayed sexual initiation. Nearly all of the participating learners understood the main messages regarding dual protection. Many had positive attitudes about male condoms and indicated they wanted to practise dual protection; some attributed this to the intervention. Learning how to use condoms correctly was another perceived benefit. The freedom to talk about sex and relationships and to learn about self-protection was also seen as programme benefits since most adolescents were

unable to discuss these issues with their parents. For some, there was a greater understanding of the need to shift from traditional to more egalitarian gender roles, especially with respect to refusal of unsafe sex and partner violence. An HIV and AIDS intervention programme like Vhutshilo was credited for creating an inviting space in which it is safe for young people to talk about issues they are confronted with on a daily basis, and for which there is little adult support (Edwards-Meyer, 2007; Mantell, et al., 2006; Swart, et al., 2010).

Despite all the given advantages of the different piloted HIV and AIDS intervention programmes, there are still serious challenges with regards to their implementation in Mpumalanga schools. Most of the challenges also include lack of specific time for programme delivery in the school time table, lack of support in terms of resources from other staff members and principals and bad attitudes from some of the teachers toward learners. Furthermore, some of these programmes were also criticized because of lack of age-appropriate activities and use of culturally sensitive terminology. Furthermore, the programmes were also found to be too general, lacked information regarding the issues of HIV and AIDS like adherence to treatment, nutrition, dealing with stigma, re-infection and avoiding risk behaviour. Young people themselves also asked for more help with regard to alcohol and violence in their communities. Furthermore, the programmes were also found not to impact on young people's cognitive decision-making skills (Edwards-Meyer, 2007; Maliavusa, 2010; Swartz, et al., 2010).

3.3.4 HIV and AIDS intervention programmes implemented for learners in Mpumalanga Province

Despite the high rate of HIV and AIDS infections, the data search did not indicate many reports of interventions developed or adapted in Mpumalanga. However, evidence of the implementation of the RADS, Soul Buddyz and Lovelife programmes prevails in the analysis of reports from the section which deals with issues of HIV and AIDS in Mpumalanga's Department of Education. For example, the 2011 annual report gives success and challenges regarding the implementation of Soul Buddyz HIV and AIDS intervention programmes (Mpumalanga Department of Education, 2012). The nature and the status of some of these programmes were fully discussed in 3.3.3 above.

Unfortunately there was no evidence found regarding the evaluation of the programme in Mpumalanga.

3.4 REVIEW OF LITERATURE ON ELEMENTS OF KAPB MODEL

The focus of this section is mainly on the review of literature on the three elements of the KAPB as a model chosen to guide this study. As indicated in Chapter 2, the three elements were knowledge, attitude and behaviour. The discussion of each of these three elements of the KAPB model was discussed specifically showing the scope covered by each one of them in HIV and AIDS prevention and their status in reducing or further spreading the prevalence of HIV and AIDS among adolescents.

Further than just outlining the three fundamental elements in HIV and AIDS prevention, this section played a more vital role in answering the research objective number two. The section further assisted in guiding the scope in which the instrument, namely: KAPB questionnaire, for the quantitative evaluation of this research was adopted and adapted.

3.4.1 Knowledge

Knowledge refers to the ability of being familiar with someone or something, which can include facts, information, descriptions, or skills acquired through experience or education. However, in the context of HIV and AIDS, having knowledge implies having the ability to recall facts, information, descriptions concerning causes, transmission and prevention concerning HIV and AIDS (Odu & Akanle, 2008).

3.4.1.1 The scope of knowledge pertaining to HIV and AIDS prevention

According to Van Dyk (2005), an effective HIV and AIDS programme should provide the knowledge on how to conduct relationships with friends of the same and the opposite sex, how to cope with strangers, dealing effectively with peer-group pressure and how to use leisure time creatively. Furthermore, the programme must also cover issues of substance and sexual abuses, molestation, how it can be prevented and where to find help in the case of actual or attempted sexual abuse or molestation.

Adequate knowledge about HIV and AIDS virus and facts about sexuality and gender must also be included in the programme. Learners must also be taught about the universal precautions to be taken when handling blood, the ability to identify health problems and seek appropriate help.

In most of the HIV and AIDS intervention programmes, the HIV and AIDS curriculum consists of the modules on human development, reproduction, relationships, the modes of HIV and AIDS transmission, prevention and infection, misconceptions on HIV and AIDS and HIV and AIDS VCT. In the HIV and AIDS intervention programme for adolescents in Haiti and Turkey, studies by Cork and Gray (2007) and Malow, et al., (2009) included factual knowledge about HIV and the consequences of risky sexual behaviour as the content of the programme. In the HIV and AIDS intervention programme for adolescents in Cameroon, Comfort, et al., (2010) included bodily changes during puberty and the prevention of HIV and AIDS, as the component of the factual knowledge that needed to be provided to the adolescents. For adolescents in South Africa, finding support, decision making, dealing with HIV and AIDS grief and loss, alcohol abuse, crime, violence and relationship were topics that were included in Vhutshilo curriculum (Swartz et al., 2010).

The same trend applies to the instruments that were used to evaluate the knowledge in relation to HIV and AIDS. In most of the studies pertaining to HIV and AIDS, knowledge items included HIV and AIDS knowledge on the modes of transmission, sources of infection, curability, misconceptions, prevention, Voluntarily Testing and Counselling (VCT). In the evaluation and exploration of the relationship between HIV and AIDS knowledge and sexual behaviour among the Flemish and Chinese adolescents, Berten and Van Rossem (2009), made use of an HIV and AIDS knowledge scale consisting of the myths about HIV and AIDS, transmission, sources of infection, prevention, risky behaviours, blood transfusions and severity. In Kenya and Nigeria Odu and Akanle (2008) and Maticka-Tyndale (2010) made use of HIV and AIDS knowledge scale which includes the knowledge on modes of HIV and AIDS transmission, curability and VCT.

In South Africa, the guidelines by South African sub-committee on school HIV and AIDS intervention recommended that the transmission of and protection against HIV and AIDS should be included in the HIV and AIDS intervention programme (Visser, 2005b). In the study of evaluating peer education conducted by Warwick and Aggleton (2004), Grades 8-12 learners were impressed by the content of HIV and AIDS programme which contained information on HIV transmission, the symptoms of HIV and AIDS, decision making, sexual abuse and problem solving. Francis (2010) also emphasized the knowledge pertaining to substance abuse, knowledge about contraceptives, and general knowledge on care and loving, responsibility, gender equity, communication, faithfulness and the importance of life as crucial aspects to be included in HIV and AIDS intervention programmes.

In the focus group study with South Africa youth with Grade 11 learners, Griessel-Roux, et al., (2005) reported an advance need, by learners, for different kinds of information with regards to HIV and AIDS programmes. Learners felt overwhelmed by too much factual technical information about the HIV virus and about other medical matters. What they really wanted was more information on how to cope with AIDS if they or someone known to them were to become infected, knowledge of where to go for help, how to conduct the relationship with someone who is HIV positive, how to talk to their partners about sex, how to be assertive and how to cope with negative peer pressure.

In brief, the scope of HIV and AIDS is wide. It is affected by the desirable behaviour that a particular programme wants to address. It may also be affected by the context at which the programme is going to be implemented. Considering the present era of the HIV and AIDS continuum and what is commonly covered in most of the programmes of HIV and AIDS, knowledge on the modes HIV and AIDS transmission, misconception and myths on HIV and AIDS were considered as the crux of knowledge in this study.

3.4.1.2 General status of HIV and AIDS knowledge among the adolescents

Recent studies from across the globe have established that there was uneven gaining of HIV and AIDS knowledge among the young people, although that knowledge was not sufficient enough to bring about the intended behaviour change among the youth

(Cherian & Maphoso, 2009). On the evaluation of a school-based sex education programme in Canada, Smylie, et al., (2008) found that the mean percentage of all questions correctly answered by 240 Grade 9 students was 78% at baseline. In general this study showed a good acquisition of knowledge in Canada.

In China, for example, Liao, et al., (2010) evaluated the HIV and AIDS knowledge of adolescents aged 9-14 years in the fifth grade classes of nine primary schools. Students tended to score higher in areas of HIV and AIDS-related knowledge, especially those who live in the country-side, had access to the internet and their parents had completed higher levels of education. However, after the controlling of the family and community factors and the equal exposition of all students to an HIV and AIDS intervention, the proportion of students who knew the routes of HIV transmission increased from 16.5% to 18.5% pertaining to the knowledge of HIV and AIDS. In another study in China, Tan, et al., (2007) assessed students' knowledge on HIV and AIDS by asking college students to provide information about HIV and AIDS knowledge. Study results indicated that the majority of students had a moderate level of HIV and AIDS knowledge, but did not know HIV, VCT centres and did not show their confidence for controlling of HIV and AIDS by making use of a condom.

In Nigeria, Odu and Akanle (2008) investigated the relationship between the sexual behaviours and knowledge of HIV and AIDS among the youths in South/West Nigeria. The study also investigated the different types of sexual behaviours and whether youth had knowledge of key basic concept on HIV and AIDS. It was also clear from this study that youth in South/West Nigeria had very high knowledge of key basic concept on HIV and AIDS but many youth still had misconceptions about the cure for AIDS. Furthermore, the results indicated that the knowledge of basic concepts of HIV and AIDS did not correlate with the behaviour change. Instead most of the students were sexually active and were engaged in high risk sexual practices which included casual sex, same sex, multiple sex and sex in exchange for money or favour. The study recommended that policies and programmes that can transform the sexual life of youth or reduce their risk behaviour should be put in place while prevention message should be consistent, clear and effective to counteract other unreliable sources of information. Another recent study conducted by Uzochukwu, et al., (2011), indicated that there was

a good knowledge of VCT among the young people in Nigeria although it does not reflect on the attendance at VCT clinics.

In Uganda, Råssjö and Kiwanuka (2010) examined how Ugandan young people respond to their social living conditions and why they marry early, have early pregnancies, experience forced sex and involve themselves in transactional sex. Young people, 15–24 years old, who participated in focus group discussions, acknowledged their lack of information and life skills. Mostly girls in Kampala were still being forced to marry a person much older than themselves in exchange of goods and there were still misconceptions around the use of a condom. Most of the young people still believed that condoms do not prevent HIV because condoms had small holes which the virus can pass through. Other participants still believed that condoms did not protect against pregnancy, only STIs. Some informants claimed that people can be allergic to condoms but in further probing about the allergy, some of these young people did not even know what allergy was.

In Zimbabwe Terry, et al., (2004), examined knowledge and practices related to HIV and AIDS prevention making use of students matriculating at the University of Zimbabwe campus in Harare. The study represents a comprehensive assessment of differences between participants in an HIV and AIDS prevention programme, SHAPE and non-SHAPE participants. Students were given a questionnaire which addressed issues of sexual decision-making, condom use, limiting sexual partners, cultural power dynamics and access to HIV testing. At pre-test, participants showed to be sexually active, misunderstood the prevention benefits of condom and had more sexual partners until they were exposed to SHAPE. It was at post testing that SHAPE members who showed to be sexually active, understood the prevention benefits of condom use and had fewer sexual partners. SHAPE members were significantly more likely (67%) than non-SHAPE respondents (48%) to indicate that they knew their HIV sero-status and to state that they knew their status because they had been tested (85% vs. 71%).

A sexual risk study by Philips and Malcom (2006) indicated that 78.9% of 801 female high school aged 13-19 years from Western Cape had sufficient knowledge of HIV and

AIDS. In the study that aimed at assessing the youths' knowledge, attitudes and behaviour regarding STIs, Bana, et al., (2010) revealed that there was a good knowledge of HIV and AIDS knowledge among the youth in South Africa. Among the 156 participating young people aged 15-24 years from Mhlakulo region of the Eastern Cape Province, 56% of them responded that they knew STIs, 15.33% did not know what STIs were and 2.16% who believed it to be 'female diseases'. About 65% of the participants had heard about HIV and AIDS specifically; and up to 37% had some vague idea about other STIs syndromes like discharge and ulcers.

3.4.1.3 Status of knowledge on the transmission of HIV and AIDS among adolescents

In the study cited in 3.2.2, in which Smylie, et al., (2008) evaluated the school-based sex education programme in Canada, it was found that almost 80% of 240 Grade 9 learners were able to answer correctly the questions pertaining to the incidence of transmission of HIV and AIDS. However, some of the learners amounting to 36%, were unable to answer correctly the question regarding none transmission of HIV and AIDS by mosquito bites. In a study to promote the use of preventive measures and raising awareness regarding HIV and AIDS among the 87 961 women and 44 717 men aged 15-24 years old in India, Hazarika (2010) found that while most of the respondents were aware of ways to prevent transmission of HIV and AIDS, this knowledge was significantly lower in the rural areas compared to the urban areas, especially amongst the women. Only about half of the female respondents knew about ways to avoid HIV infection. Overall, two thirds of the respondents knew that abstinence from sexual activity could be a way to prevent HIV and AIDS. Approximately half of the rural female respondents knew that the risk of HIV could be reduced by using condoms. More than three fourth of the respondents knew that practicing monogamy could reduce the risk of HIV infection although this was found to be less amongst the rural females (69%). Also, only about 57% of the rural women knew that even healthy looking individuals can transmit the virus. While more than two-third of the respondents knew that HIV can be transmitted during pregnancy, less than one-fourth of the survey respondents knew about the availability of drugs to reduce the risk of transmission.

According to the global survey by World Health Organisation (WHO) vast majority of young people had no idea of how HIV and AIDS were transmitted or how to protect

themselves from the disease. In countries with generalized HIV epidemics such as Haiti, India, Cameroon, Central African Republic, Equatorial Guinea, Lesotho, Somalia and Sierra Leone, more than 80 % of young people aged 15 to 24 did not have sufficient knowledge about HIV and AIDS (Amuzu, 2008). Unfortunately the report did not identify the areas in which gaps existed.

By 2007 only 26% of girls had heard of AIDS and only 1% knew how to avoid infection in Somalia. In Ukraine, although 99% of girls had heard of AIDS, only 9% could correctly identify the three primary ways of avoiding sexual transmission. 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 (UNAIDS, 2012).

However, the UNAIDS report on the status of HIV and AIDS knowledge indicated a slight increase pertaining to knowledge of HIV and AIDS (UNAIDS, 2010). Globally, comprehensive and correct knowledge about HIV among both young men and young women has increased slightly since 2003. The number of young people with comprehensive knowledge of HIV and AIDS was only slightly greater than one third of the UNGASS target of 95%. Ten countries had achieved comprehensive correct knowledge levels above 60% for either men or women 15–24 years old. Opportunities to improve HIV prevention knowledge and behaviour still abound. Less than half of young people living in 15 of the 25 countries with the highest HIV prevalence can correctly answer five basic questions about HIV and its transmission. These include Botswana, Burundi, Cameroon, Central African Republic, Chad, Congo, Cote d'Ivoire, Guinea-Bissau, Kenya, Malawi, Nigeria, South Africa, Togo, United Republic of Tanzania and Zambia. Young people aged 15–24 years old showed gradually improving knowledge about HIV in these 25 countries but still fall short of the global targets for comprehensive knowledge set in 2001 (UNAIDS, 2010).

3.4.1.4 HIV and AIDS misconceptions among adolescents

The Commonwealth report indicated that there were widespread misconceptions about HIV and AIDS especially among young people. Misconceptions vary globally from one

culture to another. Rumours also gain currency in some populations both on how HIV was spread (by mosquito bites or witchcraft, for example) and on how it could be avoided (by eating a certain fish, for example, or having sex with a virgin). Surveys from 40 countries indicated that 50% of young people aged 15-24 years harbour serious misconceptions about how HIV and AIDS is transmitted (Amuzu, 2008).

In Kenya, Maticka-Tyndale and Tenkorang (2010) found that in the majority of communities, religious leaders presented a 'knowledge' or 'truth' about condoms as unacceptable for youth. Misinformation and myths about the condoms were dominant messages in nearly 46% of communities and in 33% of communities condoms were described as safe and acceptable only for adults. This resulted in misconceptions regarding HIV and AIDS by many African communities.

3.4.2 Attitudes

According Coon and Mitterer (2012), attitudes refer to the beliefs or opinions about people, objects and ideas. However, in the context of HIV and AIDS, attitude specifically refers to feelings, opinions, intentions, belief and thoughts about people infected with HIV and AIDS. It further includes actions pertaining to HIV and AIDS (Van Dyk, 2005).

3.4.2.1 Scope of attitudes in HIV and AIDS prevention

According to Francis (2010); Winskell, Obyerodhyambo and Stephenson (2011a) and Van Dyk (2005) an effective HIV and AIDS programme should instil participants with positive attitudes pertaining to HIV and AIDS. The content of attitudes must include topics on stigma, blaming, stereotyping, sexual restraint, attitudes towards condom use and attitudes towards HIV and AIDS testing.

The review of the studies on HIV and AIDS intervention programmes also suggested and recommended different aspects, pertaining to HIV and AIDS attitudes. In most of the studies, attitude items, pertaining to HIV and AIDS, included issues around stigma, blaming, sexual restraint, stereotyping, attitudes towards condom use and attitudes towards HIV and AIDS testing. For example, in the evaluation of the HIV and AIDS

intervention programme for adolescents in Haiti, Malow, et al., (2009) used attitudes scale which evaluated the attitudes about the safety of condoms. In the assessment of HIV and AIDS attitudes of Chinese students, Tan, et al., (2007) made use of a questionnaire that evaluated the students' attitudes towards people living with HIV and AIDS, the discriminating attitudes towards people with HIV and AIDS and the attitudes towards the provision of condoms.

In Africa, Maticka-Tyndale (2010) made use of HIV and AIDS attitudes scale which includes attitudes toward condom use, intention to use condoms and attitudes toward HIV testing for tracking the sustainability gains made by HIV and AIDS programme among the secondary school learners in Kenya. In the evaluation of the outcome of patients with sexually transmitted infections in South Africa, Simbayi, et al., (2004) focused on the attitudes towards and belief about STIs, including HIV and AIDS.

Based on this discussion of the nature of attitudes of HIV and AIDS it was evident that the dominant and recurring topics in most of the studies were stigma, discrimination and attitudes towards condom use. As such, the three topics, namely: stigma, discrimination and attitudes towards condom use were considered for discussion in this study.

3.4.2.2 General status of HIV and AIDS stigmatization among the adolescents

HIV related stigma refers to “prejudice, discounting and discrimination directed at people perceived to have HIV and AIDS, as well as the individual, groups and community with which they are associated” (Liu, et al., 2006).

In America, Radcliffe, et al., (2010) examined both HIV stigma and sexual minority stigma among young men who have had sex with other men who were infected with HIV. Results suggested that young people living with HIV were at risk of experiencing multiple domains of stigma, with 78% of them in the sample endorsing stigma related to both their HIV and their sexual orientation. Among the Arab youth, attitudes toward People Living with HIV (PLWH) were neither friendly nor tolerant, including 97% who

felt all people entering United Arab Emirates should be tested, 53% that PLWH should be forced to live apart, and only 27% who felt children with HIV should be allowed to attend school (Gan´czak, et al., 2007).

Using two focus groups of adolescents at an average age of 15.5 years old to explore attitudes about HIV and AIDS-associated stigma for churchgoing AfroCaribbean people in the United States of America (USA), Archibald (2010) found there was still a lot of discrimination against people who were living with HIV and AIDS. The children were not allowed to play together even after services. The adolescents expressed being constantly warned “not to hang with people with HIV and AIDS” because their parents wished to discourage involvement in “inappropriate behaviours” (Archibald, 2010:363). Sometimes, the discrimination was expressed by exclusion from church festivities: “when we have church dinners, they wouldn't ask her to fix anything...and when the food is serving, folks in line asking who cooked this or who cooked that...trying to make sure they do not eat what the lady [with HIV] cooked, (Archibald, 2010:363). The group of mothers in this sample preferred that their daughters not have close friendships with someone with HIV and AIDS. These mothers did not think that they were being discriminatory but concerned for the welfare of their children. One mother expressed her support for her daughter if she wants to maintain friendship with a newly HIV infected friend: “I would be concerned for my child...if that friend comes to our home, I would treat her well not to embarrass my daughter, but I would separate the plate she ate from,” “...and the towels she used I'd probably not use again them but wouldn't let my daughter know,” (Archibald, 2010:363). Out of fear of contamination, all mothers concurred that they would rather prefer their daughter's HIV positive friend to visit them than have their daughters going to the HIV-infected friend's house.

In Zimbabwe, Campbell, Skovdal, Mupambireyi and Gregson (2010) explored children's stigmatisation of AIDS-affected children through drawings and stories. Using social representations theory, 50 children aged 10-12 years were asked to “draw a picture of a child whose family has been affected by AIDS in any way”, and to write short stories about their drawings. Thematic analysis of stories and drawings revealed frequent references to stigmatisation of AIDS-affected children with other children refusing to play with them, generally keeping their distance and bullying them. However, children

also frequently showed a degree of empathy and respect for AIDS-affected children's caring roles and for their love and concern for their AIDS-infected parents.

In Johannesburg, South Africa, Gilbert and Walker (2009) conducted in-depth face-to-face interviews with a sample of 44 patients in an HIV/ AIDS clinic. The findings revealed that the level of stigma was still intense and affected all dimensions of living with HIV and AIDS, particularly disclosure and treatment. Stigma still permeated the experience of HIV-positive people on antiretroviral therapy who participated in this study. In another study conducted in Cape Town, South Africa, Maughan-Brown (2010) evaluated changes in dimensions of stigma towards people living with HIV and AIDS using a panel survey for 1074 young adults aged 14–22 years. Findings revealed that stigma was still increasing in the population as a whole, and for all racial and gender sub-groups, despite interventions, such as public-sector provision of antiretroviral treatment (which some hoped would have reduced stigma). These findings also indicated the imperative for renewed efforts to reduce stigma, perhaps through interventions as to weaken the association between HIV and AIDS and death, to reduce fear of HIV and AIDS, and to recast HIV as a chronic manageable disease. In another study in South Africa which was conducted in Cape Town, Cluvera, Bowes and Gardner (2010) examined whether bullying is a risk factor for psychological distress among children in poor, urban areas. 1050 children were interviewed, including orphans, AIDS-affected children, street children, and child-headed households. Among many other risk factors for being bullied, experiencing AIDS-related stigma was also reported.

Contrary to this conformity of the results in different countries, results of one study that was conducted in India were unique. Results brought positive hope with regards to the stigmatization and treatment of People Living with AIDS (PLWA). In a study to promote the use of preventive measures and raise awareness regarding HIV and AIDS among the women youths aged 15-24 years old, Hazarika (2010) found that approximately one-third of the respondents were of the opinion that the HIV status of an individual should be kept confidential. Irrespective of their gender or place of residence, more than two-thirds of the respondents were willing to care for their relatives with AIDS. Most respondents had a non-discriminatory attitude towards people living with HIV and AIDS although this was found to be higher in the urban areas. More than two-thirds of the

urban and slightly more than half of the rural residents were willing to buy vegetables from infected vendors. Most respondents agreed that teachers with HIV and AIDS should continue to teach although the proportion was comparatively lower in the rural areas.

In general, results on HIV and AIDS stigmatization and discrimination vary from one country to another. Some countries, like India, accept and accommodate PLWA whereas some other countries reject PLWA. However, results in South Africa indicated that there was still a lot of stigmatization and discrimination of PLWA.

3.4.2.3 Attitude towards the use of a condom

Negative attitudes towards the use of condom, while engaging in risky sexual behaviour, was significantly associated with HIV infection, while the consistent use of a condom while engaging in risky behaviour was also associated safety with from HIV and AIDS infection. Data on the attitude towards the use of condoms showed a negative attitude towards the use of condoms as it is reflected by a general lower rate of condoms use among teenagers (UNAIDS, 2010).

In examining the influence of personal characteristics, partner characteristics, and relationship factors on consistency of contraceptive use among 110 sexually active 13-17-year-old American adolescent girls, Kenyon, et al., (2010) found that participants were at high risk for negative sexual health outcomes. They reported consistent use of a condom in one fourth of the months they had sex.

In another study in which sexual behaviours of young people aged 18–24 years in South Africa were compared with their counterpart in the United States of America (USA), Pettifor et al., (2008) found that condom use at last sex was reported more by young women in SA than those in the US. Among sexually active women who participated in the study in South Africa, 45.4% of them reported the use of condoms as compared to 36.1% in USA. Although there was an indication that condoms were utilized by young people, the percentage of young people who were using condoms was relatively low,

indicating that there was negative attitudes towards the use of the condoms in the two countries (Pettifor et al., 2008).

In the study of the prevalence and correlates of heterosexual intercourse among Black adolescent girls and young women in Latino America, Roye, Krauss and Silverman (2010) found that majority of these young women were using a hormonal method of contraception as compared to the condom. Evidence of condom use only emerged after the HIV prevention intervention process which included two randomized clinical trials. The reports from these two trials suggested negative attitudes towards the use of condoms. In the first trials there was no report with regards to the use of a condom during the vaginal intercourse with main partner. In the second trial 43% of the participants were reported using a condom during vaginal intercourse with their main partner after being exposed to an intervention programme.

In the focus group which aimed at examining how Ugandan young people respond to their social living conditions and why they marry early, have early pregnancies, experience forced sex and involve themselves in transactional, Råssjö and Kiwanuka (2010) also examined their attitudes towards the use of condoms. It emerged that young people, both male and females, aged 15-24 old, from Kampala distrusted male condoms on the basis that condoms do not protect and prevent against pregnancy and HIV because they have small holes which the virus can pass through.

A report by Winskell, Obyerodhyambo and Stephenson (2011b) from the comparative study of 24 countries in Sub Saharan Africa, show that there was still negative attitude tendencies towards the use of condoms by young people. In Nigeria, Swaziland and Kenya, misinformation about the efficacy of condoms was disseminated with a view to promoting abstinence and affairs led to negative attitudes towards the use of condoms by young people. In Swaziland an 18-year-old male, equated a condom to gumboots that did not give 100% protection from mud. In Nigeria young people argued that condoms were not only ineffective but also inimical to moral salvation. In Kenya a female character rejected her partner's request that they use a condom when having

sex by arguing that a condom could only protect them against pregnancy, not HIV and AIDS (Maticka-Tyndale & Tenkorang, 2010).

A report on risky behaviour survey in South Africa indicated that 41% of 10 699 adolescents have had sex under 14 years of age. Among the 41% of those adolescents who have had sex under the age of 14 years, only 29% of them practiced consistent condom usage (Pengpid, et al., 2008). In another study conducted by in Cape Town, Jaspán, et al., (2011), 59% (24/41) of the 14-17 years old adolescents reported consistent condom use in the past 6 months. In assessing the knowledge, attitudes and behaviour regarding STIs, teenage pregnancy and substance abuse among 150 learners, aged 15-24 years, in the Eastern Cape region of South Africa, Bana, et al., (2010) found that 75% of the learners reported to have had sex, with only 54% reporting to have used a condom. Among those who reported condom use, 62% used condoms consistently. In Western Cape, results from a sexual risk study of 801 adolescents girls indicated that overall 50% of those who ever had sex reported that they used a condom the last time they had sexual intercourse (Philips & Malcom, 2006). In reporting on the challenges encountered during the implementation of the peer support group in Tshwane, Visser (2005a), cited a situational study which revealed risky behaviour among the South African youth in Tshwane. From a stratified sample of 873 secondary school learners (13–19 years), 31% said that they had not used a condom during their last sexual encounter and were therefore at risk for HIV and AIDS.

According to the Health Systems Trust, AIDS Law Project and International Association of Physicians in AIDS Care report on “mainstreaming HIV and AIDS progress and challenges in South Africa’s HIV and AIDS campaign,” it was revealed that 83% of sexually experienced youth agreed that using a condom was the best way to avoid contracting HIV. However, 70% indicated that buying or obtaining condoms was very embarrassing (Kenyon, Heywood & Conway, undated). Due to different complications associated with assessing condoms, there was low usage of condoms among South Africans.

3.4.2.4 Attitude towards abstinence

According to recent global research report on the youth behaviour pertaining to sex, young people were not valuing abstinence as a preventative measure from HIV and AIDS (UNICEF, 2011). In the previously cited study in which Smylie, et al., (2008) evaluated the school-based sex education programme in Canada, it was found that a small percentage of learners' value abstinence at baseline and still after they were exposed to the HIV and AIDS intervention programme. From the 8.6% learners who were asked about their emotions after engaging in sexual activities, 2.39% of learners indicated that they find themselves confused after engaging in sexual activities and the percentage dropped to 2.18% after their exposure to an intervention programme.

In a study to promote the use of preventive measures and raising awareness regarding HIV and AIDS among the 87 961 women and 44 717 men aged 15-24 years old, Hazarika (2010) found that young people in India did not consider abstinence from sexual activity as a way to avoid HIV and AIDS. Less than one-fourth of the respondents, lower amongst females, believed that practicing monogamy was a way to avoid HIV and AIDS. Less than 10% of the respondents believed that limiting the number of partners could reduce the risk of HIV transmission.

In Kenya, Njoroge, et al., (2010) conducted a community dialogue to explore the concerns of young people on sexuality in its social contexts in the era of HIV and AIDS in three districts. Young people, as little as 14 year of age, raised questions that indicated that they were not abstaining. It is therefore evident in this study that young people in the three districts of Kenya are sexually active as early as 14 years old. They were unable to control their sexual desire.

A study conducted in Cape Town by Philips and Malcom (2006) revealed a significant increase of learners from Grade 8 to Grade 11 reporting having had sex. In the study cited in 4.2.2, Bana, et al., (2010) indicated that 75% of the 150 learners reported to have had sex; with only 60% of them thought that sexual intercourse was essential whereas the remaining thought that kissing, fondling, oral and anal sex was also included in the act.

In reporting about the challenges encountered during the implementation of the peer support group in Tshwane, Visser (2005a), cited a situational study which revealed risky behaviour among the South African youth in Tshwane. From a stratified sample of 873 secondary school learners (13–19 years), 36% reported that they were sexually experienced. In general the overall finding was that young people were not considering abstinence as a strategy for HIV and AIDS prevention. World-wide, young people engaged themselves early in sexual activities.

3.4.2.5 Attitudes towards voluntarily testing and counselling

Using a qualitative study to explore the circumstances leading to HIV testing among 59 HIV-infected adolescents recruited from New York City HIV clinics, Siegel, et al., (2010) found that young people were afraid of undertaking an HIV and AIDS test and in most cases they underwent testing when they were forced by circumstances. Most of the young women were tested during routine health care or self-initiated tests, and most were asymptomatic when they tested positive. Their testing decisions were sometimes based on assessments of their boyfriends' risk behaviours rather than their own. Many young men were experiencing symptoms of illness when they tested positive, and about half of them recognized their symptoms as related to HIV and sought tests. Some young men expressed fear of learning about positive test results, which delayed their testing, and some providers did not initially recommend HIV testing for young men who presented with symptoms.

In India, Hazarika (2010) conducted a study to promote the use of preventive measures and raise awareness regarding HIV and AIDS among the women youth aged 15-24 years old. The results indicated low proportion of the respondents who had undergone for a voluntarily HIV and AIDS test. It was less than 10% of the urban residents and below 5% of the rural residents who had ever been tested for HIV.

In Swaziland, Burnett, et al., (2010) determined whether an HIV education intervention designed in the United States, and adapted for Swaziland, would be effective in changing participants' HIV-related knowledge, attitudes, and protective behaviour including HIV testing, making use of 135 students who participated in a school-based

programme. It was found that the self-efficacy for getting an HIV test was significantly lower among the students both at pre-intervention and post-intervention. This indicates that an attitude towards voluntarily testing is still negative among adolescents in Swaziland.

A report previously cited in this chapter by the Health Systems Trust, AIDS Law Project and International Association of Physicians in AIDS Care on “mainstreaming HIV and AIDS progress and challenges in South Africa’s HIV and AIDS campaign” showed that few people underwent VCT. They maintained that less than 10% of the people living with HIV and AIDS knew that they were infected as the vast majority of HIV infections were being transmitted by people who are unaware of their HIV positive status. The stigma and denial around HIV have resulted in most South Africans regarding HIV to be a problem of other groupings, and therefore very few South Africans saw the need to be tested (Kenyon, Heywood & Conway, undated).

In general VCT was also a problem to many young people. World-wide young people are afraid to go for VCT. Stigmatisation and denial of HIV and AIDS were some of the major causes for this fear.

3.4.3 Behaviour

Behaviour is derived from the noun behave, which means “acting in a particular way” (Bergner, 2011). As such, behaviour refers to the way a person, animal or plants behave or function in a particular situation. Bergner (2011) defines behaviour as a generic term covering acts, activities, responses, reaction, movements, processes, operation, or any measurable response of an organism. Behaviour that was related to HIV and AIDS in this study was examined in terms of behaviour that made adolescents prone of contracting the HIV and AIDS virus, thus considered risky behaviour.

3.4.3.1 Scope of behaviour in HIV and AIDS prevention

According to Van Dyk (2005), a good HIV and AIDS intervention programme must empower participants with behaviour and skills that will help them to stick to their convictions and help them to cope with difficult situations. A good HIV and AIDS intervention programme must coach participants with skill-based behaviour which amongst others include goal-setting, self-esteem building, decision-making, communication, problem-solving, assertiveness, self-control, critical thinking, refusal and negotiation. Van Dyk (2005) further argued that an important aim of HIV courses or interventions is not only to help students reduce risk behaviour, but also to help them to maintain safer sex behaviour they may already have initiated and making this part of a daily pattern. The goals of the health education intervention must include; the provision of factual information regarding STIs and AIDS as well as prevention strategies including abstinence and safer sexual techniques; to desensitize students regarding condoms and to present practice communication skill and assertiveness techniques relative to potential sexual situations and relationships.

In piloting an HIV prevention intervention for sixty 10-12 years old Cameroonian girls, Comfort, et al., (2010) included sexual delaying strategies, assertive skills, handling violence and peer pressure as part of the curriculum content. In evaluating the sexual practices of 13 678 participants, for the promotion of the use of preventative measures and raise awareness regarding HIV and AIDS in India, Hazarika (2010) asked participants questions relating to their abstinence, number of sexual partners, sexual engagement with homosexuals, intravenous drug users and the use of condoms during sexual intercourse.

In evaluating the impact of a peer group intervention programme for 850 Malawians, Kaponda, et al., (2009) asked participants questions relating to the number of sexual partners and engaging in sexual activities for money. In assessing the gains made by the programme Primary School Action for Better Health, in Kenya, Maticka-Tyndale (2010) asked participants questions like whether they ever participated in sexual intercourse, number of partners and the first time in which they had sex. In the examination of behaviour related to HIV and AIDS prevention among the 933 Zimbabwean students, Terry, et al., (2006) asked participants questions relating to

number of sexual partners they had, whether they engaged in sexual activities and their status of condom use as part of the sexual behaviour. The same trends go with Burnett, et al., (2010) in their evaluation of an intervention programme to increase HIV testing among the 135 learners in grade 9-11. Learners were asked whether they were engaged in sexual activities and their status of condom use as part of the sexual behaviour.

In evaluating the progress made by the secondary school peer education programme in South Africa, Visser (2007) asked learners whether they ever engaged in sexual intercourse, whether they ever had alcohol, whether they have multiple partners as some of the questions were about their sexual behaviour. In Eastern Cape, Bana, et al., (2010) also asked learners whether they ever engaged in sexual intercourse, whether they ever abused substances, whether they have multiple partners as some of the questions around their sexual behaviour.

In general, the nature of behaviour pertaining to HIV and AIDS is centred on risky behaviour. Among adolescents, early initiation of sexual behaviours, multiple sexual partners and substance abuse were the most common behaviours that lead young people to contract HIV and AIDS. As such, any good HIV and AIDS intervention programme must aim at discouraging early initiation of sexual activities among adolescents, discourage practices of multiple sexual partners and also discourage the use of substances by the youth.

3.4.3.2 Sexual Debut

Sexual debut refers to the onset of sexual intercourse among young people (Berry & Hall, 2011). Although the UNAIDS (2009) data pointed towards an increased delay in initiation of sex among young people in many countries in the region, this is not universally true. Research, on the sexual behaviour of young people, reported many young people in different countries becoming sexually active before the age of 15 (Amuzu, 2008).

In the USA, Tortolero, et al., (2010) found that almost 30% of students in the study initiated sex by ninth grade as compared with 23% of those in the intervention condition. Other cited reports indicated that young people were becoming sexually experienced early, with 10% of them in the 6th grade, at the age of 11 and the proportion increased steadily through high school where more than two-thirds of high school seniors had had sex. These findings were also confirmed by Dancy, Crittenden and Ning (2010) in their study which examined the initiation of sexual activity among the African-American adolescent girls. In this study by Dancy, et al., (2010) it was found that a good proportion of adolescents initiated sex as early as twelve years of age.

In Africa, the Commonwealth survey report on Brazil, Hungary and Kenya, for example, found that more than a quarter of boys aged 15-19 were reported having sex before they were 15. A study in Bangladesh found that 88% of unmarried urban boys and 35% of unmarried urban girls had engaged in sexual activity by the time they were eighteen. In rural Bangladesh, those figures were 38% for boys and 6% for girls, (Amuzu, 2008).

Råssjö and Kiwanuka (2010) found that the Batoros, a tribe in the western and central part of Uganda, were said to encourage their young people at the age of 15 to start exercising sex in order to be prepared when they find someone to marry. Furthermore, Muslims were found to prefer to marry their daughters off early and to older men, acting according to the Koran. Similar trends were also found in Nigeria. In examining the patterns of internal migration and sexual initiation among never-married Nigerians 48 871 young people aged 15-24, Mberu and White (2011) found that 35.4% of all youth aged 15-24 had initiated premarital sex by the mean age of 16.7 years for young men and 17.0 for young women. A study by Njoroge, et al., (2010) also clearly indicated that young people in the three districts of Kenya initiate sexual intercourse as early as 13 years old.

A survey on risky behaviour among young people in South Africa reported that from 41% of 10 699 learners who were found to be sexual active, 14% of them were found to have initiated the sexual activity before the age of 14 years, (Pengpid, et al., 2008). This behaviour trend was also confirmed by a study conducted by Dionne, (2012). In

comparison between South African and American Dionne, (2012) found that most of the young people in South Africa and the USA had had vaginal sex under the age of 14 years with the South African women reporting a later age of first sex as compared with their American counterparts.

In preparation for the enrolment in HIV vaccine trials in Cape Town, 43% of the 100 HIV-negative adolescents aged 14–17 years reported having ever had sex at baseline and among them, 13 i.e., (30%) reported having more than one partner in the past 12 months (Jaspan, et al., 2011). From the study by Bana, et al., (2010), 75% of the 150 learners reported to have had initiated sex at an average age of 16 years. In Western Cape, results from a sexual risk study of 801 adolescent girls indicated that 3.6% of those who were sexually active have had first sexual intercourse before the age of 14 years (Philips & Malcom, 2006).

In general, it was clear that early sexual debut was one of the problems among young people. World-wide, young people start to engage themselves in sexual intercourse as early as 14 years.

3.4.3.3 Substance abuse

Substance abuse can simply be defined as a pattern of harmful use of any substance for mood-altering purposes (Buddy, 2011). Researchers found a strong dose–response relationship between alcohol use and risky sexual behaviour, with problem or heavy drinkers engaging in greater risk behaviours than moderate drinkers. Heavy alcohol consumption was correlated with increased sexual risk behaviour. Men who use alcohol heavily were more than three times more likely to have unprotected sex, to have sex with multiple partners and to pay for sex. Similar patterns were evident among women in Botswana, with heavy alcohol users found to be 8.5 times more likely to sell sex than other women (UNAIDS, 2010).

In the study aiming at describing multiple risk behaviour, that included substance abuse, sexual risk and medication adherence, among youth living with human

immunodeficiency virus (HIV) in five USA cities, Tanney, Naar-King, Murphy, Parsons and Janisse, (2010) found that of the 352 youth screened, 60% had a problem of substance abuse and 42% had a sexual risk problem. Of the 165 (47%) who were prescribed medications, 91 (55%) reported an adherence problem. A total of 112 (32%) reported no problem of substance abuse, 123 (35%) reported one problem among the three specified behaviour problems (namely: substance abuse, sexual risk and medication adherence), 95 (27%) reported two problem behaviours among the three specified behaviour problems, and 20 (6%) reported all three specified problem behaviours. Males were more likely to have a substance use problem. Younger youth living with HIV and those prenatally infected were more likely to have an adherence problem. Among the 186 (52.8%) completing longer measures, those with a substance abuse problem had higher substance use on a timeline follow-back procedure than those without. Participants who screened positive for a sexual risk problem reported more unprotected sex on an in-depth interview than those without. Those who screened positive for an adherence problem had higher viral loads than those without an adherence problem.

In examining the relationship between alcohol use at non-abuse levels and risky sexual behaviour and STIs among young adult African-American women, Seth, Wingood, DiClemente and Robinson (2011), found that among the 59.9% of the young adults who consumed alcohol in the past 30 days, 36% had multiple partners, 35.6% had risky sexual partners, 17% had sexual diseases and only 5.5% reported condom use with a casual partner.

In examining gender differences in the perceived self-efficacy of safer HIV-related behaviour among poly drug abusers in Taiwan, Lee, Chen and Chang (2010) found that there was a high incidence of risky behaviour related to HIV and AIDS. Of the 1622 participants, 24% of the respondents were HIV positive. Regarding HIV risks, 392 (24%) had used a condom during their last sexual intercourse, 213 (13%) shared syringes during their last drug episode and 22% had shared rinse water during their last drug experience before detention. With regard to sexual risk behaviour, 25% reported having multiple sexual partners in the 6 months before detention, and 26% reported using a condom during their last sexual encounter. Although the study did not reveal the

distribution of age, but it gives us a general clue regarding the status of drug abuse and the role in the spread of HIV and AIDS.

In Eastern Cape Bana, et al., (2010) found that 22% of the 150 grades 10-12 learners admitted to the use of recreational drugs at some time, with 19.33% related to drinking alcohol and 2% related to dagga. From the report cited above in 3.4.3.2, on risky behaviour survey in South Africa, among the 41% of 10 699 learners who had had sex at less than 14 years of age, 14% of them were found to have had sex after consuming alcohol or drugs (Pengpid, et al., 2008). In the study in which Jaspan, et al., (2011) was preparing for enrolment of participants in HIV vaccine trials in Cape Town, 12% (5/43) of participants had unprotected sex under the influence of drugs. In reporting on the challenges encountered during the implementation of the peer support group in Tshwane, Visser (2005a), cited a situational study which revealed risky behaviour among the South African youth in Tshwane. From a stratified sample of 873 secondary school learners (13–19 years), 27% of the learners reported having used alcohol over the past 30 days, whilst 11% admitted to binge drinking (defined as having more than five drinks on one occasion).

In general, substance abuse was another major problem that put the youth in a risky behaviour for contracting HIV and AIDS. While dagga and alcohol are the major substances that put young people at a risk of contracting HIV and AIDS in South Africa, drugs are substances that cause HIV and AIDS among the youths in the western countries.

3.4.3.4 Status of pregnancy among the youth

In a baseline assessment for evaluating the effectiveness of an educational intervention for parents of first year high school students in Mexico, Campero, et al., (2010) found 56.4% of the 149 school girls were pregnant whereas 51% of the school boys impregnated a girl. In the previously cited study in which Smylie, et al., (2008) evaluated the school-based sex education programme in Canada; it was found that 46% of 240 grade 9 learners are aware of the risk of pregnancy.

From the studies cited in 3.3.3.2 on risky behaviour survey in South Africa, among the 41% of 10 699 learners who had had sex at less than 14 years of age, 16% of them were found to be pregnant, (Pengpid, et al., 2008). The study in which Jaspan, et al., (2011) was preparing for enrolment of participants in HIV vaccine trials in Cape Town indicates that teenage pregnancy is rife among the adolescents in South Africa. At one year retention cohort, 7% of the adolescents were pregnant, which included two 14-year-old and three 15-year-old. In Eastern Cape Bana, et al., (2010) found that 12.8% of 86 Grade 10-12 females reported to have been pregnant, one-sixth of them wanting to be pregnant. Based on the literature survey of other studies Bana et al., (2010) further report that the proportion of adolescents who have ever been pregnant in South Africa is rising rapidly with age; from 2% at age 15 to 35% at age 19. In Western Cape, results from a sexual risk study of 801 adolescent girls indicate that more than 5% of the participants were already pregnant (Philips & Malcom, 2006). In reporting about the challenges encountered during the implementation of the peer support group in Tshwane, Visser (2005a), cited a situational study which reveal risky behaviour among the South African youth in Tshwane. From a stratified sample of 873 secondary school learners (13–19 years), 17% were parents already.

In general, young people, worldwide, were becoming pregnant as early as 14 years, which put them at a risk of contracting HIV and AIDS. Research found that a considerable number of young people are becoming pregnant although they are aware of the consequences of teenage pregnancy (Philips & Malcom, 2006; Visser 2005a).

3.4.3.5 Status of multiple sexual partners among the adolescents

In Britain, Jayakody, et al., (2011) conducted a study to determine how ethnic background influences early sexual activity among young adults, aged 13 years and more. Results indicated that 16% of young men as compared to 7% of young women reported having had two or more sexual partners. Multiple partners were significantly more common among black African, black Caribbean, and white other young men and mixed ethnicity young women as compared with white British young adults, and least common among young adults from South Asian ethnicities. Of 418 participants who reported their partner's age at the time of their first sexual encounter, 32% (N=133) had

a partner ≥ 2 years older than them and only 2% (N=8) had a partner ≥ 2 years younger than them. There were no significant differences in partner age by gender or ethnicity.

In the cited study, in 3.3.2.2, in which Kenyon, et al., (2010) examined the influence of personal characteristics, partner characteristics, and relationship factors on consistency of contraceptive use among 110 sexually active 13- to 17-year-old American adolescents. Participants were at high risk for negative sexual health outcomes, at baseline girls reported having two male sex partners in the past 6 months. Only 17.2% of the girls reported having the same most recent sex partner at baseline and 12 months. At 12 months, on average, girls were more than 2 years younger than their most recent sex partner.

In India, Hazarika (2010) conducted a study to promote the use of preventive measures and raise awareness regarding HIV and AIDS among the women youth aged 15-24 years old. Results indicated that the proportion of respondents who had multiple sex partners is higher in urban areas as compared to rural areas. In the rural areas it was less than 1%, while in the urban areas it was around 3%. It was found to be higher amongst men as compared to the women.

In the comparison study (i.e., in 3.3.3.1) of sexual behaviours of young people in South Africa and the USA, Dionne (2012) found that the mean number of lifetime sex partners reported by young women in SA was 2.4 for South African women and 5.7 for USA women, with ranges of 1–90 partners and 1–50 partners, respectively. More young women in South Africa than those in the USA reported having only one lifetime partner; 35.1% of women in SA reported having one lifetime partner compared with 21.1% of women in the USA. More American than South African young women reported having 10 or more lifetime partners. Among young men, the mean number of lifetime partners was 5.2 and 7.1 for South Africans and Americans, with ranges of 1–80 and 1–50, respectively. More young men in the USA reported having 10 partners compared with men in SA. Thus, young people both in SA and USA have more partners, with US reporting more sexual partners than young people in SA. The study in which Jaspan, et al., (2011) was preparing for enrolment of participants in HIV vaccine trials in Cape

Town indicated that young people in South Africa engage themselves in multiple sexual partners at an early age. Among the 95% (41/43) sexually active adolescents, 13% of those adolescents reported to have more than one partner in the past year at baseline. After 12 months follow-up the number of adolescents who reported to have had more than one partner in the past increased to 14%.

In reporting on the challenges encountered during the implementation of the peer support group in Tshwane, Visser (2005a), cited a situational study which reveal risky behaviour among the South African youth in Tshwane. From a stratified sample of 873 secondary school learners (13–19 years), 21% reported having had multiple sexual partners.

In general, multiple sexual partners were another problem that put young people at a risk of contracting HIV and AIDS. Research indicated that young people were having multiple partners, with the trends high among men in urban areas as compared to women in rural areas.

3.5 SUMMARY

This chapter was the review of different HIV and AIDS intervention programmes that were implemented internationally and nationally. From the discussion it was evident that most of the HIV and AIDS intervention programmes were developed outside South Africa such that they needed to be adapted to suit both existing social conditions of adolescent learners before they are adopted for learners in South Africa, including Mpumalanga. Some of those HIV and AIDS intervention programmes like, LSBE, IYG, BART, PSABH, HEART, SHAPE, SS, including the South Africa Lovelife, needed to be streamlined to suit the Policy of the South African Department of Education on the prevention of HIV and AIDS in public schools before they are implemented in any of Mpumalanga schools. Effective intervention programmes are short, with an average of six sessions that runs for 45 minutes. Most of the content of the HIV and AIDS programmes need to equip participants with knowledge, attitudes and behaviour of handling issues pertaining to sexuality.

Regarding the three elements of the KABP model, research in many countries concur that there is a general knowledge about issues of HIV and AIDS among the youth in most of the countries, with misconceptions on some of the issues. Risky behaviour and negative attitudes towards condom use, negative attitudes towards VCT, and stigmatization of the people living with HIV and AIDS are still prominent among the adolescents. The next chapter is on research methodology. It focuses the methods chosen for this study. It also includes the outlining of the processes followed in executing this study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

In the previous chapter, a detailed review of the literature relevant to answer the research problem was reviewed. Specifically the review of literature on HIV and AIDS intervention programmes and on HIV and AIDS knowledge, attitudes and behaviour were discussed.

This chapter discusses the research methodology, which according to Babbie, Mouton, Voster and Prozesky (2012) is explained as the tools and procedures that were followed in conducting research. As such, the focus of this chapter is on the discussion of the research design, approaches, population and the sample chosen for this study. It also includes the discussions of the processes and procedures that were followed in the collection and analysis of the data. Furthermore, the chapter also describes the population, sample, processes and procedures that were followed to make this study credible.

4.2 RESEARCH DESIGN

A multiphase mixed-method design was chosen for this study. According to Creswell (2012), multiphase mixed-method design occur when a researcher examines a problem or topic through a series of phases in one study. In this study, phases of both qualitative and quantitative approaches followed each other for two main reasons. The first reason for using a multiphase mix-method design is the fact that two phases were needed in this study following the four types of research objectives as mentioned in 1.5. The researcher observed that research objectives one and two needed the use of qualitative approach whereas research objectives three and four needed a quantitative approach.

Another reason for considering a mixed-method was line with Bergman's (2008) reasons of considering mixed-method, which are complementariness, completeness and corroboration. Thus, through the use of mixed-method the researcher wanted to get a full complete picture that is credible and well complemented regarding the HIV and AIDS intervention programme that would change knowledge, behaviour and attitudes for adolescents in Mpumalanga. This is a common practice in research which is called triangulation. In this practice both qualitative and quantitative research approaches are simultaneously used to gather the data (McMillan & Schumacher, 2006). Following below is the detailed discussion of each two approaches used.

4.2.1 Qualitative research approach

According to Litchman (2010) the qualitative research approach is an inductive and context-specific research approach that focuses on the observation and the description of a specific phenomenon, behaviour, opinions and events that exist to generate new research hypotheses and theories. Furthermore, the goals of qualitative research are to provide a detailed narrative description and holistic interpretation that captures the richness and complexity of behaviours, experiences, and events in natural settings.

In this research, qualitative research approach was used for two purposes. In the first instance qualitative research approach was used to gather information that will inform the researcher of the status of intended HIV and AIDS intervention programme for high schools adolescent learners in Mpumalanga Province. In this instance qualitative research approach was used to answer research question 1 of this study as outlined in 1.6.

In the second instance qualitative research approach was used to obtain detailed narrative description regarding the HIV and AIDS intervention that would be adopted to change knowledge, behaviour and attitude of adolescents pertaining to the issues of HIV and AIDS. In this instance qualitative research approach was used to answer research question 2 of this study as outlined in 1.6.

4.2.2 Quantitative research approach

According to Muijs (2004) quantitative research is a research approach that explains phenomena by collecting numerical data that is analysed using mathematically based methods. Bless and Higson (2004) explain quantitative research approach as a deductive theory-based research approach process that focuses primarily on testing theories and specific research hypotheses that consider finding differences and relationships using numeric data and statistical methods to make specific conclusions about phenomena. Therefore, quantitative research approach was considered in this research for its quantification of phenomenon.

As it was the case with qualitative research approach, quantitative research approach was used in this study for two purposes. In the first instance, quantitative research approach was used to obtain information regarding the challenges that educators, who were serving as research assistants, encountered during the eight-week period of administering of the adapted HIV and AIDS intervention. In this instance quantitative research approach was used to answer research question 3 of this study as outlined in 1.6.

In the second instance quantitative research approach was considered in this research study to quantify the extent to which the HIV and AIDS intervention programme adapted in this study, would change knowledge, attitude and behaviour of adolescents in Mpumalanga making use of a significance test. In this instance quantitative research approach was used to answer research question 4, of this study as outlined in 1.6.

Following the different types of the research designs in the quantitative approach as described by Mouton (2005), the quasi-experiment was deemed relevant and suitable for this study. According to Bless and Higson-Smith (2004) a quasi-experiment is applied in situations in which it is often impossible to randomly assign individual subjects to experimental and control groups because they are already in intact groups (e.g. organizations, departments, classrooms, schools, institutions). In this research a quasi-experiment was chosen because participants, who are learners, were in a classroom setting and could not be shuffled around for random distribution. As previously indicated

in Chapter 1, quasi-experiment was selected for the purpose of evaluating the adopted HIV and AIDS intervention programme in this study after its administration to the targeted group of learners. Consequently, the quasi-experimental design in this study consisted of two groups, namely: the experimental group and the control group. The experimental group consisted of those learners who received training on the adopted HIV and AIDS intervention in this study. On the other hand, the control group consisted of those learners who received the training on the programme Girls-Boys Empowerment Movement (GBEM).

Following the discussion on different types of quasi-experimental designs by McMillan and Schumacher (2006), the non-equivalent pre/post-test experimental design was chosen for this study. Non-equivalent pre/post-test experimental design was considered appropriate in this research for three different reasons. Firstly, this research was conducted in schools within existing classrooms. As such, learners in their existing classroom groups were assigned to both intervention and control groups not as individuals, but as a group of learners.

Secondly, non-equivalent pre/post-test experimental group was applied in this research because the participating group of learners, as a class, were randomly assigned to the two groups, namely: the experimental group and control group. The two groups were tested on the dependent variable, namely: acquisition of HIV and AIDS knowledge, behaviour and attitudes, before the administration of the HIV and AIDS intervention programme. Again, the two groups were tested on the same dependent variable at the end of the experiment.

4.3 POPULATION

The population in this study consisted of 10 263 Grade 10 learners who were enrolled in 113 high schools situated in the areas of Mpumalanga Province in 2011 (<http://www.education.gov.za/EMIS/EMISDownloads/tabid/466/Default.aspx>). Included among the 10 263 Grade 10 learners were 281 learners who were peer educators of the other HIV and AIDS intervention programmes that existed in Mpumalanga high schools prior to the onset of this study, as indicated in 3.3.4. Note that peer educator

refers to a learner who is trained to guide other learners in the school through a variety of sexuality problems including HIV and AIDS issues. A peer mentor on the other hand, refers to an educator trained to guide, monitor and support the activities of peer educators in schools (Boucher, 2011).

The population specifically consisted of boy and girl learners who were in Grade 10. Following the school age cohort, these learners were between the ages of 16 and 18 years old. As the study was targeting learners from the communities that were vulnerable to HIV and AIDS infections, the population consisted mainly of black learners in the township and farm schools of which majority of them spoke IsiZulu, IsiSwati, IsiXhosa and IsiNdebele as their first language. Few other learners who spoke Setswana, Sepedi, Tshivenda and Xitsonga as their first language were also available.

4.4 SAMPLE

Purposive and stratified random sampling methods were used in selecting the two samples used in this research. Purposive sampling method was used to select 28 peer educators out of the 281 peer educators who were to give information pertaining to the adaptation of the intended HIV and AIDS intervention programme. To sample the 28 peer educators through purposive sampling method, the researcher requested permission from the Provincial HIV and AIDS unit to interview peer educators during the annual Provincial HIV and AIDS conference. In these annual conferences best peer educators meet at Provincial level to present as well as to share their expertise with others in one common venue. It was during the 2011 conference that the 28 peer educators were sampled as participants who were to give information pertaining to the adaptation of the HIV and AIDS intervention programme for adolescent learners in Mpumalanga. A total of 34 peer educators attended the conference, however, the 28 sampled peer educators were those who submitted fully completed consent and accent forms which were forwarded to them prior to coming to the conference.

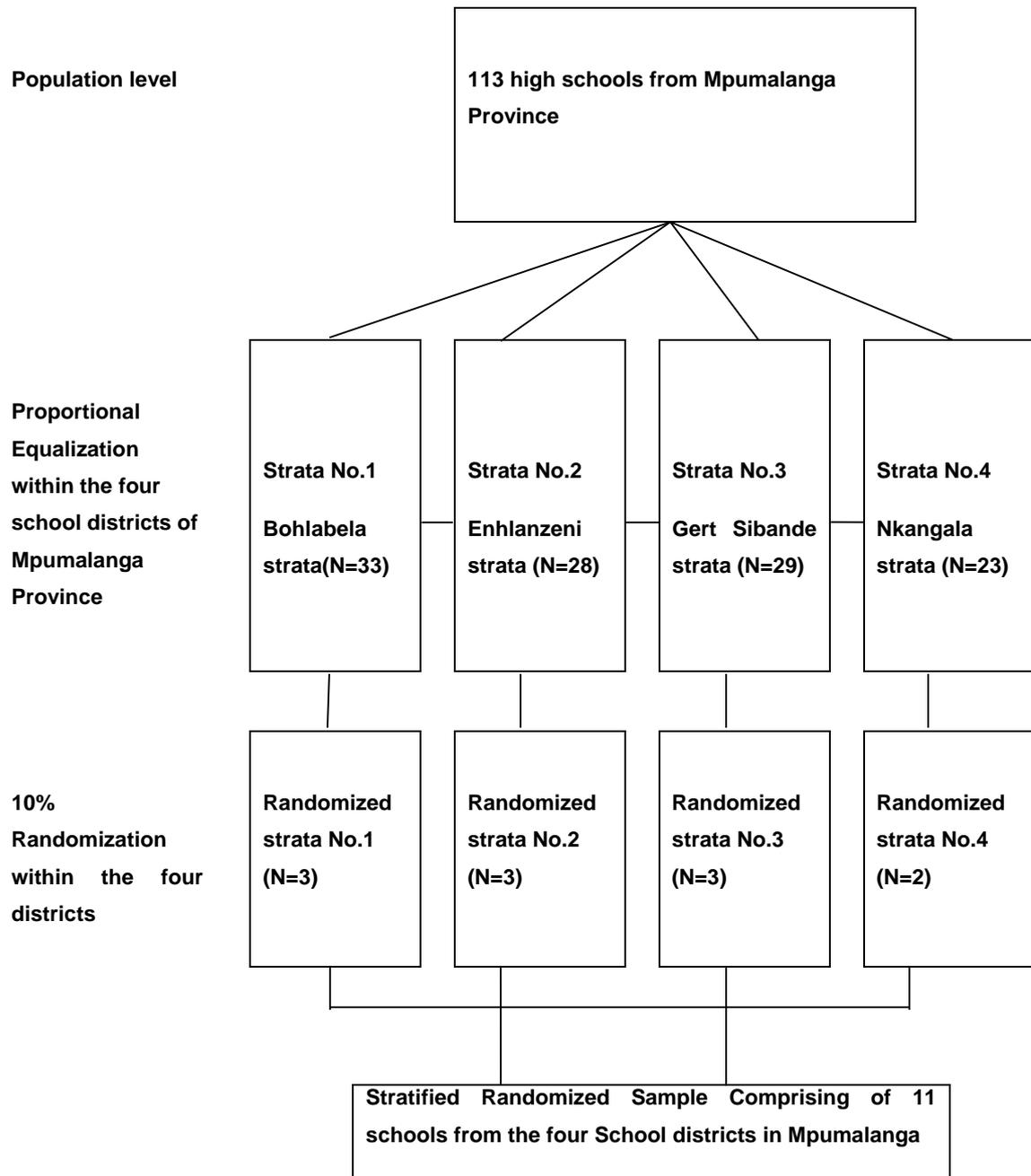
Purposive sampling method was used as it allowed the researcher to target those learners who were previously involved in the facilitation of other HIV and AIDS intervention that existed in Mpumalanga schools prior the onset of this research as indicated in 3.3.4. It was assumed that these learners would be in a better position making meaningful contributions regarding to the need analysis for the purpose of adopting an HIV and AIDS intervention programme in this study.

Stratified random sampling method, based on 10% principle recommended by Bryman (2008) was used in selecting 11 high schools out of 113 high schools that participated in the study. In order to sample the 113 high schools making use of stratified random sampling method, name slips of the 113 high schools were written and sorted into four different containers according to the four districts in Mpumalanga Province which were Bohlabela district (N=33), Ehlanzeni (N=28), Gert Sibande (N=29) and Nkangala district (N=23). A blind-folded volunteer was asked to select randomly any three name slips, representing 10%, among Bohlabela name slips, Ehlanzeni name slips and Gert Sibande name slips. The same volunteer was also requested to further select another two name slips, also representing 10%, among Nkangala name slips such that there was a sample of eleven name slips which represented the eleven schools which took part in the study. Figure 4.1, on page 122, gives a schematic representation of the procedure followed in selecting the 11 schools making use of the stratified random sampling model.

The inclusion and exclusion criterion was used to select a sample 1 026 learners who participated in the quasi-experiment for the evaluation of the HIV and AIDS intervention programme adopted in this study. In using the inclusion and exclusion criterion, each of the 11 research assistants were advised to recruit a maximum of 150 Grade 10 learners using the inclusion and exclusion criteria. Thus, learners who returned the signed consent and assent forms before a quota of 150 learners per school were reached were included in the research. Similarly those learners who never returned the signed consent and assent forms after the 150 quota per school was reached were excluded in the study. The 150 quota per school, i.e., $150 \times 11 = 1\ 650$, was purposely set to exceed the targeted sample of 1 026 so as to accommodate any unforeseen circumstances that could have reduced the sample size. However, this process ended

up with 1 121 learners who showed interest in participating in the study by submitting fully completed assent and consent forms.

Figure 4.1: Schematic representation of stratified random sampling procedure



Two reasons underpinned the choice of the stratified random sampling method in this study. Firstly, stratified random sampling method is often preferred by researchers as it is more representative of the population (Burns & Grove, 2010). By making use of randomization strategy, stratified random sampling enhances the credibility of a research as it is considered to be more representative of the population than other sampling methods (Burns & Grove, 2010). As such, in wishing to add credibility to this study, the researcher decided on stratified random sampling.

4.5 DATA COLLECTION METHODS

In this study, document analysis, focus group interviews, self-design and the standardized KABP questionnaires were considered as the most appropriate data collection methods. A detailed description of each of these data collection methods, along with the used instruments is described below.

4.5.1 Document analysis

According to Henning, Van Rensburg and Smit (2004), document analysis entails scrutiny of relevant documents, which can be a valuable source of information. In this study, document analysis was used to answer research question 1 of this study as outlined in 1.6. Document analysis was used to analyze documents that had information regarding the impact of HIV and AIDS interventions that targeted adolescent learners in Mpumalanga Province prior the onset of this study. The analysed documents in this study included scholarly research reports and the newspaper articles. Furthermore, the Department of Health's 2012 progress reports on the HIV and AIDS status and also the Mpumalanga Department of Education's 2012 annual report on Life Skills HIV and AIDS section were used in document analysis.

Documents analysis was considered in this research for its advantage of providing available and valuable information made through other researchers (Henning, 2004). As such, document analysis assisted the researcher by providing recorded information regarding the impact of HIV and AIDS interventions that existed in Mpumalanga prior this study.

4.5.2 Focus group interviews

Focus group interviews were used to answer research question 2 of this study as outlined in 1.6. Focus group interviews were conducted with the learners who were peer educators of the other HIV and AIDS intervention programmes that existed in Mpumalanga schools prior the onset of this research.

Focus group interviews were considered in this study for their notable advantage in data collection. According to Barbour (2009), focus group interviews have been found to be relatively easy to assemble, inexpensive and flexible in terms of format, types of questions and desired outcomes. Owing to the fact that this study was conducted throughout Mpumalanga Province, which could be costly as the area was too vast, focus group interviews were chosen to cut further cost which could have been incurred in the use of other survey methods.

Secondly, focus group interviews provide rich data as participants are able to build new connections between responses and confirm their contributions during the open interaction (Nieuwenhuis, 2010). As highlighted in Chapter 1, Mpumalanga had reached a pandemic state in terms of HIV and AIDS infection among adolescents, necessitating a need for a strong HIV and AIDS intervention. As such, the collection of rich data from the participants would surely pave a way to an effective HIV and AIDS intervention programme for adolescent learners in the high schools of Mpumalanga Province as an objective 1 of this study, as stated in 1.5.

4.5.2.1 Development of focus group interview schedule

Focus group interviews in this study were facilitated by a focus group interview schedule which appears in appendix A together with an electronic voice recorder that was used to record the discussions. For the development of the focus group interview schedule the researcher drew a list of questions that he thought would be able to elucidate responses and discussions that will offer an answer to research question 2 of this study as stated in 1.6.

For the purpose of confirming the interview schedule used in the study, the researcher made use of a peer review method. Specifically the researcher asked, individually, three of his colleagues to evaluate the questions in the interview schedule based upon the purpose and clarity until the final draft in appendix A was obtained. The colleagues who confirmed questions in the interview schedule were experts in the field of monitoring and evaluation of the HIV and AIDS intervention programmes. These colleagues were experts as they had masters in psychology, post graduate diploma in HIV and AIDS monitoring and evaluation as their qualifications. Furthermore they also had five years' experience of working in the HIV and AIDS unit, specifically monitoring and evaluating HIV and AIDS intervention programmes.

4.5.2.2 Piloting of the focus group interview schedule

For the purpose of piloting the focus group interviews schedule, a group of five learners were used. These learners were not part of the 28 learners that formed the sample for the focus group interviews as explained in 4.4. However, the learners used in the pilot study had similar demographic characteristics to the 28 learners who participated in the focus group interviews in this study as outlined in 4.5.

Like other learners who participated in this study, the researcher explained the purpose of the study, the pilot and the rights governing their participation in the study. They also had to submit fully completed assent and consent forms before the onset of the pilot study.

A complete focus group interview session was conducted for the purpose of piloting the focus group interview schedule. Thus the researcher sat around the table with the five learners in a private room free from distraction. After putting learners at ease, the researcher started with the session. Discussions were led by the researcher by asking questions from the focus group interview schedule in appendix A whilst participating learners responded to the questions. A digital voice recorder was used to record the discussions. The session lasted for approximately 45 minutes and the researcher ended it by thanking the participants.

In transcribing and assessing the pilot focus group interview, the researcher found that the schedule was suitable in terms of the purpose and the clarity. However, the pilot study alerted the researcher to many aspects that needed to be taken into consideration in conducting focus group interviews that were going to be used in the actual study.

First and of utmost importance, the pilot focus group interview alerted the researcher that learners needed more explanations with familiar examples and more probes in order for them to understand some of the concepts in the questions. For example learners did not understand the concept “HIV and AIDS intervention programmes” in question 1 of the interview schedule in appendix A. For the learners to understand the concept the researcher had to cite an example of a programme familiar to them, namely: RADS peer support programme.

Secondly, from the pilot study the researcher also learnt that he needed to be time conscious as learners could take time in answering one question, especially the ones they understood most, which could unnecessarily prolong the discussions. As such, the researcher resolved that he needed to limit each session of the three focus group interviews to 30 minutes.

Finally the pilot study also alerted the researcher that the use of a quality voice recorder will enhance the audibility of the recordings which in turn would enhance the quality of collected data. Therefore, a digital voice recorder was used for the recording of the focus group discussions that were ultimately used in the study instead of the tape recorder which was used in the pilot study.

4.5.2.3 The administration of the focus group interviews

Focus group interviews were administered in a conference room with 5-8 participants per session as recommended by Marshall and Rossman (2006). In order to enhance the voice capturing by the voice recorder, a semi-circle seating arrangement was used

such that the microphone was at a central point that was accessible to all participants. Seated in the open section of the semi-circle, the researcher welcomed the participants, reminded them of the purpose of the focus group interview session and also their rights as was outlined on the consent forms that each one of them had already signed. After ensuring that all participants were at ease to participate in the focus group interview session, the researcher then started asking questions along with the necessary follow-up probes, whilst recording the discussions. Each of the three focus group interviews took approximately 30 minutes and each ended with a vote of thanks from the researcher.

4.5.3 Self-designed questionnaire

Babbie (2010) views a questionnaire as a printed list of questions given to respondents who fill in the answers themselves without an interviewer. The researcher believed that it was appropriate to employ questionnaires in his research and two types of questionnaires were used, namely: self-designed questionnaire and KABP questionnaire. Although this section is meant to discuss the one type of questionnaire used, namely: self-designed, it will be appropriate to include a general background pertaining to the two forms of questionnaires used in this study.

Researchers distinguish different questionnaires in terms of structure versus unstructured questionnaires, self-administered versus research administered questionnaires, standardized versus non-standardized questionnaires (Bryman, 2008). Operational concepts “self-designed” versus “KABP” questionnaire were used to distinguish the two forms of questionnaire used in this study. Operational concepts were used because the two types of questionnaires used in this study resemble each other as both of them were structured, self-administered and non-standardized. So the normal way used by the researchers would have still not distinguished one questionnaire from the other. Furthermore the researcher used the two forms of questionnaires in order to save time in the field.

The self-design questionnaire was used to answer research question 3 as given in 1.6. As implied by the name itself, self-design questionnaire was structured in a manner that each research assistant can complete by herself or himself in one of the following cases;

- At any time when the research assistant completed a unit.
- At any time the research assistants needed urgent support during the administration of HIV and AIDS intervention programme to learners in their respective sites.

It is important to note that lesson observations could have been an appropriate tool used for monitoring and support. However, the administration of the intervention coincided with a state of disengagement of Departmental officials in public schools. During this state, Departmental officials are barred from visiting schools to engage with educators. As the researcher was a Departmental official it could have been dangerous for him to visit the schools for the observation of the delivery of the lessons in the five units of the HIV and AIDS intervention programme. Therefore, self-administered questionnaire was the best available tool to be used in this situation. On the other hand, the administration of the intervention could not have been postponed since the KABP pre-test was already administered.

4.5.3.1 Development of self-design questionnaire

For the development of the self-design questionnaire used in this study, the researcher referred to the literature and drew-up a list of questions that he thought would be able to track progress during the eight weeks period in which the adopted HIV and AIDS intervention programme was administered. The list also included questions regarding the challenges that the research assistants encountered that could have hampered the progress of administering the adapted HIV and AIDS intervention programme. For the purpose of confirming the self-administered questionnaire, similar procedure of peer view method as explained in 4.5.2.1, was also used with same three colleagues.

4.5.3.2 Piloting of the self-design questionnaire

Since this self-administered questionnaire was meant for monitoring and support by evaluating progress at the end of each unit, as such the real pilot study could have been costly. The real pilot study could have meant that the researcher could have embarked fully on the administration of each of the units in the adopted HIV and AIDS intervention programme using the questionnaire to evaluate progress in each unit. In order to save time and money the researcher assumed that the peer review method in 4.5.2.1 also covered the pilot study and nothing was changed on the questionnaire.

4.5.3.3 The administration of the self-design questionnaire

As indicated in 4.5.3.1., a self-design questionnaire was structured as a self-administered questionnaire. Therefore, each research assistant administered the questionnaire in the site as directed in 4.5.3.

4.5.4 KBAP questionnaire

In the research, knowledge, behaviour, attitudes and practice (KBAP) questionnaire was adopted to facilitate the collection of data. This questionnaire was adopted from a study conducted by the HSRC to evaluate Vhutshilo peer-led HIV and AIDS programme. In that study of evaluating Vhutshilo peer-led HIV and AIDS programme, the KBAP questionnaire was developed for testing young people in South Africa by the Centre for the Support of Peer Education (Swart, et al., 2010).

In this study, the KBAP questionnaire was used to evaluate the effectiveness of the adapted HIV and AIDS intervention programme after administration, through the quantitative approach. Specifically the KBAP questionnaire was used to answer research question 4 which is outlined in 1.6.

The selected KBAP questionnaire was preferred in this research for a number of reasons. Firstly, KBAP questionnaire was the readily available simple Likert-type questionnaire that had been developed specifically for the testing of learners'

knowledge, behaviour and attitudes relating to HIV and AIDS issues. Furthermore, the KBAP questionnaire accommodated the target group in this study as it was previously used with South African young people who were between the ages of 14-17 years old and its reliability was found to be satisfactory, at 0.7 coefficient (Swartz, et al., 2010).

4.5.4.1 Adaptation of the KABP questionnaire

In this study the original KABP by the HRSC, as explained in 4.5.4, was not used as it is. Some adaptations were made to the original questionnaire so that it could suite conditions of the current study. As part of adapting the KABP questionnaire, a number of changes were made to the original KABP questionnaire.

Firstly, the introductory questions from the original KABP questionnaire consisted of 12 questions relating to the biographical data of the respondents. These were streamlined into six questions for the purpose of this study. The reason for streamlining the questions was that some of the questions about the respondents were found to have been obviously defined from the research features of this study such that it was not necessary to repeat them in the biography section. For example, questions four and five which respectively relate to race and grade were already given as “black” and “Grade 10” from the delimitation of the study. As such, it was no longer necessary to include such questions.

Secondly, the content questions in the original standardized KABP questionnaire were found to be complicated and long, which contravenes some of the characteristics of a good questionnaire as given by Babbie (2010). As such, there was a need of streamlining the content of the original structured KABP questionnaire before using it in this research.

Three steps were followed in streamlining the original structured KABP questionnaire.

- Step 1: In this step all the questions relating to HIV and AIDS in the original KABP questionnaire were the ones considered for use in the KABP questionnaire used in this research. The reason for this first step was that the original standardized KABP questionnaire had questions on both general issues of sexual reproductive health and also questions specifically focusing on HIV and AIDS issues. Thus the researcher's aim, through the first step, was to select relevant questions from the questionnaire that specifically focuses on HIV and AIDS as the main issue in the study.
- Step 2: As the questions in the original KABP questionnaire were not clearly organised in terms of HIV and AIDS knowledge, behaviour and attitude, the questions from step 1 were reorganized into three scales, namely: HIV and AIDS knowledge, behaviour and attitude.
- Step 3: In this step the researcher added some of the questions in each of those three scales, namely: HIV and AIDS knowledge scale, behaviour scale and attitudes scale, as most of those scales were left with relatively few questions after the streamlining in step 1. This process of adding questions was informed by the review of literature in Chapter 3 and also the study of other questionnaires relating to knowledge, behaviour and attitude pertaining to HIV and AIDS.

Finally the KABP questionnaire used in this study, as it appears in appendix C, consisted of the cover page which requires information pertaining to the type of test, i.e., whether pre-test or post-test, the site and respondent's unique number. Furthermore the cover page also gives the aim of the research questionnaire and also the instructions to the respondents in complying with some of the important ethical issues.

The subsequent pages covered the content of the questionnaire and consisted of close-ended questions arranged in four sections. Section A consisted of multiple choice questions that aimed at collecting the biographical data. Section B also consisted of a

binary choice on HIV and AIDS knowledge statements in which the respondents were expected to indicate whether the statements were “True” or “False”. Section C and D, respectively, consisted of the HIV and AIDS behaviour and attitudes statements in which respondents were expected to rate each statement using a five points Likert-type options, i.e., strongly disagree, somewhat disagree, neutral, somewhat agree and strongly agree.

4.5.4.2 The piloting of the KAPB questionnaire

Although the literature review assured that the original KAPB questionnaire by the HSRC was successfully used in conducting research among the black learners similar to the ones in the current research, the researcher deemed it necessary to still pilot the questionnaire before using it in this research. For the purpose of piloting the KAPB questionnaire used in this research, an additional high school, apart from the eleven that made the sample of this research, was used with a total of 81 Grade 10 learners.

The 81 Grade 10 learners in the additional high school were recruited with the assistance of the educator who acted as a research assistant in that school to pilot the study. As part of recruiting the learners, the educator explained the purpose of the research to learners along with the purpose and the importance of the pilot study. Learners who were interested in completing the KAPB questionnaire for the purpose of this pilot study were issued with the assent form which needed to be completed by them and the consent forms which needed to be completed by their parents or guardians. The used assent and consent forms were exactly the same as the forms that appear in appendices G and H that were meant to be completed by any other learners who participated in this study. Out of the 81 Grade 10 learners in that school, only 61 learners were illegible to complete the KAPB questionnaire for a purpose pilot study as they had brought back completed assent and consent forms on an agreed date.

This KABP questionnaire used for the pilot study had exactly the same content as the KABP questionnaire that appears in appendix C, but had few adaptations and additional information that were necessary for the purpose of the pilot study. The modifications and additional information included the following:

- A space in which participants needed to indicate the form of the KABP questionnaire that they were completing, i.e., whether a pre-test or post-test questionnaire was left out in the questionnaire used in the pilot study. The reason for that was that learners who participated in the pilot study only completed one form of the KABP questionnaire. The space for respondent's unique number was also left out for the same reason. This was also the same with the space in which the participants needed to indicate site, the reason being that learners who participated in the pilot study only came from one school.
- A space was created in the cover page of the KABP questionnaire in which the starting and the ending times would be indicated by the participants. A questionnaire of more than 60 minutes would be too long for Grade 10 learners hence the timing of average completion time was necessary.
- An extra page in which learners were requested to write some concepts and instructions that they found difficult and confusing during the completion of the questionnaire was provided. This would inform the researcher on necessary adjustments that were needed in the questionnaire.

The administration of the KABP questionnaire for purpose of this pilot study was conducted in a school hall by the researcher with the assistance of the educator who acted as a research assistant. Each learner was issued with a copy of the KABP questionnaire. To begin the session, the researcher reminded the learners about the purpose of the research and the pilot study. Furthermore, the researcher explained to learners about their rights and roles as part of the instructions that appear in the front page of the KABP questionnaire in appendix C. As each participant was expected to leave the hall after completing the questionnaire, the researcher also thanked them in advance for their participation in the study. After the instructions learners were then instructed to start completing the questionnaire by themselves until the end of the session.

Based on the analysis of this pilot it was decided that, in general, the questionnaire was suitable for use in this study. However, there was a need for further clarifications of instructions for completing Sections C and D as most of the learners asked for more clarity during the session. It was for this reason that examples were included along with each instruction in Sections B-D. It was also noticed that most of the learners were able to complete the questionnaire in 45 minutes such that there was no need of further reducing the questions in the questionnaire.

4.5.4.3 The administration of KAPB questionnaire

The two forms of the KAPB questionnaire, i.e., pre-test and post-test KAPB questionnaire, were administered differently by educators who were trained as research assistants in the eleven schools that were identified as the research sites for this research. As such, the administration of the two forms of the KAPB questionnaire will be separately discussed.

- Administration of the KAPB pre-test questionnaire

The KAPB pre-test questionnaire was administered before the administration of the HIV and AIDS intervention programme to the experimental group and the GBEM programme to the control group as indicated in Chapter 1. KAPB was administered by the 11 research assistants in the 11 schools that were selected as the sample of the study following the procedure given to the research assistants during their training by the researcher which included the following:

- Research assistants must make sure that all participating learners understood the purpose of the research and had submitted both the assent and the consent forms prior to the administration of the KAPB pre-test questionnaire.
- The questionnaire must be administered at the same time to all participants who belong to the same school.
- Before the learners start with each session of completing the questionnaire; they need to be reminded of their rights, as such the research assistants

read aloud the rights of learners as they appeared on the front cover of the questionnaire as part of the instructions.

- There was no time restriction given for the completion of the two questionnaires, as such learners were afforded the time to complete the whole KABP questionnaire.
- After each session of completing the KABP questionnaire, each research assistant had to personally collect the completed questionnaires and put them in a secure place until the researcher collected them.

During the administration of the KABP pre-test questionnaire, the role of the researcher was to visit some of the research sites to monitor and support the research assistants. As the administration of the KABP pre-test questionnaire took place on the same date in all the eleven research sites, Site G was visited by the researcher to monitor and support the process. The researcher was satisfied with the administration of the KABP pre-test questionnaire in that site as the research assistant followed the correct procedures as given in the workshop and explained in the previous paragraphs of this sub-section.

- Administration of the post-test KABP questionnaire

KAPB post-test questionnaire was administered after eight weeks of the administration of the HIV and AIDS intervention programme to the experimental group and the administration of the GBEM programme to the control group. The same procedure used for the administration of the pre-test KABP questionnaire, as elaborated in 4.5.3.3 above was followed.

As it was the case with the administration of the KABP pre-test questionnaire, the role of the researcher was to visit some of the research sites to monitor and support the research assistants. The researcher was able to visit four sites, namely: Site A, D, E and K for monitoring and support purposes. This was possible as sites completed the administration of the adopted HIV and AIDS intervention programme on different dates after the disengagement state explained in 4.5.2 was called-off. The researcher was also satisfied with the administration of the KABP post-test questionnaire in those sites

as the site's research assistant strictly followed all the recommended procedures as given to them in a workshop and also explained in 4.5.3.3.

4.6 ADMINISTRATION OF THE ADAPTED HIV AND AIDS INTERVENTION PROGRAMME

The adapted HIV and AIDS intervention programme was administered for a period of eight weeks after the administration of the KABP pre-test questionnaire. As indicated in Chapter 1, the intervention programme was only administered in the classes of those learners who were in the experimental groups by the research assistants in the 11 schools that were chosen as sites for the study. During this eight-week period in which the experimental group was receiving the training on HIV and AIDS intervention programme, research assistants also offered classes to learners in the control group with lessons on the programme on BGEM.

4.7 ANALYSIS OF DATA

Analysis of data was preceded by the organisation of data and also conducted differently for each the four methods of data collection discussed in 4.5. As such, the discussion on data analysis will be discussed separately for each of the four methods of data collection and preceded by a discussion on data organisation, as the two are related.

4.7.1 Analysis of data from the document analysis

Content analysis method was used to analyze data from documents specified in 4.5.1. Thus the researcher read the documents and made a general impression out of the contents of the documents which were read.

4.7.2 Analysis of data from the focus group interviews

As indicated in 1.10.3, the focus group interviews (FGIs) were gathered making use of voice recorder equipment. For the sake of organising and analysing the data, recordings from the FGIs were transcribed. Content analysis method was used to analyze the data.

Regarding the specific procedure followed in the analysis of this focus group interviews, the researcher listened separately to the three recordings of the FGIs transcribing them into written transcripts. In order for the researcher to familiarise himself with the contents of three transcripts he read them several times. After reading through the transcriptions, a list of themes was made and similar themes were clustered together into categories and sub-categories. After assembling the material belonging to each category and sub-categories in one place the researcher performed an analysis by assigning meaning to themes in each sub-category and category.

4.7.3 Analysis of data from the self-design questionnaire

As it was indicated in 1.10.4, self-design questionnaire was used for the monitoring purposes, no analysis was actually done on this method of data collection. However, a report on the obstacles and challenges that research assistants encountered during the administration of the adapted HIV and AIDS intervention programme is given.

4.7.4 Analysis of data from the KABP questionnaire

Analysing of the data from the KABP questionnaire was preceded by vigorous organisation of the raw data into scores that were analysed making use of both descriptive and inferential statistical methods. This organisation of data involved the capturing of raw data from the questionnaires making use of the coding in Micro-soft Excel. Information in Section A which required the biographical data was coded using the number assigned for each option as it appeared in the questionnaire. For example; item 1 that required information on gender of which males were expected to tick "1" whereas females were expected to tick "2". Option 1 for males was coded as "1" whereas option 2 for females was coded as "2" during the process of data capturing. For Sections B-C of the questionnaire scores were needed for analysis. As such, for

Section B, all the correct answers were scored “1” whereas incorrect answers were scored “0” based on scoring key in appendix D. For Sections C and D items were scored from 1 which is the lowest score to 5 which is the highest score as per scoring key in appendix D.

Data capturing was done by 10 hired data capturers who had computer literacy certificates. The data cleaning was done by the researcher in collaboration with the statistician. From the 1 121 learners who showed interest in this study by returning the signed consent and assent forms, the response rate for pre-test was 100% (N=1 121) and 98.93% (N=1 109) for post-test. Drop out of 12 participants at post-test was primarily due to absenteeism and transfer to other schools. Questionnaires of the 24 participants were removed because they had missing data either in pre-test or post-test. As such, the analyses was done on 1 085 questionnaires.

For the analysis of the data from the KABP questionnaire the captured data in Microsoft Excel were imported to SPSS version 17. Both descriptive and inferential statistical methods of data analysis were used to analyse the data. Making use of the descriptive statistical methods, frequency tables were used to describe the demographics of participants. The mean, percentages of scores, bar and frequency polygon graphs were used to demonstrate the difference in scores between the experimental and control groups both at pre-test and post-test.

Inferential statistical methods of data analysis were used to demonstrate the change brought by the adopted HIV and AIDS intervention programme. Specifically the t-test of significance was used to compare the pre-test and post-test mean scores of the intervention and control groups. Analysis of Variances (ANOVA), with repeated measures, was also done to see if there were any significant differences brought by the adopted HIV and AIDS intervention between the experimental and the control groups. A post-hoc test was also done to locate areas of differences within the sub-groups in cases where ANOVA indicated that there was a difference among certain groups.

4.8 MANAGEMENT OF THE QUALITY OF DATA

As highlighted in 4.7.4, to ensure the good quality of data capturing, the researcher hired 10 data capturers who had computer literacy certificates to assist with the capturing of both pre-test and post-test questionnaires from the respondents. Raw data was captured from the questionnaire into an electronic file by qualified assistants.

As another way of ensuring the quality of data, all the questionnaires were captured for three days in one venue under the supervision of the researcher. Thus, each data capture was limited to a capturing of 100 questionnaires per day to limit mistakes and errors that may occur due to exhaustion. Furthermore, the researcher sampled five questionnaires captured by each data capture to verify the accuracy of the captured data. Where serious mistakes and errors were identified, the researcher would ask another capturer to check the whole batch for other mistakes, making corrections where necessary. Other omissions and errors were rectified during the process of data cleaning with the assistance of the statistician. Another method of ensuring good quality of the collected data was triangulation which is discussed 4.10.

4.9 INSTRUMENTS QUALITY MANAGEMENT

According to Polit and Beck (2010) validity and reliability were the two major criteria for assessing the quality of the instruments in this research. While validity normally applies to both quantitative and qualitative research approaches, reliability applies to quantitative research approach. Since a mix-method was employed in this study both measures of instruments for quality management were considered in this research as discussed below.

4.9.1 Validity

According to Fouche, Delport and De Vos (2005) validity refers to the degree of appropriateness, meaningfulness and usefulness at which an instrument measures what it is supposed to measure. Although many types of validity, like face validity, construct validity and criterion validity, are mentioned, content validity is the most important (Babbie, 2010; Fouche et al., 2005; Polit & Beck, 2010). Thus the decision of

considering the use of a particular instrument starts with the construct validity and thereafter issues of other types of validity comes in. Therefore, content validity was considered in this study with regards to the three instruments that were used in this research. The three instruments used in data collection were presented to the researcher's colleagues who were experts in the field of HIV and AIDS as explained in 4.5.1.1, to the statistician and to the promoter for their evaluation. All three instruments were approved for their content validity, i.e., they were confirmed to be measuring what they were meant to measure.

4.9.2 Reliability

Reliability is the consistency, constancy or dependability; accuracy and precision with which an instrument measures the targeted attribute (Burns, Grove, 2005; Polit & Beck, 2010). In this study, split-half method of reliability testing was used with Cronbach's alpha test in establishing the reliability of the KABP questionnaire. Split-half was used as it was considered to be one of the widely used reliability methods that estimates the reliability or homogeneity of a measure composing several subparts, by comparing each item in a scale to all others (Polit & Beck 2010).

In line with the procedure in split-half method of reliability testing, questions from the KABP questionnaires were split into two halves and administered to the 61 learners who were used for the piloting study of the KABP questionnaire, as explained in 4.5.3.2 above. Making use of the SPSS software to run Cronbach's alpha correlation, a reliability of value of 0.7 was found for all the 38 questions of the KABP questionnaire. Splitting the 38 questions in the KABP questionnaire into three scales, namely: knowledge, behaviour and attitude, the reliability of scores for each scale were respectively, 0.4, 0.7 and 0.5. Despite these disparities on different scales, the reliability value of the entire instrument was 0.7 which indicates a moderate reliability value of the instrument (Pietersen & Maree, 2010). Based on this moderate reliability value of the entire instrument, KBAP questionnaire was accepted for use in this research study.

4.10 TRIANGULATION

Triangulation refers to the use of multiple cases, multiple informants, or more than one data-gathering method in conducting a research. This strategy helps to reduce risk of bias and allow for a better assessment of the phenomena (Creswell, 2012).

In this study, triangulation was accomplished in two ways. Firstly, the use of both qualitative and quantitative research approaches was one way of enhancing triangulation. Secondly, triangulation was accomplished through the use of the three focus group interviews to collect information for the adoption of an HIV and AIDS intervention programme in this study. The purpose of the three focus group interviews on the same topic was to compare the consistency in responses from the data collected through the focus group interviews.

4.11 RESEARCH ASSISTANTS

Owing to the high demands of this research and the stretch between the 11 sites in which this study was conducted, the researcher decided to recruit a team of research assistants. In the team there were seven female and four males who had potential in helping to conduct the study. Firstly, these research assistants were educators who were able to operate easily within the 11 schools that were chosen as sites for this research, as they were teaching in those schools. Secondly, all of these research assistants were able to administer the five units of the adopted HIV and AIDS intervention programme and to lead participants in completing the research questionnaires with ease. The reasons for that were that all educators had a degree, as an educational qualification and were also teaching Life Orientation which is a relevant subject covering the HIV and AIDS issues which was the main focus of the study.

4.11.1 Roles of research assistants

The tasks of these research assistants were to assist with the following;

- Recruitment of Grade 10 learners from the 11 schools who participated in the study.

- Explain the purpose and the significance of the research to the recruits.
- Issue and collect back the signed assent and consent forms from the learners who showed interest in participating in the study.
- Administer the HIV and AIDS intervention programme to participating learners in the eleven schools.
- To administer, to participating learners, the two forms of KABP questionnaires, i.e., pre- and post- tests, before and after the administration of the adopted HIV and AIDS intervention programme.

4.11.2 Training of research assistants

In order for the 11 educators, who served as research assistants, to understand their roles and conduct such roles effectively and efficiently, a one-day training session was organised for them. The training was conducted by the researcher in one central place. The training paid attention to the following aspects;

- Background to HIV and AIDS intervention programmes.
- The nature and content of the HIV and AIDS programme used for this research.
- Facilitation skills.
- The personal characteristics of the research assistants which included good communication and facilitation skills were enhanced.
- Techniques and ethics in research.
- Reviewing of research instruments in order to clarify content and to ensure mutual understanding of the research objectives.
- Systemising the data collection instruments (questionnaires).

Furthermore, research assistants were also given an explanation on the structure and rationale of the questionnaire, and the terminology used in the KABP questionnaire. They were trained in responding to questions that learners might have. The research assistants also received instruction on how the questionnaires should be administered; how to instruct the learners in completing the questionnaire, and how to create a safe, quiet and anonymous environment in which learners could complete the KABP questionnaire free from distractions.

4.12 DELIMITATIONS

This research study was limited to black adolescents, between the ages of 16-18 years who attend schools in the township and the farming area communities of Mpumalanga Province.

4.13 ETHICAL CONSIDERATIONS

When human subjects are used in a research study, they have to know the activities they will be involved in, their rights need to be protected and safeguarded, hence the researcher needed to ensure the participants adequate protection. In this research a number of issues, as discussed below, become imperative in complying with the ethical demands, protecting and safeguarding participants in research.

4.13.1 Informed consent

According to Babbie (2010) 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 (2010) further acknowledge the importance of informed consent by stating that researchers must obtain informed consent from respondents before the research begins.

In this study, the researcher obtained informed voluntary consent from each participant through the letters in appendices G-J. In line with Mouton (2005), the letters contain information necessary to allay respondents' fears in the school environment. The letters explain the aim and purpose of the study to the respondents, what their participation entails, the design, for example, the procedures to be followed, the time involved and the potential risks and benefits. A space is left at the bottom of the letters for the participants to sign and return to the researcher as a way of giving voluntary consent.

For the participating learners, each one was asked to complete an assent form in appendix H and obtain consent from their parents or guardians so that there was no undue pressure, as they were minors. Letters in appendix G, along with its vernacular

version in appendices J-M were used for this purpose. The letter is structured in a similar manner as that of learners and educators but differs in the nature of the requested permission and the signatories.

4.12.2 Preventing harm

Avoiding harm is another basic human right to be considered when conducting research on human beings. According to Babbie (2010); Burns and Grove (2010), 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 or otherwise. 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 and AIDS among the youth. The respondents were also told that their names would not appear on the questionnaires. This ensured the maintenance of the personal dignity and anonymity 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. In addition to this, the researcher's telephone contact was available to any participating parent who required more information or who wanted to discuss any aspect addressed in the questionnaire.

4.13.3 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, 2010; Burns & Grove, 2010). In this 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. The researcher also made an undertaking of keeping the respondents information confidential. Furthermore access to all raw data from respondents was limited to the researcher and his supervisor only, to ensure confidentiality.

4.13.4 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, 2010; Burns & Grove, 2010). To ensure anonymity in this research, names of the respondents and participating schools were not identified when presenting research results. Participating schools were referred to as research sites and were assigned alphabetical letters which ranged from A-K.

4.13.5 Permission to use sites

Since this study covered all high schools in the disadvantaged communities of the Mpumalanga Province, as its targeted population, permission to conduct the current study was obtained from the Provincial Head of the Mpumalanga Department of Education. A letter in appendix E was sent and in return permission was given with the letter in appendix F.

4.13.6 Competence of the researcher

The Research and Ethics Committee of the University of Limpopo acknowledged the researcher's competence to conduct the study by approving the research proposal, and by also approving that the research be conducted. To this effect, the researcher was assigned a promoter to guide the research and to increase the researcher's competence.

Concerning the issues of scientific honesty of the researcher, deception and misconduct, the researcher did not withhold information from all the parties involved in the study. The researcher also was honest in planning and conducting the research, and in writing the report, so as not to change or fabricate information. The data analysis and interpretation was conducted by a qualified statistician and editorial work conducted by a qualified language specialist.

4.14 SUMMARY

In this chapter a detailed discussion of the research method, population, sample, setting of the research and data collection methods were discussed. Furthermore, instruments and data quality management, the role and the training of research assistants were also discussed including the delimitations and ethical considerations. In the next chapter, the results of the current study are given and discussed.

CHAPTER 5

PRESENTATION AND DISCUSSION OF RESULTS

5.1 INTRODUCTION

In Chapter 4 the research design and methods used in this study were outlined. In this chapter the results will be presented and also discussed. The chapter is divided into two parts. The first part is divided into four sections following the four methods of data collection which is used in the study. Thus, the first section presents the results from document analysis. The second section presents the results from focus group interviews, the third section presents the results from self-design questionnaire whereas the fourth section presents the results from the KAPB questionnaire.

Part two is also divided into four sections, following the four methods of data collection used in the study. Thus, the first section discusses the results of the document analysis. The second section discusses results from the focus group interviews. The third section discusses the results from the individual interviews whereas the last section discusses the results from the KAPB question.

5.2 PRESENTATION OF RESULTS FROM DOCUMENTS ANALYSIS

This section presents results on research question 1, namely: what was the status of the HIV and AIDS intervention programmes that were meant for high school adolescent learners in Mpumalanga Province prior to the onset of this study? As indicated in 1.6, this research question was split into two sub-research questions as follows:

Sub-research question 1.1: Was there documented evidence regarding any HIV and AIDS intervention programme developed or adapted for high schools adolescent learners in Mpumalanga Province prior to the onset of this study?

Sub-research question 1.2: Was there any documented evidence regarding the positive impact made by HIV and AIDS intervention programmes delivered to high schools adolescent learners in Mpumalanga Province prior to the onset of this study?

In answering the research sub-question 1.1, a search, both in published and unpublished research was conducted. The results indicated that there was some HIV and AIDS intervention programmes used for high school adolescents in Mpumalanga. These interventions included Soul Buddyz and Lovelife programmes as discussed in 3.3.3. However, no documented evidence was found of any HIV and AIDS interventions specifically developed or adapted to target learners in Mpumalanga.

In answering research sub-question 1.2, published and unpublished reports on the impact of various HIV and AIDS interventions delivered to learners in Mpumalanga high schools. As discussed in 3.3.3, documents were found which reported on the impact of the HIV and AIDS interventions delivered to learners in Mpumalanga high schools. These included the RADS peer support programme, Soul Buddyz and lovelife programmes. However, there was no evidence of any positive impact made by any of those HIV and AIDS interventions delivered to high schools learners in Mpumalanga Province during the period of this study.

5.3 PRESENTATION OF RESULTS FROM FOCUS GROUP INTERVIEWS

This section presents results on research question 2, namely: what are the most important elements that need to be considered for an effective HIV and AIDS intervention programme that is adapted for high school adolescents in Mpumalanga Province? Following are the results for this research question which is preceded by the demographic of participants:

5.3.1 Demographics of participants in the focus group interviews

A total of 28 learners participated in the focus group interviews (FGIs). A total of four FGIs were initially planned for the four districts in Mpumalanga. However, due to the small number of learners from Bohlabela and Nkangala districts, only three FGIs were conducted. Thus the number of learners from Bohlabela and Nkangala were few to reach a minimum number required for FGIs (Marshall & Rossman, 2006). Therefore, learners from those two districts were combined to compose one group.

Table 5.1 presents the demographic characteristics of learners who participated in the three FGIs. The table further shows that more learners who participated in the FGIs came from Enhlazeni (N=11; 39.3%) and Gert Sibande (N=8; 28.5%) districts. Bohlabela (N=5; 17.9%) and Nkangala (N=4; 14.3%) districts had fewer learners who participated in the FGIs.

Regarding gender, age, home language and place of residence, Table 5.1, on page 150, shows that male learners who participated in the FGIs were fewer (N=10; 35.7%) than female learners who participated in the FGIs (N=18; 64.3%). Regarding age, most of the learners who participated in the FGIs fell in the age group 17 years only (N=18; 64.3%), followed by participants who fall in the age group 16 years and less (N=8; 28.6%). Few of the participating learners fell in the age group 18 years and more (N=2; 7.1%).

Regarding home languages, majority of the participating learners speak Isizulu (N=10; 35.7%), Xitsonga (N=7; 25%) and Isiswati (N=5; 17.9%) whereas only few speak Setswana (N=1; 3.6%), IsiNdebele (N=2; 7.1%) and Sepedi (N=3; 10.7%). Most of the participating learners came from the township or village (N=18; 64.3%) and few from the farm (N=6; 21.4%) and urban (N=4; 14.3%).

Table 5.1: Demographic characteristics of 28 learners who participated in the FGIs

Background Characteristics		Frequency (N)	Percentage (%)
District	Bohlabela	5	17.9
	Enhlazeni	11	39.3
	Gert Sibande	8	28.5
	Nkangala	4	14.3
	Total	28	100.0
Gender	Male	10	35.7
	Female	18	64.3
	Total	28	100.0
Age	16 years and less	8	28.6
	17 years only	18	64.3
	18 years and more	2	7.1
	Total	28	100.0
Home Language	Isizulu	10	35.7
	Setswana	1	3.6
	IsiSwati	5	17.9
	IsiNdebele	2	7.1
	Sepedi	3	10.7
	Xitsoga	7	25.0
	Total	28	100.0
Place of Residence	Township or village	18	64.3
	Farm	6	21.4
	Urban	4	14.3
	Total	28	100.0

5.3.2 The results

As was indicated in 4.7.2, thematic content analysis was used to analyze data from the FGIs, by grouping similar themes. Table 5.2, on page 152, gives themes along with their sub-themes used in the analysis of data from the FGIs in this study.

To follow the presentation of the results it is important to take note of the following;

- Participant/s is used to refer to learner/s who participated in focus group interviews.
- Focus group interviews Group 1 (FGIs G.1) refers to Bohlabela and Ekangala focus group interviews which had nine participants in total, Focus Group Interviews Group 2 (FGIs G.2) refers to Enhlazeni focus group interviews which had 11 participants whereas (Focus Group Interviews Group 3) FGIs G.3 refers to Gert Sibande focus group which had 8 participants.
- In each of the FGIs, participants were assigned a number which was used to identify each one of them as to comply with ethical measures. The assigned numbers ranged from 1 to a maximum of 11, depending upon the number of participants in the particular FGIs. For example, Bohlabela and Ekangala FGIs had a total of 11 participants therefore participants were assigned number 1 to a maximum of 11.
- An acronym RADS, as it is sometimes used by participants, refers to Radically Different Species, which refers to one of the HIV and AIDS intervention that was used in most of the schools in Mpumalanga, and finally,
- It is also important to note that participants who are learners related their experiences from this RADS peer support programme whenever they were deliberating on issues in these focus group interviews.

Table 5.2: Themes and categories for the analysis of FGIs

Theme	Sub-themes
Importance of HIV and AIDS intervention programme	<ul style="list-style-type: none"> • Empowerment • Reduction of HIV and AIDS infections by encouraging VCT • Community building
Important topics in HIV and AIDS prevention	<ul style="list-style-type: none"> • Reproductive health related topics • HIV and AIDS knowledge
Strategies of HIV and AIDS prevention	<ul style="list-style-type: none"> • VCT • Condom use • Abstinence • Drama, poetry, film and seminars
Important behaviour, skills and attitudes pertaining to HIV and AIDS to be promoted	<ul style="list-style-type: none"> • Self-confidence • Non-judgmental skills • Discipline, respect and self-control • Good communication skills, responsibility, assertive and decision making skills
Any other important issue for consideration in HIV and AIDS prevention	<ul style="list-style-type: none"> • Parent and teacher support

5.3.2.1 Theme 1: Importance of HIV and AIDS intervention programme

As the importance of HIV and AIDS intervention programme, participants identified three points; namely: empowerment, reduction of HIV and AIDS infections by encouraging VCT and community building.

- Empowerment

The first importance of the HIV and AIDS intervention programme as identified from the FGIs of learners was to empower participants. A number of statements alluding to this point were picked-up from FGIs including this one from Respondent 2 in the FGIs G.1: *“I think it makes a very big change in people life. It changes you as whole as a person and makes you realize what you can do, others and it also change your mind set. You become complete different person.”*

However, self-empowerment and empowerment of others were identified as the two areas of effect by the HIV and AIDS interventions. Supporting self-empowerment, learners indicated that through the HIV and AIDS interventions, they got an opportunity to learn about risky behaviour related to HIV and AIDS, like teenage pregnancy and substance abuse. This was evident by the input made by Respondent 3 in FGIs G.1 who indicated that by joining HIV and AIDS support group the purpose is to make a difference in their lives, thus: *“To make differences ... in ourselves when we join this peer support group.”* The statement was further supported by Respondent 4 in FGIs G.1 and Respondent 3 in FGIs G.2, who respectively indicated the following;

“To enhance change within one’s character...”

“I think is a good programme because ... we get opportunity to train and to know that what is wrong so that we can educate other peers so that they cannot fall into teenage pregnancy... and so on.”

Supporting the empowerment of others, participants indicated that through the HIV and AIDS interventions, they organise candle light ceremonies that aim at supporting other learners who are affected and infected of HIV and AIDS. This was evident from a statement by, Respondent 1 in FGIs G.2 and Respondent 3 in FGIs G.1 which respectively indicated that:

“When we go back to our school ... we do the candle light so that we can prove that we support ...”

“To make differences in ... ourselves when we join this peer support group.”

Empowerment of others was further supported as follows: Respondent 1, FGIs G.1 indicated that: *“Is to support our children who have problem for an example, like to counsel to help who have problems”*, whereas Respondent 2 in FGIs G.1 also indicated

that: *“... to encourage other people and do project that will help other people who make a difference through other communities.”*

- Reduction of HIV and AIDS infections by encouraging voluntarily testing and counselling.

Reduction of HIV and AIDS infections, by encouraging voluntary counselling and testing (VCT), was the second point picked-up from the FGIs. As it appears from the statements of the three participants quoted below, this point was very strong in FGIs G.1 and it also got support in FGIs G.3.

Respondent 1 in FGIs G.1 indicated that: *“I think it is also to ... come up with the ways of decreasing HIV and AIDS, such as like when the VCT ... members of the R were told to encourage others to get tested and some of the members actually, most them got tested.”*

Respondent 3 in FGIs G.1 also indicated that: *“It makes a good change and makes a big change in other people. For example, last year members of the RADS ... of about twenty ... tested for HIV and I think it is mostly encouraged by this programme. If it had not been of this programme they had not been change towards HIV and AIDS especially teenagers ...”*

Respondent 1 in FGIS G.3 also indicted that: *“I am saying yes, it is making an impact because some of the rate of teenage pregnancy has dropped in our school. We know back in the olden days when the programme was still existing you know there was a high rate of teenage pregnancy but as the programme ... continued, it started decreasing, decreasing up until to this level. Not saying we can stop the rate of teenage pregnancy, but we are saying that we can decrease it and there are more learners that are joining our programme which means they are getting more information about the RADS. Basically... some of them got the wrong picture of what the RADS are ...”*

- Community building

Related to the empowerment of self and others, participants also raised community building as another benefit from HIV and AIDS intervention. This was evident from the statements of Respondent 3 in FGIs G.1 and Respondent 4 in FGIs G.1 cited respectively as follows: *“To make differences in our schools ... (and) ... make change within their communities at large.”*

5.3.2.2 Theme 2: Important topics in HIV and AIDS prevention

As important topics in HIV and AIDS prevention, participants suggested two topics that may be broadly classified under two topics, namely: reproductive health-related topics and HIV and AIDS knowledge. Following is the discussion of each main topic along with its sub topic:

- Reproductive health-related topics

Reproductive health related topics as denoted by “topics” encompass many topics including, sexuality education, substance abuse, teenage pregnancy and contraceptives as the most important topics for consideration in HIV and AIDS intervention. The discussion that follows indicates what the participants specifically indicated in each of these topics.

- Sexuality education

Sexuality education is a broad topic in itself. According to Boucher (2011) and Edwards-Meyer (2007), sexuality education is an effective way of teaching about sexual behaviour to young people, as compared to sex education which in the opinions of the three authors is harmful, since it only gives information and facts concerning human sexuality without including skills, attitudes and values.

Relating their experiences from their training on the RADS peer support programme, participants identified different topics as important in sexuality education. Respondent

1 in FGIs G.1 indicated that: *“... they taught us that if we do not abstain we might get infected and they taught us the consequences of sex and they said we must abstain and sometimes to abstain is right.”* Respondent 4 in FGIs G.2 indicated that: *“We learned that if your virgin is breakable, there is still secondary virginity.* Thus, their emphasis was on abstinence and virginity as preventative measures from HIV and AIDS infection.

- Substance abuse

Substance abuse was also one of the important topics in HIV and AIDS prevention that frequently came-up from the FGIs G.1 and got supported by participants in FGIs G.2. The cited statement below from Respondent 2 in FGIs G.1 indicates that: (1) drug types, (2) why people use drugs and (3) how to stop using drugs, are important topics around substance abuse that may facilitate HIV and AIDS prevention among adolescents.

“... information about drugs and its types and why people use drugs and how to stop using drugs.”

From the statements cited below, Respondents 1, 2 and 3 from FGIs G.1, respectively, show that substance abuse is an important topic in HIV and AIDs prevention as drug abuse leads young people to engage in risky behaviour that leave young people prone to HIV and AIDS infection. Such risky behaviour includes sexual debut, prostitution and sharing of syringes.

“Most people who are using drugs they lose control over themselves, some will end up sleeping with anyone they see....”

“If you use drugs you end up getting pregnancy even HIV and AIDS, because if you take drugs you lose control and you do not know who you are and if you need money to buy drugs you go and sell your body.”

“You get infected by drugs because ... you must use injections ... Let us take we are using one injection to inject ourselves through the drugs ... we must not use the same as they say in the hospital.”

- Teenage pregnancy

Although the concept of teenage pregnancy was mentioned many times in the FGIs G.1, it was only in one instance that one respondent linked it to one of the topics that may be incorporated in HIV and AIDS interventions. In responding directly to a question, “what are some of the topics that you think may be important in HIV and AIDS prevention”? Respondent 1 in FGIs G.2 mentioned teenage pregnancy.

- Contraceptives: abstinence and condom

The debate on abstinence versus condom as a best strategy for HIV and AIDS prevention suggested that contraceptives was one of the topics for consideration pertaining to HIV and AIDS prevention. Contraceptives was suggested in all the three FGIs. In FGIs G.2, Respondents 4 and 6, preferring abstinence over condoms, respectively made the following statements:

“I can say if you ... abstain you are free from drugs, you are free from HIV and AIDS and are free from pregnancy.”

“Abstinence is best because you would not fall pregnant and you would not get STIs.”

Respondent 2 in FGIs G.1, relating his/her experience from the training on RADS peer support programme, and Respondent 3 in FGIs G.3 relating his/her general knowledge also indicated the following;

“Other things were to abstain. They told us to abstain. We have to swear that we will abstain until the right time.”

“... We all know that condoms are not 100% safe, so if they condomise they is still a possibility of ... getting pregnant or any other kinds STI's. So definitely if you abstain ... you do not get any diseases.”

- HIV and AIDS knowledge

The second topic identified as important from the FGIs was HIV and AIDS knowledge. Statements from Respondents 2 in the FGIs G.2 and Respondent 3 in the FGIs G.2 suggest that: (1) what HIV and AIDS is (2) how to get HIV and AIDS, (3) consequences of AIDS and (4) treatment of HIV and AIDS are specific areas of focus that were recommended by participants regarding HIV and AIDS knowledge.

Relating his/her experience from the training on RADS peer support Respondent 2 in FGIs G.1 indicated that: *“...taught about HIV, from what is it and how it come about and everything about HIV and who can take treatment and for how long?”* Respondent 3 in FGIs G.2, raising her/his personal opinion, indicated that: *“.... more people can know ... the consequences of AIDS then they can abstain.”*

5.3.2.3 Theme 3: Strategies of HIV and AIDS prevention

Analysis of the FGIs indicated that voluntarily testing and counselling (VCT), abstinence and condom use are some of the strategies commonly known by learners.

- VCT

Learners identified VCT as one of the strategies that can prevent HIV and AIDS, although there were challenges in using it. Respondent 2 in FGIs G.3 indicated that:

“Testing has been done to date but before sleeping with the person you have to test first and see what else you can do but make sure that if you can’t hold yourself together use condom.”

Posing a challenge in using VCT, Respondent 1 in FGIs G.3 indicated that: *“... also a problem with testing because ... some clinics will tell (ask) that why do you (want to) test because you too young to test ...”*

- Condom usage

The second strategy identified by learners as important in HIV and AIDS prevention was the use of a condom. However, learners had different opinions regarding condom use as best strategy for HIV and AIDS prevention. According to the statements cited below, Respondent 1 in FGIs G.2, Respondent 2 FGIs G.2 and Respondent 3 FGIs G.2, respectively, indicated that a condom is right, especially to those young people who had already embarked in sexual intercourse as it prevents STIs, of which HIV and AIDS is included.

“I think that condom is right ... because they (learns) are sleeping with other people. I think condom is right because it is going to protect ... from STIs ... and pregnant. It is right to use a condom because you have started already.”

“We use condom if you have already got some boyfriend.”

“You can use condom, if you have already ...started sleeping with another person.”

Although the use of condoms was raised and supported as a good strategy for HIV and AIDS prevention, majority of respondents had mix-feelings about the use of condoms. Respondent 2 from FGIs G.2 caution learners of the dangers of not using a condom

correctly as it may equally not serve the purpose, *“Condom is right because it protect you from HIV and teenage pregnancy and ... in other diseases”*

Numerous statements from the respondents, some of which are cited below, also revealed that some of learners were against the used condoms as a strategy of HIV and AIDS prevention among adolescents. Respondent 1 from FGIs G.3 raised the following point against the use of condom by adolescents as a best strategy for HIV and AIDS prevention; *“... condom ... is good but not 100%.”* Respondent 3 from FGIs G.3 uttered the following statement against the condom; *“... we all know that condoms are not 100% safe, so if they use a condom there still a possibility of that person getting pregnant or any other kinds STI’s, so definitely if you abstain that means you (cannot) get any diseases”.* Respondent 4 from FGIs 2 also made the following point against the condom; *“In other words a condom is good because you can still protect your partner, if you did not get a chance to protect yourself or to abstain while you were still young”.* Respondent 1 from FGIs G.2 also raised the following point against the condom; *“I do not think using condom is good because some of them might tear ... apart when they are having sex ... then you can still have HIV or got pregnant.”.* Respondent 5 from FGIs G.2 also altered the following point against the condom; *“I do not think condom is (not the best) because it is not 100% safe, it can tear apart”.*

- Abstinance

The third strategy identified by participants as an important strategy in HIV and AIDS prevention was abstinence. Overwhelming strong statements in support of abstinence indicated that participants were in favour or preferred abstinence as the best strategy of HIV and AIDS intervention over other strategies of HIV and AIDS prevention. In favour of abstinence, Respondent 3 in FGIs G.1 indicated that: *“... we should abstain because we are too young to commit adultery. How can we have sex at this age we are?”* Respondent 1 in FGIs G.2 also indicated that; *“Abstinance, it would be... it must be continue talking to people, telling people that you must abstain. If you will get some disease that can affect you and your dream”.* Respondent 2 in FGIs G.2 also indicated the following; *“You can abstain. If you prevent, you can prevent because they use injections, but you ... must abstain. Stay away from sex”.* Finally, another supporting statement from Respondent 6 in FGIs G.2 also indicated that: *“As a ... learner, I learned*

that abstinence is very important because no one is going to marry you if you already started having sex in ... early age”.

Another strategy identified by participants as an important strategy in HIV and AIDS prevention was pledging. However this strategy is related and linked to abstinence. According to the Sex-education debate, some church groups encourage teenagers to sign pledges to abstain from sexual relationships before marriage (http://en.wikipedia.org/wiki/Sexual_abstinence). Experience from these churches is that teenagers who sign pledges abstain from sexual relationships last 18 months longer than those who did not pledge. However, participants could not link this strategy to abstinence and therefore treated pledging as a separate strategy and made several submissions in support of pledging. For example, Respondent 8 in FGIs G.2 indicated that, *“I say ... pledge make a big change in our school ... So ... that means ... what we are doing to keep our virginity and we are going to keep ...”* Respondent 4 in FGIs G.1 made the following submission; *“I think that ... pledge ... made a difference because after a year people were not forced to pledge, they pledge because (they) wanted to, and they were not forced. So most of them ... did follow those rules and most of the RADS that pledged are still with the RADS and there are no mistakes”.* Respondent 1 in FGIs G.1 also made the following submission; *“I can’t judge other people but I think at my school they are living up to that pledge because they said if you break that promise, God will send curses through you and your family and your future family”.*

After the interviewer further probed the respondents on their confidence in pledging, participants did not reveal a strong sense of confidence, especially participants from FGIs G.3. Respondent 1 in FGIs G.3 indicated that she or he can give pledging 30%, Respondent 1 in FGIs G.3 specifically indicated that: *“Only few ... stick to that pledge, only the few of us but some of them instead of living up to that pledge they decided to drop out.”* Finally Respondent 2 in FGIs G.3 indicated that: *“So, basically not most of, us you know? Some of us they felt even there and when were outside then it was different. So in short I can say ... it is not that much because then most of us ... would not live up to pledging.”*

- Drama, poetry and film

Drama, poetry and film were other strategies which were also raised from the FGIs although these strategies did not get support from the majority of the respondents. Drama and poetries were identified by Respondent 7 in FGIs G.3 and Respondent 2 in FGIs G.2, respectively, as follows:

“We do a lot of drama and poetry and each and every week at school we bring drama that teaches about the consequences of sleeping and the consequences of being pregnant at an early age, we do poems, we do speeches everything that is related to this topic ... We ... can introduce a drama in other schools and in our school so –that-most of them can understand...”

Films were identified by Respondent 1 in FGIs G.3 as follows:

“... I think that the Department (of Health) must get involved more in the schools like bringing videos, films of people who have engaged in unprotected sex and are now living the consequences of having unprotected sex. Like ... at the workshop we watched a movie of people who have engaged in unprotected sex and they are barring the consequences of having indulging in something like that.”

5.3.2.4 Theme 4: Important behaviours and skills, pertaining to HIV and AIDS, to be promoted

In theme four on important behaviour and skills pertaining to HIV and AIDS, participants identified self-confidence, non-judgmental skills, discipline, respect, good communication skills, responsibility, assertive and decision making skills, as important in HIV and AIDS prevention that needs to be promoted.

- Self-confidence

Firstly confidence which was embraced by many other related behaviours like self-control and self-esteem was a behaviour identified by learners. The concept was identified by Respondent 4 in FGIs G.2 and supported by other respondents including Respondent 3 in FGIs G.2, Respondent 5 in FGIs G.2 and Respondent 1 in FGIs G.3. These respondents used concepts and statements in supporting self-confidence. Concepts and statements included were: *“dream big”, “Is that you have to be who you are and ...and then believe in yourself, you are not everybody”* and *“some people do not have powers over themselves they live up to other things.”*

- Non-judgmental skills

Non-judgemental skill was a point raised by Respondent 1 in FGIs G.1. Although this point was not supported by other respondents, it a very pertinent point as is directly quoted below:

“... we should not let others down and I think we should not even judge others. If you see that (a) person (is) getting out of the way ... we should encourage her telling her that this ... is not good. ... Do not go and gossip about her or him saying she or he is not doing well.”

- Discipline, respect and self-control

Discipline coupled with respect and self-control were other points which were raised and got support of many other respondents. Respondent 1 in FGIs G.2 specifically identified discipline, respect and self-control after the interviewer asked the participants about the behaviour and skills that they thought were important for HIV and AIDS interventions. In supporting discipline, respect and self-control, Respondent 4 in FGIs G.2 and Respondent 3 in FGIs G.3, respectively, indicated the following;

“Like not going to the taverns, respecting teachers and not to use alcohol”.

“Respect, ..., so we do not have to look upon down upon each other, you have to respect each other as much as they respect you, do not look me as a different person from what you are we are one as RADS.”

- Good communication skills, responsibility, assertive and decision-making skills

Good communication skills, responsibility, assertiveness and decision-making skills were other points raised under behaviour and skills that are important in HIV and AIDS prevention. Although some of those concepts like good communication skills and decision making did not get support from other participants, the statements for raising each of those points were acceptable; Respondent 6 in FGIs G.2 raised responsibility and assertiveness as follows: *“To take responsibility of your ways ...”* Respondent 1 in FGIs G.3 raised decision-making skills and supported assertiveness as follows: *“I think we need the decision-making skills ... because trusting your friend to make decision for you means that you are not assertive. So you must learn to make decision for yourself and we as RADS must take it as our responsibility to teach the learners about the skills of decision-making”*.

5.3.2.5 Theme 5: Any other important issue for consideration in HIV and AIDS prevention

Under this theme, any other important issue for consideration in HIV and AIDS prevention, participants strongly suggested that parents must be involved in the prevention of HIV and AIDS. In supporting the involvement of parents, Respondent 2 in FGIs G.1 indicated that: *“I think we should work with the community ... work with the parents because we cannot do this alone. You can't go and tell someone who is older than you that you must abstain ...”*

Respondent 4 in FGIs G.3 indicated that: *“Letting parents be involved in teenagers' life ... Teenagers ... do not have parents to guide them in their lives. So if parents take control of their children then it will be quiet easy ...and they won't do bad things.*

Respondent 2 in FGIs G.4 indicated that: *“Teachers and peer educator ... and also mothers who are not ... unemployed can also help to share the information that we have.”*

5.3.2.6 Adaptation of HIV and AIDS intervention programme

In this research, the objective of research question 2 was to come up with an adapted HIV and AIDS intervention programme for adolescence learners in Mpumalanga high schools. Indeed, following the needs analysis that were done through the FGIs and the discussion in Chapter 3 on the strengths and weakness of various HIV and AIDS intervention programme, an HIV and AIDS intervention targeting adolescents in Mpumalanga high schools was adapted. Thus, suggestions from the FGIs of learners and experiences learned from the discussions of the 11 HIV and AIDS interventions were used to adapt an HIV and AIDS intervention for adolescents in Mpumalanga. As such the focus of the last section on the presentation of results from the focus group interviews is to give a short outline of the adapted HIV and AIDS intervention from this research.

- Aim of the programme

The HIV and AIDS intervention programme for adolescents was adapted as a component of Life Skills-Based Education with the aim of empowering young people to respond to risky behaviours that put learners prone to HIV and AIDS infection and enable them to acquire necessary knowledge, attitudes and skills that will protect them from HIV and AIDS infection. Furthermore the programme was adapted to development of self-in-society by teaching learners to understand issues of HIV and AIDS, problem-solving and decision-making strategies.

- Units of the adapted HIV and AIDS intervention programme

Following the review of the strengths and weakness of different HIV and AIDS interventions and the suggestions from FGSI's, five units were selected for delivery in Mpumalanga high schools. The selected units were introduction, understanding HIV and AIDS, staying safe from HIV and AIDS, management and caring for HIV and AIDS patients and finally myths on HIV and AIDS.

Following some of the problems discussed in this chapter, pertaining to the implementation of HIV and AIDS programmes in Mpumalanga, the programme was designed to be an abridged HIV and AIDS programme that will run for one school term. The duration of five units in the programme were designed to run from 45 minute to 1h30.

Finally, the programme, as it appears in appendix N, was named *Ihawu* HIV and AIDS intervention programme. *Ihawu* is a Zulu word for shield. The intervention programme is in-line with the current outcome based education curriculum which is currently used in South African schools.

5.4 PRESENTATION OF RESULTS FROM THE SELF-DESIGNED QUESTIONNAIRE

This section presents results on research question 3, namely: what are the challenges regarding the administration of the HIV and AIDS intervention programme adapted for high school adolescent learners in Mpumalanga Province? As indicated in 4.5.2, the candidates who completed the self-designed questionnaire were research assistants for the sake of monitoring and support of the implementation of the adapted HIV and AIDS intervention.

Following the 11 schools, which were also referred to as sites in which the adapted HIV and AIDS intervention programme was administered and the five units of the programme, 55 self-designed questionnaires were completed by each of the educators who served as research assistants. Thus, each of the 11 sites was monitored in each of the five units. As it was indicated in 1.10.3, no analysis was actually done on this method of data collection. However, a report, specifically on the obstacles and challenges that research assistants encountered during the administration of the adapted HIV and AIDS intervention programme is given.

5.4.1 Completion time for units

Analysis of responses to Question 1 of the questionnaire, namely: how much time did you take to complete the unit, indicated that the suggested time for the completion of the units 2 and 3 were unrealistic. Nine of the 11 sites, i.e., Sites B, C, D, F, G, H, I, J and K, completed the unit in more than two hours whereas two sites, i.e., Site A and Site E, managed to complete the units in the suggested time.

5.4.2 Instruction for each unit

Analysis of responses to Question 2 of the questionnaire, namely: were the instructions of the unit clear, indicated that all units had clear instructions which facilitators followed without any problem. All sites facilitators ticked “yes” for all the units.

5.4.3 Challenges in the delivery of units

Analysis of responses to Question 3 of the questionnaire, namely: any challenges that were encountered during the delivery of the units, indicated that most of the facilitators had challenges with time and workload. Facilitators from eight sites reported lack of time for the delivery of the units and workload.

5.4.4 Recommendations to improve the intervention programme

Analysis of responses to Question 4 of the questionnaire, namely: any recommendations to improve the programme, indicated that most of the facilitators from sites with large numbers of learners needed time to be extended for the delivery of units 2 and 3. Following the challenges reported in 5.4.1 by Sites B, C, D, F, G, H, I, J and K, nine sites recommended the extension of time for the delivery of units 2 and 3. Facilitators from Sites D, G and J recommended extension of delivery time of unit 2 and 3 to 3 hours, Sites C, F and H recommended extension of delivery time of Unit 2 and 3 to 2h30 minutes whereas B and I did not specify any time for extension of delivery time of Units 2 and 3.

5.5 PRESENTATION OF RESULTS FROM THE KABP QUESTIONNAIRE

This section presents the results that were obtained from the KABP questionnaires completed by the respondents. As indicated in 1.10.3, the purpose of the KABP questionnaire was to test learners' knowledge, behaviour and attitudes before and after the administration of the HIV and AIDS intervention for the purpose of evaluating the effect of the adapted HIV and AIDS intervention. Thus, the results will answer the research question 4, namely: pertaining to **knowledge, behaviour** and **attitudes**, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status? As further indicated 1.6, this research question was split into three sub research questions as follows:

Sub Research question 4.1: Pertaining to knowledge, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Sub Research question 4.2: Pertaining to behaviour, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Sub Research question 4.3: Pertaining to attitudes, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: site, gender, age, language, residence, family composition, family structure, socio-economic status?

Before the actual presentation of the results which are preceded by the presentation of the demographics of participants, it will be necessary to highlight the following points;

- Analysis was done using SPSS version 17.
- Descriptive statistical methods were used for the analysis of the distribution of scores at pre/post-test. The t-test of significance and the analyses of variances (ANOVA) with repeated measures were done to compare the pre/post-test means to determine if there were any statistically significant changes in knowledge, behaviour and attitudes brought by training and demographics. In cases where ANOVA indicates that there are differences between and within the groups post-hoc test was done to indicate the significant differences within the groups
- Eta squared (η^2) was also used to estimate effect sizes for each of the group in each of the demographics that was identified to have played a significant role in the difference between the pre-test and the post-test means.

Briefly, the value of η^2 ranges from 0.01 to 1.0, which in percentages signifies 1% to 100%. In social sciences η^2 of 0.01, 0.06, and 0.14 are by convention interpreted as small, medium, and large effect sizes, respectively (Hinkle, Wiersman & Jurs, 2003; Yiu, Mak, Ho & Chui, 2010).

5.5.1 Demographics of participants

As indicated in 4.7.4 from the 1 121 learners who showed interest in this study by returning the signed consent and assent forms, the response rate for pre-test was 100% (N=1 121) and 98.93% (N=1 109) for post-test. Drop out of 12 participants at post-test was primarily due to absenteeism and transfer to other schools. Questionnaires of the 24 participants were removed because they had missing data either in pre-test or post-test. As such, the analyses was done on 1 085 questionnaires.

The general analysis of the 1 085 questionnaires, as per summary in Table 5.3, on page 171, indicates that there was parity between the assignment of participants in the intervention and the experimental groups, thus, 627 (57.8%) participants were assigned to the intervention group whereas 458 (42.2%) were assigned to the experimental group.

5.5.1.1 Distribution of participants according to the site

As it appears again in the Table 5.3 referred to in 5.5.1, 11 schools, which are also referred to as sites in this study, took part in this study. The distribution of learners, in terms of number of learners who took part in the study per school, indicates that there was a range of 86-106 in the 11 schools. School A had a total of 86 learners, of which 42 (48.8%) were assigned in the intervention group and 44 (51.2%) were assigned to the control group. School B had a total of 97 learners, of which 57 (58.8%) were assigned in the intervention group and 40 (41.2%) were assigned to the control group. School C had a total of 99 learners, of which 59 (59.6%) were assigned in the intervention group and 40 (40.4%) were assigned to the control group. School D had a total of 98 learners, of which 57 (58.2%) were assigned in the intervention group and 41 (41.8%) were assigned to the control group. School E had a total of 95 learners, of which 42 (44.4%) were assigned in the intervention group and 53 (55.8%) were assigned to the control group. School F had a total of 100 learners, of which 61 (61.0%) were assigned in the intervention group and of which 39 (39.0%) were assigned to the control group. School G had a total of 101 learners, of which 63 (62.4%) were assigned in the intervention group and of which 38 (37.6%) were assigned to the control group. School H had a total of 98 learners, of which 58 (59.2%) were assigned in the intervention group and 40 (40%) were assigned to the control group. School I had a total of 103 learners, of which 63 (61.2%) were assigned in the intervention group and 40 (38.8%) were assigned to the control group. School J had a total of 102 learners, of which 62 (60.8%) were assigned in the intervention group and 40 (39.2%) were assigned to the control group. School K had a total of 106 learners, of which 63 (59.4%) were assigned in the intervention group and 43 (40.6%) were assigned to the control group.

As indicated in Table 5.3, there was a total of 530 (48.85%) male participants and a total of 555 (51.15%) female participants in the study. From the total of 530 male participants, 307 males comprising 59.9%, of participated in the intervention group whereas 320 males, comprising 57.7% of males, participated in the control group. On the other hand, from a total of 555 female participants in the study, 223 females, comprising 42.1% of participating females, participated in the intervention group whereas 235 females, comprising 42.3% of females, participated in the control group. Although there is a slight imbalance in the proportion of male versus female participants,

Table 5.3: Distribution of participants according to different demographical aspects

Site		A	B	C	D	E	F	G	H	I	J	K	Total
No. of participants		86	97	99	98	95	100	101	98	103	102	106	1085
Group	Intervention	42	57	59	57	42	61	63	58	63	62	23	627
	Control	44	40	40	41	53	39	38	40	40	40	43	458
Gender	Male	39	46	48	49	39	46	51	52	58	47	55	530
	Female	47	51	51	49	56	54	50	46	45	55	51	555
Age	16 and less	76	73	69	77	68	84	89	75	81	88	83	863
	17 only	7	13	23	16	20	9	8	16	15	14	18	159
	18 and more	3	11	7	5	7	7	4	7	7	0	5	63
Home Language	IsiZulu	9	56	47	56	41	52	39	49	58	69	74	550
	IsiSwati, IsiXhosa & IsiNdebele	69	23	27	24	47	25	22	20	14	8	10	289
	Any other language	16	36	25	18	7	23	40	29	31	25	22	246
Place of Residence	Township	61	85	84	68	84	87	81	67	80	94	88	879
	Farm	1	5	3	13	3	5	14	17	18	4	3	86
	Urban	24	7	12	17	8	8	6	14	5	4	15	120
Family Set-up	No Parent	20	24	23	19	14	13	19	20	19	22	19	212
	One Parent	41	53	39	48	49	48	47	45	56	55	61	542
	Both Parents	25	20	37	31	32	39	35	33	28	25	26	331
Family Structure	Nucleated	32	27	34	34	21	30	37	27	36	42	46	366
	Extended	54	70	65	64	74	70	64	71	67	60	60	719
Socio-Economic Status	Basic plus at least one	19	25	19	35	12	34	27	34	30	31	32	298
	Basic plus 2	50	46	49	33	47	49	40	35	33	43	51	476
	Basic plus 3 or more	17	26	31	30	36	17	34	29	40	28	23	311

this distribution is normal as it resembles the real distribution between male and females. In South Africa, females outnumber males (Statistics South Africa, 2013).

5.5.1.2 Distribution of participants according gender

The distribution further indicates that of the 627 participants who fell in the intervention group, 536 falls in the category 16 and less group of years, 71 fell in the category 17 group of years and 20 fell in the category 18 and more group of years. Thus, the category 16 and less group of years comprises of 62.1% of participants in the intervention group, the category 17 years only 44.7% of participants in the intervention group and the category 18 and more comprises of 31.7% of participants in the intervention group.

On the other hand, of the 458 participants who fell in the control group, 327 fell in the category 16 and less group of years, 88 falls in the category 17 group of years and 43 fell in the category 18 and more group of years. Thus, the category 16 and less group of years comprises 37.9% of participants in the control group, the category 17 years only 55.3% of participants in the control group and the category 18 and more comprises 68.3% of participants in the intervention group.

5.5.1.3 Distribution of participants according to age

The learners' ages were distributed into three categories, namely: less than 16, 17 and 18 and more than 18 years. As it appears in Table 5.3, many participants fall in the category 16 and less group of years, i.e., 863 (79.53%) whereas the rest of the participants fall in the category 17 years, i.e., 159 (14.65%) and 18 years and more with 63 (5.8%). Although this distribution revealed skew towards participants who fell in the category 16 years and less, this distribution is normal as the South African school age cohort permits Grade 10 to be 16 years old.

5.5.1.4 Distribution of participants according to home language

In the questionnaire, participants had to indicate home language. However, this presented a challenge during the analysis as more than ten languages were captured. As such, the languages were finally grouped into three categories. The first category consisted of the majority dominant language in Mpumalanga, namely: Isizulu, the second category consisted of minority dominating languages which included IsiSwati, IsiXhosa and IsiNdebele and the last category consisted of other minority languages, like Ixitsonga, Isipedi, Tshivenda and other languages that are catered for in Mpumalanga schools.

As appears in Table 5.3, many participants speak Isizulu, i.e., 550 (50.69%), 289 (26.64%) speak IsiSwati, IsiXhosa or IsiNdebele, whereas the rest of the participants, i.e., 246 (22.64%) speak other languages that are catered for in Mpumalanga schools except Isizulu IsiSwati, IsiXhosa or IsiNdebele. The distribution is skewed in the first category of Isizulu language speakers as language spoken by majority of people in Mpumalanga.

The distribution in the table further indicates that of the 627 participants who fell in the intervention group, 317 participants fell in the category Isizulu language speaker group, 205 participants fell in the category IsiSwati, IsiXhosa or IsiNdebele language speaker group, whereas 105 participants fell in the category other languages speaker group. Thus, category Isizulu language speaker group comprises 57.6% of participants in the intervention group, category IsiSwati, IsiXhosa or IsiNdebele language speaker group comprises 70.9% of participants in the intervention group, whereas category other languages speaker group comprises 42.7% of participants in the intervention group.

On the other hand, of the 458 participants who fell into the control group, 233 of the participants fell in the category Isizulu language speaker group, 84 participants fell in the category IsiSwati, IsiXhosa or IsiNdebele language speaker group, whereas 141 of participants falls in the category other languages speaker group. Thus, category Isizulu language speaker group comprises 42.4% of participants in the control group, category IsiSwati, IsiXhosa or IsiNdebele language speaker group comprises 29.1% of

participants in the control group, whereas category other languages speaker group comprises 57.3% of participants in the control group.

5.5.1.5 Distribution of participants according to the place of residence

In the questionnaire, township, farm and urban were the only options given as a place of residence. Only three options were given because Mpumalanga Province is dominated by farming and mining as major economic activities. As such, residence is predominately distributed as townships, suburbs and small farmstead villages. As appears in the Table 5.3, referred in 5.1.1 above, majority of participants, 879 (81.01%) came from the township, 86 (7.93%) from urban areas and 120 (11.06%) from farming areas.

The distribution further indicates that of the 627 participants who fell into the intervention group, 537 participants comes from the townships, 35 participants come from the farms, whereas 55 participants come from the urban area. Thus, category township comprises 61.1% of participants in the intervention group, category farm comprises 40.7% of participants in the intervention group, whereas category urban comprises 45.8% of participants in the intervention group.

On the other hand, of the 458 participants who fell into the control group, 342 participants come from the township, 51 participants come from the farm, whereas 65 of participants come from the urban areas. Thus, category township comprises 38.9% of participants in the control group, category farm comprises 59.3% of participants in the control group, whereas category urban comprises 54.2% of participants in the control group.

5.5.1.6 Distribution of participants according to family set-up

In the questionnaire, participants had to indicate people who lived with them. However, this presented a challenge during the analysis as more than 20 combinations were captured. As such, this question was split into two major categories for analysis. The

first category, which is discussed in this sub-section, consisted of the family set-up which consisted of the sub categories no parent, one parent and both parents as people are staying with the participant. The second category, which is discussed in the next section, namely: 5.5.1.7, consisted of the family structure which consisted of the sub categories nucleated and extended type of family, varying according the relationship and number of people living with the participants.

As appears in the demographic Table 5.3, many participants comes from a one-parent family, 542 (58.81%), 331 (30.51%) participants come from both parents family and 212 (19.54%) participants come from one-parent family. The distribution further indicates that of the 627 participants who were falling in the intervention group, 99 participants fell in the category no parent group, 318 participants fell in the category one parent group, whereas 210 participants fell in the category both parent group. Thus, category no parent group comprises 46.7% of participants in the intervention group, category one parent group comprises 58.7% of participants in the intervention group, whereas category both parent group comprises of 63.4% participants in the intervention group.

On the other hand, of the 458 participants who fell in the control group, 113 participants fell in the category no parent group, 224 participants fell in the category one parent group, whereas 121 participants fell in the category both parent group. Thus, category no parent group comprises of 53.3% participants in the control group, category one parent group comprises of 41.3% of participants in the control group, whereas category both parent group comprises 36.6% of participants in the control group.

This distribution is interesting as it presents the distribution which is unlikely in the real world. It suggests that most of the participants, amounting to 58.81% have one parent, whereas 19.54% of participants had no parents (<http://www.mrc.ac.za/bod/estimatesprovincial2.pdf>).

5.5.1.7 Distribution of participants according to family structure

As indicated in the demographic Table 5.3, a total of 366 (33.73%) participants from a nucleated family structure and a total of 719 (66.27%) participants from extended family structure participated the study. From a total of 366 participants from a nucleated family structure, 178 participants from a nucleated family structure comprising 59.9% of participants from a nucleated family structure, took part in the intervention group whereas 188 participants from a nucleated family structure, comprising 51.4% of participants from a nucleated family structure, took part in the control group. On the other hand, from a total of 458 participants from an extended family structure who took part in the study, 449 participants from an extended family structure comprising 62.4% of participating participants from an extended family structure, took part in the intervention group whereas 270 participants from an extended family structure, comprising 37.6% of participants from an extended family structure, took part in the control group.

This distribution in which majority of participants, 66.27% comes from an extended type of family structure versus the 33.73% of participants coming from the nucleated family structure is convincing as it somehow reflects realities in the African families to which the participants belong. Majority of African families are of the extended type because of the Ubuntu philosophy that prevails among the Africans (Higgs & Smith, 2007).

5.5.1.8 Distribution of participants according to socio-economic classes

In the questionnaire, participants were asked to indicate items and municipal services they had at home. Similar to the case of languages, this had many options which presented challenges in analyses. As such, options were combined into three major categories. The first category consisted of lower socio-economic status in which participants come from families which only had basic services, namely: water and/or electricity and one item, i.e., a television (TV), bicycle, motor car or a phone. The second category consisted of middle socio-economic status in which participants comes from families which had basic services, namely: water and/or electricity and two items in the list TV, bicycle, motor car or a phone. The third category consisted of high socio-economic status in which participants come from families which had basic services,

namely: water and/or electricity and all items in the list TV, bicycle, motor car and a phone.

As it appears in demographic Table 5.3, many participants came from middle socio-economic class comprising of 476 (43.71%) of total participants, followed by participants from high socio-economic class who comprises of 311 (28.66%). Participants from lower socio-economic class were few as they comprise 298 (25.64%) of the total participants.

The distribution in Table 5.4 further indicates that of the 627 participants who were falling in the intervention group, 151 participants fell in the category lower socio-economic class group, 287 participants fell in the category middle socio-economic status group, whereas 189 participants fell in the category high socio-economic group. Thus, category lower socio-economic group comprised 50.7% of participants in the intervention group, category middle socio-economic status group comprised 60.3% of participants in the intervention group, whereas category high socio-economic group comprised 60.8% of participants in the intervention group.

On the other hand, of the 458 participants who fell in the control group, 147 participants fell in the category lower socio-economic class group, 189 participants fell in the category middle socio-economic status group, whereas 122 participants fell in the category high socio-economic group. Thus, category lower socio-economic group comprises 49.3% of participants in the control group, category middle socio-economic status group comprises 39.7% of participants in the control group, whereas category high socio-economic group comprises 9.2% of participants in the control group.

5.5.2 Results on HIV and AIDS knowledge

The scores for HIV and AIDS knowledge scale totalled 14. According to the frequency distribution of the scores which appears in Table 5.4 on page 178, both the intervention and the control groups showed to have a good acquisition of HIV and AIDS knowledge from pre-test.

The intervention group's scores ranged from 2-14, with most of the participants, i.e., 105 (75.44%), scoring between 7 and 10, at pre-test. A similar trend was also observed at post-test in which the intervention group's scores also ranged from 2-14, with most of the participants also scoring between 7 and 10, i.e., 330 (80.38%). On the other hand, the control group's scores ranged from 3-13, with most of the participants, i.e., 435 (57.64%), scoring between 8 and 10, at pre-test. At post-test the control group's scores also ranged from 4-14, with most of the participants, i.e. 375 (81.88%), scoring between 7 and 11.

Table 5.4: Frequency distribution of pre/post-test scores accounted by training

Frequencies	Intervention Group Pre-test (N=627)	Control Group Pre-test (N=458)	Intervention Group Post-test (N=627)	Control Group Post-test (N=458)
2	1	0	1	0
3	4	1	1	0
4	9	4	9	3
5	24	18	19	11
6	49	29	47	31
7	90	66	81	60
8	139	77	107	71
9	139	101	128	87
10	105	86	119	106
11	44	44	69	51
12	18	26	34	27
13	4	6	9	10
14	1	0	3	1

The graph in Figure 5.1, on page 179, gives a comparison of the pre/post-test mean scores of HIV and AIDS knowledge scale. From this figure, it is evident that participants were already showing a good acquisition of HIV and AIDS knowledge right from the pre-test and that there was a slight improvement of the mean scores at post-test in both groups. The intervention groups' mean scores increased from pre-test to post-test by 0.37, i.e., from 8.41 to 8.78. On the other hand, the control groups' mean score increased from pre-test to post-test by 0.24, i.e., from 8.74 to 8.98.

Figure 5.1: Bar-graph illustrating the pre/post-test changes in the mean scores of HIV and AIDS knowledge scale from pre-test to post-test

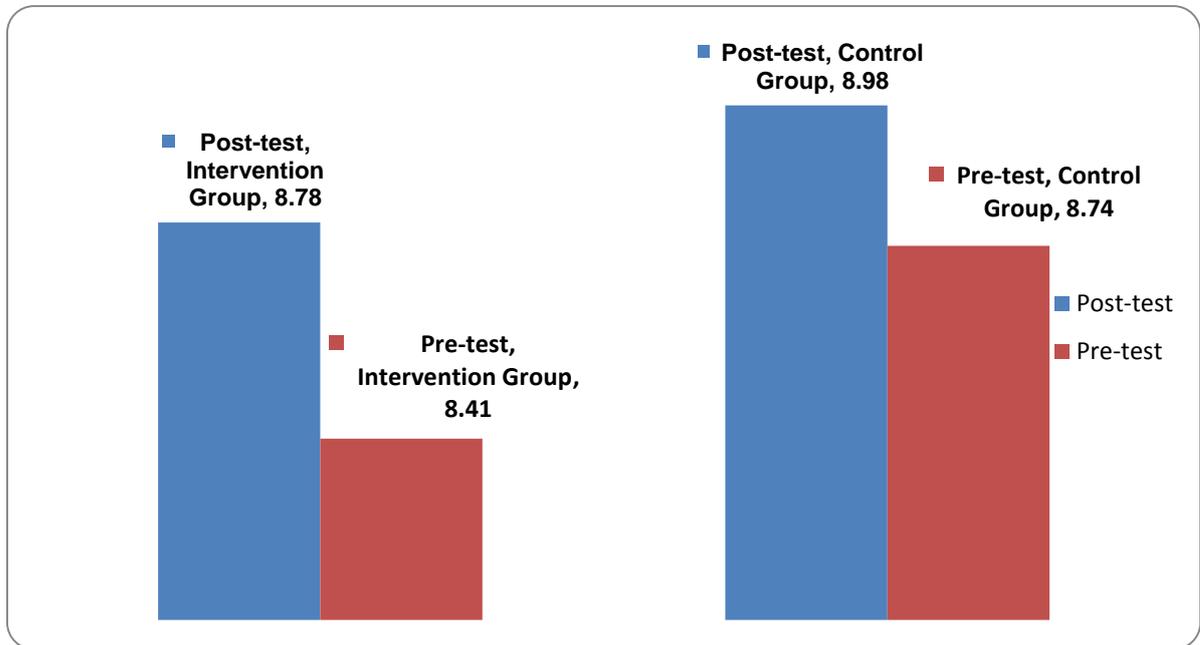


Table 5.5, on page 180, gives a comparison of the pre/post-test mean scores, expressed in percentages, for each of the 14 knowledge items. For example, at pre-test, for item no.1, from the 627 participants in the intervention group the mean score is 93.46%. At post-test, the percentage did not change showing that there was no increase or decrease in the mean score. However, the case was different with the control group. At pre-test, participants had a mean of 93.46%. However, it was surprising that at post-test, instead of the mean score increasing, as expected, it decreased to 89.96%.

Table 5.5: Mean score of participants on individual HIV and AIDS knowledge statements, expressed in percentages

No.	Statement	Pre-test		Post-test	
		Intervention Group (N=627)	Experimental group (N=458)	Intervention Group (N=627)	Experimental group (N=458)
1	A person can get infected with HIV by holding hands with an HIV positive person	93.46%	90.39%	93.46%	89.96%
2	A person can get infected with HIV by sharing food with an HIV positive person	92.50%	89.08%	91.55%	85.37%
3	A pregnant woman who is HIV positive can transmit HIV to her unborn baby	17.86%	28.17%	26.64%	30.35%
4	Having sex with a virgin cures AIDS	66.67%	78.60%	72.25%	79.26%
5	Abstinence can reduce the risk of contracting HIV and AIDS	50.24%	60.045	56.78%	61.14%
6	A healthy person can get HIV and AIDS	36.06%	39.28%	41.83%	42.36%
7	Nevirapine can be used to reduce the chances of mother-child transmission of HIV during pregnancy	66.99%	67.03%	63.80%	67.03%
8	A person can get infected with HIV if somebody bewitches them	58.55%	77.51%	73.68%	77.29%
9	A person can get infected with HIV by having unprotected sex with an HIV positive person	84.37%	83.63%	82.94%	84.06%
10	You can get HIV even if you only have sex once	53.59%	56.11%	64.91%	64.19%
11	When you drink alcohol you are more likely to engage yourself in sexual intercourse	66.03%	63.76%	66.02%	65.07%
12	Having one sexual partner can reduce the risk of contracting HIV and AIDS	51.83%	51.97%	7.85%	47.85%
13	One can get HIV and AIDS testing from a local clinic	48.80%	53.49%	53.91%	54.15%
14	AZT can be used to cure AIDS	33.65%	35.37%	43.70%	41.27%

The general distribution of the mean scores indicate that as far as scoring was concerned; for the intervention group, participants improved from pre-test to post-test on Statements 3, 4, 5, 6, 13 and 14, decreased from pre-test to post-test on Statements 2, 7, 8, 9, 10, 11 and 12, whereas the scores remained static for statement no. 1. For the control group participants improved in scoring from pre-test to post-test on Statement 3, 4, 5, 6, 10, 11, 12, 13 and 14 and decreased from pre-test to post-test in statement no. 1, 2, 8 and 9 whereas the scores remained static for item Statement no 7. As the scores were expected to increase from pre-test to post- test, the decrease of percentages in the scores of participants from pre-test to post-test was a worrying factor in this study. The pattern may be an indication that the participants were not concentrating when answering the questions.

Another worrying factor was an indication of lower mean score of the following questions pertaining to HIV and AIDS prevention: 3) a pregnant woman who is HIV positive can transmit HIV to her unborn baby and 6) a healthy person can get HIV and AZT can be used to cure AIDS. Meanwhile participants' mean scores ranged from 47.85% to 93.46% on other statements, the mean score of participants on these three identified statements ranged from 15.28 to 42.36%. These distributions of scores can be an indication that participants' knowledge was still low pertaining to issues of HIV and AIDS transmission, prevention, care and management.

5.5.2.1 Effect of training on HIV and AIDS knowledge scale

This sub section answers sub research question 4.1, namely: pertaining to knowledge, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: sites, gender, age, languages, residence, family composition, family structure, socio-economic status? The t-test was used to determine if there was any significant change, from pre-test to post-test, between the intervention and the control groups and the following hypothesis was tested;

H₀ Pertaining to knowledge, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training.

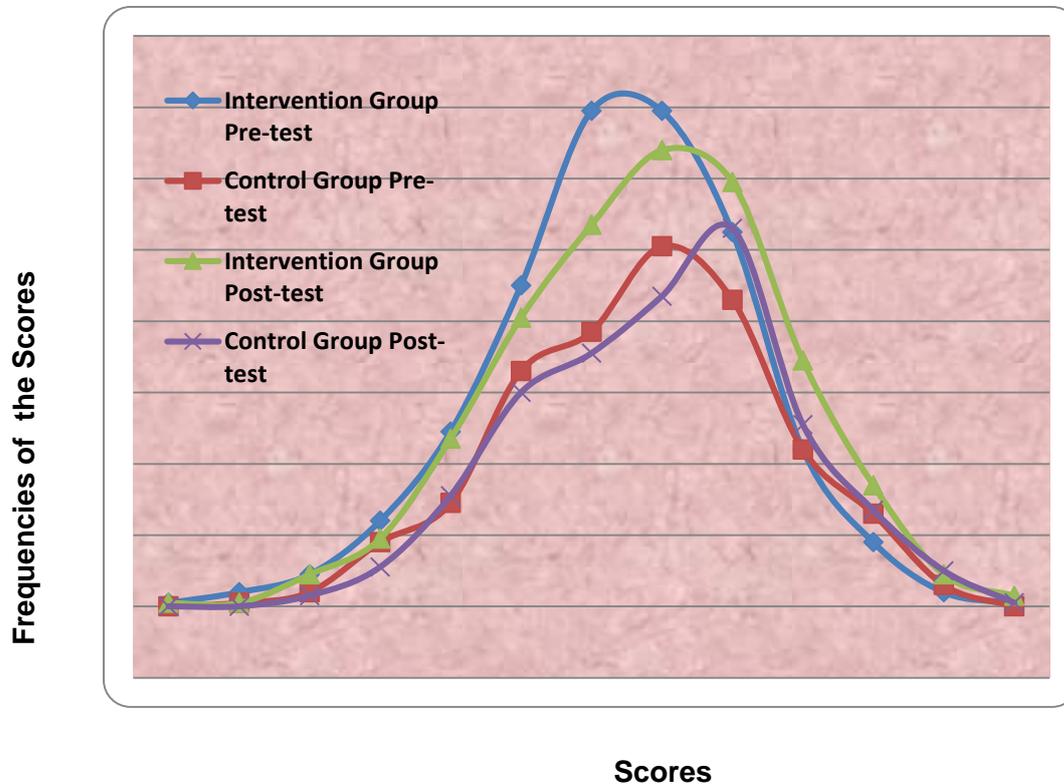
H₁ Pertaining to knowledge, there is a significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those did not receive the training.

The t-test results indicated that there is a significant increase in the mean scores for both the control and intervention groups. Thus, for the control group $t= 2.25$, $p=0.025<0.05$ and for the intervention group $t= 3.70$, $p=0.000<0.05$. However, the t-test further indicated that the rate of change between the intervention and the control groups is not significant as $t= 934$, $p=0.350>0.05$. It therefore means that the null hypothesis was accepted whereas the alternative hypothesis was rejected. Therefore, this means that pertaining to HIV and AIDS knowledge, there was no significant difference was found in this study, between the mean scores of learners in the intervention group and those in the control group as an answer to research sub-question 4.1.

The graph in Figure 5.2, on page 183, gives a summary of the HIV and AIDS knowledge scale scores. The four lines of the graph that crosses each other and also have the gradients with the similar bell-like shapes turning close to each other also indicate that scores of both the intervention and the control groups were competing very close to each other in both pre-test and post-test.

The pattern in the graph confirms that there was no significant different brought by training between the intervention group and control group. However, the slight right skewed of the intervention group's post-test scores, as depicted by the green line in the graph, confirms that there was a slight increase in the score of the intervention group at post-test.

Figure 5.2 Line-graph illustrating the rate of change in the mean scores of HIV and AIDS knowledge scale from pre-test to post-test as accounted by training



5.5.8.2 Effect of the demographics on HIV and AIDS knowledge scale

When ANOVA techniques were used to determine the effect of each of the demographics and training on HIV and AIDS knowledge scale, results was as follows:

- Site

In terms of sites, there was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training, in terms of site. Thus, $F(10,1063)=1.145$, $p=0.325 > 0.05$. This finding was also confirmed by the η^2 which indicated that sites differences contributed 0,19% differences between the mean scores of learners who received training in the adapted HIV and AIDS

intervention programme and those who did not receive the training. The post-hoc test results also indicate that there were no differences observed within the 11 sites pertaining to HIV and AIDS knowledge.

- Gender

In terms of gender, there is no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training, in terms of gender. Thus, $F(1,1081)=0,231$, $p=0,631>0.05$. This finding was also confirmed by the η^2 which indicated that the contribution made by gender in knowledge is 0.1% which is minimal as it is almost 0%. No post-hoc test was conducted as the groups are less than three.

- Age

In terms of age, there was no significant difference found between the mean scores of learners who received training and those who did not receive any training in the adapted HIV and AIDS intervention programme. Thus, $F(2,1079)=1.971$, $p=0.140>0.05$. The η^2 also supported this finding, as it indicated that age contributed 0.7%, in bringing the difference between the mean score of both intervention and control groups, as far as knowledge of HIV and AIDS is concern. The post-hoc test results also indicated that there was no difference found within the three age groups pertaining to HIV and AIDS knowledge.

- Language

In terms of languages, there was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training, in terms of site. Thus, $F(2,1079)=2.262$, $p=0.105>0.05$. This finding was also confirmed by the η^2 which indicated that sites differences contributed 0.6% differences between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training. The post-hoc test results also indicated that

there were no differences observed within the three home language groups pertaining to HIV and AIDS knowledge.

- Residence

In terms of residence, there was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme learners in Mpumalanga and those who did not receive the training, in terms of residence. Thus, $F(2,1079)=1.300$, $p=0.273>0.05$. This finding was also confirmed by the η^2 which indicated that sites differences contributed 0.5% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there were no differences observed within the three residential groups pertaining to HIV and AIDS knowledge.

- Family composition

In terms of family composition, there was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for learners in Mpumalanga and those who did not receive the training, in terms of family composition. Thus, $F(2,1079)=0.016$, $p=0.984>0.05$. This finding was also confirmed by the η^2 which indicated that family composition differences contributed 0.2% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there were no differences observed within the three family composition groups pertaining to HIV and AIDS knowledge.

- Family structure

In terms of family structure, there was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme learners in Mpumalanga and those who did not receive the training, in terms

of family structure. Thus, $F(1,1081)=0.349$, $p=0.555>0.05$. This finding was also confirmed by the η^2 which indicated that family structure difference contributed 0.1% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. No post-hoc test conducted as the groups were less than three.

- **Socio-economic status**

In terms of the socio-economic status, there was a significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for learners in Mpumalanga and those who did not receive the training, in terms of socio-economic status. Thus, $F(2,1079)=4.287$, $p=0.014<0.05$. This finding was also confirmed by the η^2 which indicated that socio-economic status differences contributed 1% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there were significant differences found within the three socio-economic groups. A difference existed between the basic plus group and the basic plus at most one group.

5.5.3 Results on HIV and AIDS behaviour

Unlike for the knowledge scale, the total scores for HIV and AIDS behaviour scale was 60. The frequency distribution of the scores which appears in Table 5.6, on page 187 shows that both the intervention and the control groups had a good acquisition of HIV and AIDS behaviour from the pre-test.

On the other hand, the control group's scores ranged from the class intervals 20-29 and 50-59, with most of the participants, i.e., 511 (79.26%), falling in the class intervals 30-39 and 40-49, at pre-test. At post-test the control group scores ranged from the class intervals 00-09 and 50-59, with most of the participants, i.e., 330 (72.05), still falling in the class intervals 30-39 and 40-49.

Table 5.6: Frequency distribution of behaviour pre/post-test scores accounted by training

Frequencies	Intervention Group Pre-test (N=627)	Control Group Pre-test (N=458)	Intervention Group Post-test (N=627)	Control Group Post-test (N=458)
00-09	0	0	0	1
10-19	0	0	0	0
20-29	43	46	44	47
30-39	271	183	238	159
40-49	277	180	273	171
50-59	36	49	72	80

The intervention group's scores ranged from the class intervals 20-29 and 50-59, with most of the participants, i.e., 548 (87.4%), falling in the class intervals 30-39 and 40-49, at pre-test. Surprisingly, the intervention group's scores show a slight decrease at post-test. The scores still ranged from the class intervals 20-29 and 50-59, with most of the participants still falling in the class intervals 30-39 and 40-49. However, only 363 (81.5%) of the participants fell in these class intervals, which result in the percentage decrease of 5.9% from the pre-test scores.

Figure 5.3, on page 188, gives a comparison of the pre/post-test mean scores HIV and AIDS behaviour scale. From the table it is evident that the trend which was found in HIV and AIDS knowledge scale still prevailed. From the table, there was an increase of the mean scores for both the intervention and the control groups. The intervention group's mean scores increased from pre-test to post-test by 1.2, i.e., from 39.35 to 40.55.

On the other hand, the control group's mean score increased from pre-test to post-test by 0.03, i.e., from 40.55 to 40.58. It is also evident from this table that participants were already showing good acquisition of HIV and AIDS behaviour right from the pre-test and that there was a slight improvement of the mean scores at post-test in both groups.

Figure 5.3: Bar-graph illustrating the pre/post-test change in the mean scores of HIV and AIDS behaviour scale from pre-test to post-test as accounted by training

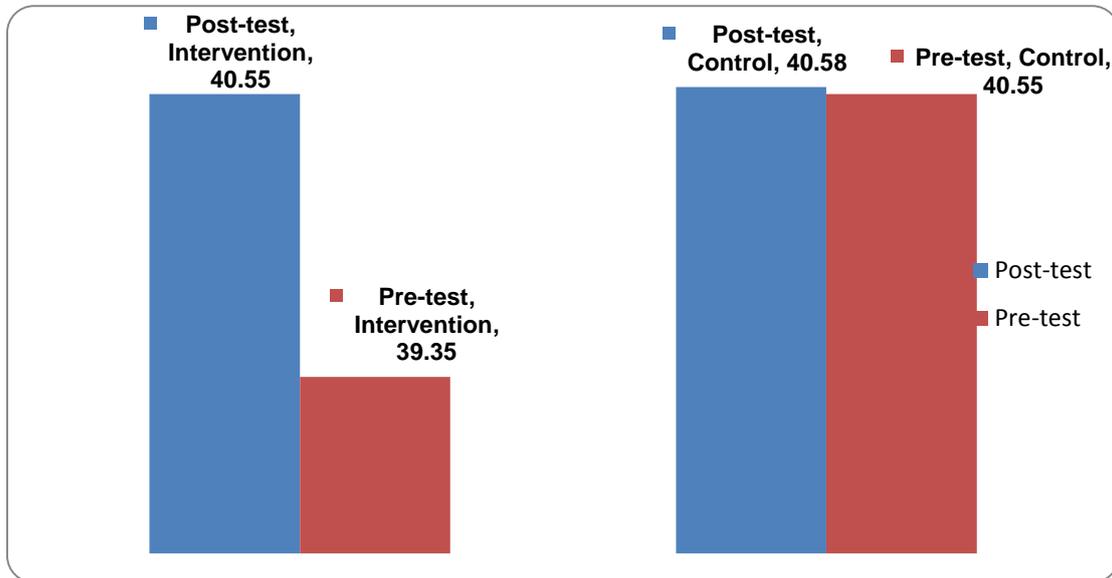


Table 5.7, on page 190, gives a comparison of the pre/post-test mean scores, expresses in percentages, for each of the 12 HIV and AIDS behaviour items, as per example given in 5.5.2 above.

However, the general distribution of behaviour ratings indicate that as far as HIV and AIDS behaviour acquisition was concerned, for the intervention group, participants improved from pre-test to post-test on Statements 1, 2, 3, 4, 6, 7, 8, 11 and 12, decreased from pre-test to post-test in Statements 10 only, whereas the score remained static for Statement 5. For the control group, participants improved in scoring from pre-test to post-test in all statements with no decreased or static from pre-test to post-test in all the 12 statements.

A worrying issue was an indication of lower performance on the following statements pertaining to HIV and AIDS prevention and risky behaviours: 2) I plan to get tested for HIV regularly, 4) I think I will be able to ask my sexual partner about their other sexual partners before having sex with me, 5) HIV and AIDS can be avoided by limiting to only

one sexual partner, 6) alcohol and drugs can make one vulnerable to HIV and AIDS, 11) HIV and AIDS can be avoided by abstaining from sexual intercourse and 12) HIV and AIDS can be avoided by limiting the number of sexual partners. Meanwhile participants' mean scores ranged from a mean score of 34.72% to a mean score of 69.22% on other statements, the mean score of participants on these six identified statements ranged from a mean score of 20.60% to a mean score of 38.60%. These distributions of scores is a possible an indication that participants' HIV and AIDS behaviour was still low pertaining to issues of HIV and AIDS prevention and risky behaviour.

5.5.3.1 Effect of intervention on behaviour

This sub section answers sub research question 4.2, namely: pertaining to behaviour, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: sites, gender, age, languages, residence, family composition, family structure, socio-economic status? The t-test was used to determine if there was any significant change from pre-test to post-test, between the intervention and the control groups and the following hypothesis was tested:

H_0 Pertaining to behaviour, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training.

H_1 Pertaining to behaviour, there is a significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those did not receive the training.

Table 5.7: Mean score of participants on individual HIV and AIDS behaviour statements, as expressed in percentages

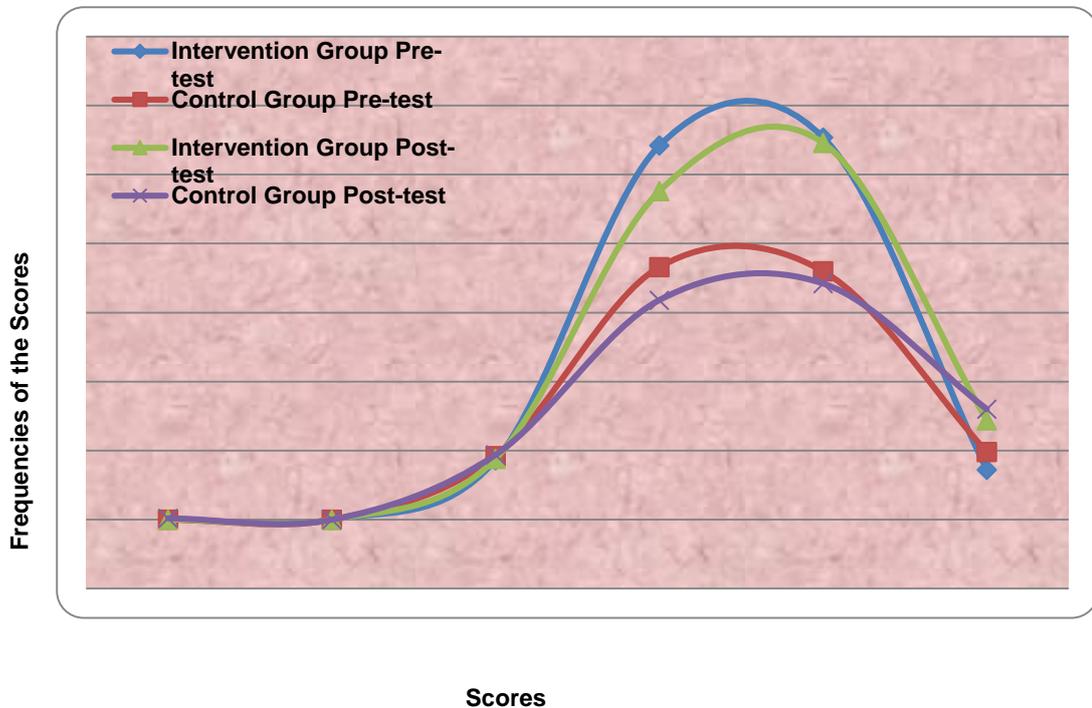
No.	Statement	Pre-test		Post-test	
		Intervention Group (N=627)	Experimental group (N=458)	Intervention Group (N=627)	Experimental group (N=458)
1	If a girl receives presents from a boy, she must have sex with him	63.32%	59.17%	69.22%	63.76%
2	I plan to get tested for HIV regularly	32.70%	35.81%	38.60%	37.56%
3	I think it is sometimes okay for a person to have many sexual partners	53.75%	52.62%	58.21%	55.24%
4	I think I will be able to ask my sexual partner about their other sexual partners before having sex with me	32.54%	20.60%	37.16%	3.79%
5	HIV and AIDS can be avoided by limiting to only one sexual partners	25.52%	21.83%	25.52%	29.26%
6	Alcohol and drugs can make one vulnerable to HIV and AIDS	25.68%	27.07%	27.11%	29.69%
7	If a boy gives a girl presents, she must have sex with him	57.10%	54.37%	57.89%	57.90%
8	I think it is okay for a girl to have many sexual partners	53.91%	53.06%	62.04%	60.48%
9	I think I will be able to make sure that my sexual partner goes for an HIV test before having sex with me	50.72%	49.31%	52.31%	51.75%
10	I will be able to refuse sex with someone who is offering money or a gift	40.51%	34.72%	37.48%	36.25%
11	HIV and AIDS can be avoided by abstaining from sexual intercourse	25.84%	31.66%	28.87%	32.75%
12	HIV and AIDS can be avoided by limiting the number of sexual partners	23.92%	28.17%	29.67%	31.00%

The t-test results indicated that there was an observed increase in the mean scores for both the control group and intervention group that was significant. Thus, for the intervention group, $t= 2.51$, $p=0.012<0.05$ and for the intervention group $t= 3.12$, $p=0.002<0.05$. However, the t-test further indicated that the rate of change between the two groups, namely: intervention group and the control group was not significant as $t= 0.318$, $p=0.750>0.05$. It therefore meant that the null hypothesis was accepted whereas the alternative hypothesis was rejected. Therefore this means that pertaining to HIV and AIDS behaviour, there was no significant difference found, in this study, between the mean scores of learners in the intervention group and those in the control group as an answer to research sub question 4.2.

The graph in Figure 5.4, on page 192, gives a summary of the HIV and AIDS behaviour scale results. As it was the case with the knowledge scale, the four lines of the graph still cross each other and also have gradients with similar bell-like shapes turning close to each other, indicating that the scores for both the intervention and the control groups were competing very close to each other in both pre-test and post-test.

This pattern in this graph, namely: 5.4, confirms that there was no significant difference brought by training between the intervention group and control group. However, the skew to the right of the intervention group's post-test scores, as depicted by the green line in the graph, still confirms that there was a slight increase in the score of the intervention group at post-test.

Figure 5.4: Line-graph illustrating the rate of change in the mean scores of HIV and AIDS behaviour scale from pre-test to post-test as accounted by training



5.5.3.2 Effect of demographics on HIV and AIDS behaviour scale

As was the case with the knowledge scale, ANOVA techniques were used to determine the effect of each of the demographics on HIV and AIDS behaviour. For each demographic, results were as follows:

- Site

There was a significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training, in terms of site, as $F(10,1063)=4.885$, $p=0.000<0.05$. This finding was further confirmed by the η^2 which indicated that sites differences contributed 5.4% between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme. The post-hoc test results also indicated that a significant difference existed among Sites C, B, E, H, I, J, F, D, K and A.

- Gender

A significant difference was found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme in terms of gender, as $F(1,1081)=4,464$, $p=0,043<0.05$. This finding was also confirmed by the η^2 which indicated that the contribution made by gender in behaviour was 4%. No post-hoc test conducted as the groups were less than three.

- Age

Age showed a significant difference between the mean scores of learners who received training and those who did not receive any training in the adapted HIV and AIDS intervention programme as $F(2,1079)=4.850$, $p=0.008<0.05$. This finding was also confirmed by the η^2 which indicated that age contributed 1% in bringing this difference between the mean pre-test score and post-test score as far as behaviour of HIV and AIDS is concern in this study. The post-hoc test results also indicated that a significant difference existed between the age group 16 and less and age group 18 and more.

- Language

In terms of language, there was a significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme as $F(10,1063)=5.505$, $p=0.004<0.05$. This finding was also confirmed by the η^2 which indicated that sites differences contributed 1.1% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme. The post-hoc test results also indicated that there were significant differences that existed among Isizulu, Isiswati, Isixhosa and Isindebele.

- Residence

No significant difference was found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training, in terms of residence as F

(2,1079)=0.413, $p=0.662>0.05$. In confirming this finding η^2 indicated that sites differences contributed 0.07% differences between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there was no difference observed within the three residential groups pertaining to HIV and AIDS behaviour.

- Family composition

In terms of family composition, there was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training as $F(2,1079)=0.611$, $p=0.543<0.05$. Eta-squared (η^2) also confirmed that site differences contributed 0.01%, difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there was no difference observed among the three family composition groups pertaining to HIV and AIDS behaviour.

- Family structure

There was no significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training, in terms of family structure as $F(1,1081)=0.141$, $p=0.708>0.05$. This finding was also confirmed η^2 which indicated that site differences contributed 0.4% differences between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. No post-hoc test conducted as the groups were less than three.

- Socio-economic status

In terms of the socio-economic status, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training, in terms of socio-economic status as $F(2,1079)=2.335$, $p=0.097>0.05$. The finding was also confirmed by the η^2 which indicated that socio-economic status differences contributed 0.4% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there was no difference observed among the three socio-economic status groups pertaining to HIV and AIDS behaviour.

5.5.4 Results on HIV and AIDS attitudes

As was the case with the scores for HIV and AIDS behaviour, HIV and AIDS attitudes scale totalled 60. Analyses of the frequency distribution of the scores which appears in Table 5.8, on page 196, shows that both the intervention and the control groups had a good acquisition of HIV and AIDS attitudes from pre-test, as was the case with HIV and AIDS knowledge and behaviour scales. The intervention group's scores ranged from the class intervals 00-09 and 50-49, with most of the participants, i.e., 608 (96.97%), falling in the class intervals 30-39, 40-49 and 40-49, at pre-test. At post-test the intervention group's scores show a slight decrease. Similar to pre-test, the scores still ranged in the class intervals 00-09 and 50-59, most of the participants still falling in the class intervals 30-39, 40-49 and 40-59. However, only 445 (96.81%) of the participants fell in these class intervals, which result in the percentage decrease of 0.16% from the pre-test scores.

On the other hand, the control group's scores ranged from the class intervals 20-29 and 50-59, with most of the participants, i.e. 607 (97.16%), fell in the class intervals 30-39, 40-49 and 50-59, at pre-test. At post-test the control group scores ranged from the class intervals 20-29 and 50-59, with most of the participants, i.e., 450 (98.25%), fell in the class intervals 30-39, 40-49 and 50-59.

Table 5.8: Frequency distribution of HIV and AIDS behaviour pre/post-test scores accounted by training

Frequencies	Intervention Group Pre-test	Control Group Pre-test	Intervention Group Post-test	Control Group Post-test
	(N=627)	(N=458)	(N=627)	(N=458)
00-09	3	0	1	0
10-19	0	0	0	0
20-29	16	13	19	8
30-39	159	145	194	159
40-49	285	176	231	152
50-59	164	124	182	139

Figure 5.5, on page 197, gives a comparison of the distribution of pre/post-test scores on attitudes as accounted by training. From the table, there is a decrease of the mean scores from pre-test to post-test for the intervention group whereas there was an increase of the mean score from pre-test to post-test in the control groups. The intervention group's mean scores decreased from pre-test to post-test by 0.01, i.e., from 43.98 to 43.97 whereas the control group mean scores increased from pre-test to post-test by 0.33, i.e., from 43.91 to 44.24.

Figure 5.5: Bar-graph illustrating the pre/post-test change in the mean scores of HIV and AIDS attitudes scale from pre-test to post-test as accounted by training

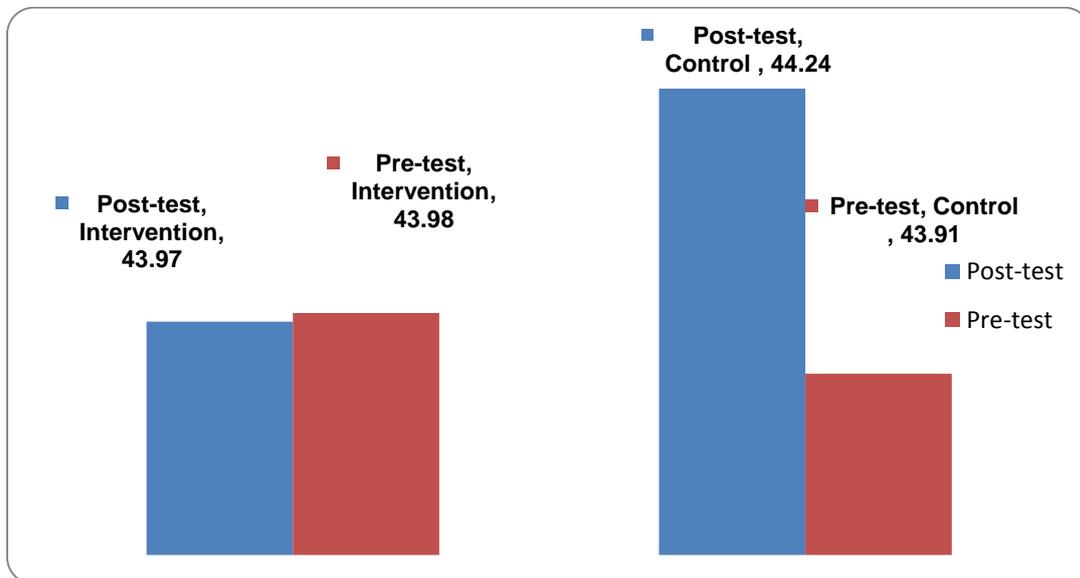


Table 5.9, on page 198, compares the general performance of participants on each of the 12 HIV and AIDS behaviour statements as accounted by the percentage of participants who rated a particular statement appropriately as per example given in 5.5.3.1 above. The general distribution indicated that as far as attitudes acquisition is concerned, for the intervention group, participants improved from pre-test to post-test on Statement 2, 3 and 7 only, decreased from pre-test to post-test in Statement 1, 4, 6, 8, 9, 11 only 12 with no static in statement.

Table 5.9: Mean score of participants on individual HIV and AIDS attitudes statements, as expressed in percentages

No.	Statement	Pre-test		Post-test	
		Intervention Group (N=627)	Experimental group (N=458)	Intervention Group (N=627)	Experimental group (N=458)
1	Drinking alcohol makes one to do think properly	61.40%	58.30%	60.26%	64.12%
2	It is okay for someone to have sex to get nice things	59.33%	58.95%	60.61%	58.30%
3	I believe people of my age should wait until they are older before they have sex	58.21%	54.37%	58.53%	54.37%
4	There is no harm in drinking lots of alcohol	48.33%	45.63%	46.57%	47.16%
5	It is okay to care for my relative with AIDS	40.19%	39.30%	36.84%	44.76%
6	Female teachers with AIDS must not be allowed to continue teaching	60.77%	53.49%	56.46%	55.24%
7	Abstinence is the best method of preventing HIV and AIDS for people of my age	29.83%	29.90%	33.65%	32.75%
8	I believe it is okay for people my age to have sex with several different people in the same month	61.72%	57.42%	52.79%	54.80%
9	Drinking alcohol can put one at risk of contracting HIV and AIDS	34.50%	30.79%	28.40%	34.72%
10	It does not help to keep one's AIDS infection a secret	27.75%	28.82%	29.35%	32.75%
11	There is no harm in buying vegetables from an HIV infected vendor	34.13%	29.91%	33.49%	25.68%
12	Male teachers with AIDS must not be allowed to continue teaching	56.94%	52.84%	53.28%	56.30%

For the control group, participants improved from pre-test to post-test on Statement 1, 4, 5, 7, 9 and 10 only, decreased from pre-test to post-test in Statement 2, 6, 8, 11 and 12, whereas the performance remained static in Statement 5. Meanwhile participants' mean scores ranged from a mean score of 39.30% to a mean score of 64.12% on other statements, the mean score of participants on these five identified statements ranged from a mean score of 27.75% to a mean score of 39.30%. These distributions of scores is a possible indication that participants' attitudes is still low pertaining to issues of HIV and AIDS prevention and risky behaviours.

5.5.4.2 Effect of training on HIV and AIDS attitudes

This sub-section answers research sub question 4.3, namely; pertaining to attitudes, is there any significant difference between the mean scores of learners who received training in the HIV and AIDS intervention programme adapted for high schools adolescents in Mpumalanga Province and those learners who did not receive the training as accounted by training and demographics, namely: sites, gender, age, languages, residence, family composition, family structure, socio-economic status? As was the case with the other two scales, namely: knowledge and behaviour scales, t-tests were also applied to determine if there was any significant change, from pre-test and post-test, between the intervention and the control group scores and the following hypothesis was tested:

H_0 Pertaining to attitudes, there is no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training.

H_1 Pertaining to attitudes, there is a significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those did not receive the training.

The t-test results indicated that both the observed decrease and increase on the mean scores for both the control and intervention groups, respectively, are not significant. Thus, for the control group $t = -0.02$, $p = 0.981 > 0.05$ and for the intervention group $t = 0.71$, $p = 0.481 > 0.05$. The t-test further indicated that the rate of change between the intervention and the control groups was also not significant as, $t = -0.511$, $p = 0.602 > 0.05$. This therefore meant that the null hypothesis was accepted whereas the alternative hypothesis was rejected. Therefore, this means that pertaining to HIV and AIDS attitudes, there was no significant difference found, in this study, between the mean scores of learners in the intervention group and those in the control group as an answer to research sub question 4.3.

The graph in Figure 5.6, on page 201, further gives a summary of the HIV and AIDS attitudes scale results. The gradient of the four lines depicting the scores confirms that there was no significant difference between the pre/post-test mean scores of the intervention and the control groups, as all of them had a mean score which fell in the class-intervals 30-39 and 40-49. The four lines of the graph that cross each other also indicate that the scores for both the intervention and the control groups were competing very close to each other in both pre-test and post-test, as was the case with the knowledge and behaviour scales. This pattern confirms that there was no significant difference brought by the training, between the intervention group and control group.

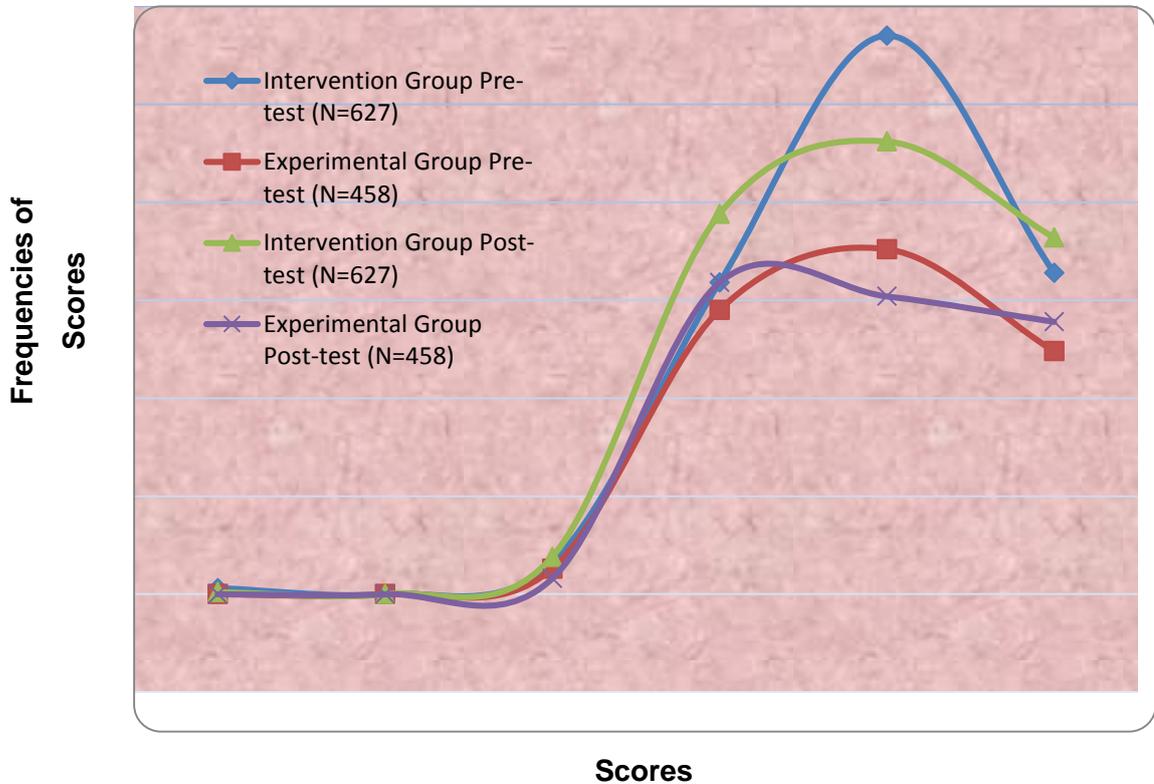
5.5.4.2 Effect of demographics on HIV and AIDS attitudes

As was the case with knowledge and behaviour scales, ANOVA techniques were also used to determine the effect of each of the demographics and training on the attitudes scale and the results were as follows:

- Site

In terms of site, there was a significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. Thus, $F(10,1063) = 5.483$, $p = 0.000 < 0.05$.

Figure 5.6: Line-graph illustrating the rate of change in the mean scores of HIV and AIDS attitude scale from pre-test to post-test as accounted by training



The finding was also confirmed by the η^2 which indicated that site differences contributed 5.5% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training on the adapted programme. The post-hoc test results also indicated that there were significant differences observed within Sites D,E,F,I,B,H,D,C,J,K and A.

- Gender

In terms of gender, there was a significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. Thus, $F(1,1081)=4,090$, $p=0,043 < 0.05$. This finding was also confirmed by the η^2 which

indicated that the contribution made by gender differences in HIV and AIDS attitudes was 0.6%.

- Age

A significant difference was found in terms of age, between the mean scores of learners who received training and those who did not received any training in the adapted HIV and AIDS intervention programme. Thus, $F(2,1079)=5.368$, $p=0.005<0.05$. This finding was further confirmed by the η^2 which indicated that age contributed 1.2% in bringing this difference between the mean pre-test score and post-test score as far as behaviour of HIV and AIDS is concerned in this study. The post-hoc test indicated that a significant difference existed between the age group 16 years and less and the group 18 years and older.

- Language

In terms of language, there was no significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training, in terms of site. Thus, $F(2,1079)=1.501$, $p=0.223>0.05$. This finding was also confirmed by the η^2 which indicated that home language differences contributed 0.5% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that there are no differences observed within the three home languages group pertaining to HIV and AIDS attitudes.

- Residence

There was a significant difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training, in terms of residence. Thus, $F(2,1079)=1.052$, $p=0.0350>0.05$. This finding was further confirmed by the η^2 which indicated that site differences contributed 0.01% differences between the mean scores of learners who received

training in the adapted HIV and AIDS intervention programme and those who did not receive the training. The post-hoc test results also indicated that there was no difference observed within the three residential differences pertaining to HIV and attitudes.

- Family composition

No significant difference was found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training, in terms of family composition, as $F(2,1079)=0.057$, $p=0.945 < 0.05$. This finding was also confirmed by the η^2 which indicated that sites differences contributed 0% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training. The post-hoc test results also indicated that there was no difference observed within the three family composition groups pertaining to HIV and AIDS attitudes.

- Family structure

No significant difference was found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training, in terms of family structure as $F(1,1081)=0.389$, $p=0.533 > 0.05$. This finding was also confirmed by the η^2 which indicated that sites differences contributed 0.3% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training. There was no post-hoc test conducted in family structure as the groups were less than three.

- Socio-economic status

No significant difference found between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training, in terms of socio-economic status as $F(2,1079)=1.237$, $p=0.291 > 0.05$. This finding was also confirmed by the η^2 which indicated that socio-

economic status differences contributed 0.03% differences between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training. The post-hoc test results also indicated that there was no difference observed between the socio-economic status differences pertaining to attitudes.

5.6 DISCUSSION OF THE RESULTS FROM DOCUMENT ANALYSIS

Results from document analysis showed that there was no evidence of any HIV and AIDS interventions developed or adapted for high schools adolescents in Mpumalanga Province. It was found that there was no document evidence of positive impact of the HIV and AIDS that were implemented prior and during the time of the current study. These findings are consistent with the realities of HIV and AIDS that were found reported from the various documents cited in this research study.

From the discussion of the status of HIV and AIDS in the provinces of South Africa Mpumalanga, i.e., 1.2.4, it was reported that Mpumalanga Province was amongst the provinces of South Africa with the highest rate of HIV and AIDS infections from 2008-2011. The report indicated that the lowest HIV prevalence of below 20% was recorded in the Western Cape and Northern Cape, followed by North West, Limpopo and Eastern Cape which recorded figures between 20% and 30%. Kwazulu-Natal, followed by Mpumalanga and Gauteng has the highest HIV prevalence figure of above 30.0%. Furthermore, the infection rate, as discussed in 1.2.4, generally showed that although the infection rate in Kwazulu-Natal Province was reported to be high, a notable decrease rate of 2.1% in the HIV prevalence was recorded in the year 2010 to 2011, whereas Mpumalanga Province has recorded an increase of 1.6% in the same year (DoH, 2011 & 2012). This high rate of HIV and AIDS prevalence which is increasing is in line with the findings that there were no HIV and AIDS interventions developed or adopted for Mpumalanga Province.

5.7 DISCUSSION OF THE RESULTS FROM FOCUS GROUP INTERVIEWS

Results from the focus group interviews, as they partly respond to research objective 1 of this study, in general, indicate the following:

- a. The fundamental purpose of HIV and AIDS intervention for adolescents in Mpumalanga must be;
 - To empower self and others by providing an opportunity of learning risky behaviours related to HIV and AIDS, like teenage pregnancy and substance abuse.
 - To reduce HIV and AIDS infections by encouraging voluntarily testing and counselling.
 - Facilitate community building on issues of HIV and AIDS.

- b. The important topics that need to be considered for HIV and AIDS intervention for adolescents in Mpumalanga are; sexuality education, substance abuse, teenage pregnancy, advantage of abstinence versus condom in HIV and AIDS intervention, facts and information on HIV and AIDS, specifically covering issues like what HIV and AIDS is, how to become infected with HIV and AIDS, consequences of AIDS and treatment of HIV and AIDS.

- c. The important strategies that need to be considered for HIV and AIDS intervention for adolescents in Mpumalanga are; voluntarily testing and counselling (VCT), abstinence facilitated by pledging and condom use. Drama, poetry, film and seminars may also be used.

- d. The important behaviour and skills that need to be promoted by HIV and AIDS intervention for adolescents in Mpumalanga are; self-confidence, non-judgmental skills, discipline, respect, good communication skills, responsibility, assertive and decision making skills.

- e. The involvement of parents may enhance the effectiveness the HIV and AIDS intervention for adolescents in Mpumalanga.

Interestingly these findings pertaining to HIV and AIDS interventions, resemble other recommendations and suggestions found in other researches discussed in the review of the literature. The purpose of HIV and AIDS interventions suggested from these FGI's are in line with the aims of HIV and AIDS interventions by the WHO as discussed in Chapter 2 and the aims of different HIV and AIDS interventions as discussed in Chapter 3.

As outlined in 2.4.2, according to the WHO, the purpose of HIV and AIDS interventions is to reduce the risk of contracting HIV and AIDS by applying behavioural change interventions. HIV and AIDS interventions seek to delay the onset of sexual intercourse; reduce the number of sexual partners a person has and also reduce the incidence of unprotected sex by increasing condom use. HIV and AIDS interventions also target drug use and seek to reduce or eliminate the incidence of drug injecting and the incidence of sharing needles, syringes and other drug-use equipment. True reductions in such behavioural risks would reduce the transmission and acquisition of HIV infection (WHO, 2006).

Furthermore, as indicated in 2.4.2, WHO (2006) also outlined the purpose of HIV and AIDS interventions as counselling individuals, and small groups and running workshops and other programmes that provide information and skills, for example, sex education, instructions on how to use condoms and other harm reduction strategies. HIV and AIDS interventions were also outlined as aiming to change social norms by seeking the involvement of opinion leaders or they may be peer-based, use social networks or be targeted at the community. All these points were also covered from the FGIs of learners presented in 5.2.2.

During the discussions of different HIV and AIDS interventions, in Chapter 3, many HIV and AIDS interventions covered a variety of topics of which adolescent development, HIV transmission and prevention, dangers of drugs, risk behaviour rejection, understanding HIV and AIDS, making sexual decisions, learning assertive communication skills and the practising of assertive communication skills are included. For example, as indicated in Chapter 3, BART covered topics on understanding HIV

and AIDS, making sexual decisions and understanding your values, developing and using condom skills, learning assertive communication skills, practicing assertive communication skills and personalizing the risks (Advocates for Youth, 2008; CDC, 2011; Summer Training Institute, 2006). IYG covered topics on the characteristics of healthy dating relationships; the importance of HIV, STIs, and pregnancy testing if a person is sexually active; and skills training regarding condom and contraceptive use (CDC, 2011; RECAPP, 2009 & Tortolero, et al., 2010). LBSE in Henan Province of China had topics on adolescent development, HIV transmission and prevention, drug prevention, and risk behaviour rejection (Pohan, et al., 2011). Similarly learners who participated in FGI's for this research identified sexuality education, substance abuse, teenage pregnancy, advantage of abstinence versus condom in HIV and AIDS intervention, facts and information on HIV and AIDS as important topics that were necessary in the delivery of HIV and AIDS for adolescents learners in Mpumalanga. The important behaviour and skills that need to be promoted by HIV and AIDS intervention for adolescents in Mpumalanga also included; self-confidence, non-judgmental skills, discipline, respect, good communication skills, responsibility, assertive and decision making skills.

During the discussion of strategies of HIV and AIDS in Chapter 2, different research studies were cited which identified abstinence, promotion of condom use, VCT and mass media campaigns as some of the important strategies in HIV and AIDS the prevention of HIV and AIDS (Smylie, et al., 2008; Garnett, et al., 2006; Heeren et al., 2009; Siegel, et al., 2010; Padian, et al., 2011; Li, et al., 2010; Sullivan, et al., 2010). Similarly, learners who participated in the FGIs for this research identified condom use, VCT, mass media campaigns (that includes films, dramas, poetry and seminars) and abstinence, along with their strengths and weakness, as some of the important strategies for HIV and AIDS intervention. Unfortunately learners could not identify cash transfer and male circumcision as some of recent strategies in HIV and AIDS prevention.

Furthermore, under the important strategies of HIV and AIDS prevention, participants also had mixed feelings about the use of a condom as one of the preventative strategies of HIV and AIDS. This was the case the studies by Aguwa (2010); Hazarika (2010);

Njoroge, et al., (2010); Smylie, et al., (2008); Philips & Malcom, (2006) and Visser, (2005a) as cited in Chapter 2.

Still in Chapter 2, various research was also cited which were identified parents as one of the important role players in supporting young people in HIV and AIDS prevention (Wison, et al., 2011; Ismayilova, et al., 2012; Vandenhoudt, et al., 2010; Palmer, 2010). Similarly, learners who participated in the FGIs in this research also identified parents as one of the important role players in HIV and AIDS prevention.

5.8 DISCUSSION OF THE FINDINGS FROM THE SELF-DESIGNED QUESTIONNAIRE

Results from the self-designed questionnaire indicated that the adapted HIV and AIDS intervention was successfully implemented in the 11 sites chosen for this study. The challenges reported from the monitoring and support of the delivery of the adapted HIV and AIDS intervention in this research were obvious challenges that are normally reported in group facilitation. The underestimated time for the completion of Units 2 and 3 and the subsequent recommendation reported in 5.3.1 were as a result of dynamics in group facilitation as indicated by Boucher (2011). Units 2 and 3 consisted of group work, therefore more time was required from the facilitators to support many groups that were formed owing to a bigger number of learners. As such, facilitators with more learners needed more time to dwell on group work, whereas facilitators with lesser number of learners needed a lesser amount of time to dwell on group work. As it was indicated in Table 5.3, Sites B, C, D, F, G, H, I, J and K had more learners, ranging from 57-63 whereas Sites A and E had 42 learners only.

The finding in 5.3.2, regarding the clear instructions in all the units was also understandable. In Chapter 4, it was indicated that facilitators of the intervention programme, i.e., research assistants, were offered training. Instructions for each unit in the adapted HIV and AIDS intervention were fully explained which eliminated further questions.

Challenges reported in 5.3.3, pertaining to the delivery time of the adapted HIV and AIDS intervention in this research and workload resembles challenges that were found in other studies. During the discussion in Chapter 3 on the strengths and limitations of eleven commonly used HIV and AIDS intervention programmes for the youth around the world, a similar problem was reported. For example in 3.2.1 it was reported that the current South Africa school curriculum lacks slots for extra-curriculum programmes (Curriculum and Assessment Policy, 2011; Visser, 2007; Vergnani, et al., 1998). As such, systemic problems similar to this were expected; hence an abridged programme was adapted.

As the general purpose of this individual interview was for the monitoring the administration the of adapted HIV and AIDS interviews, findings were unique for this research. Therefore, it was not possible to compare these findings to findings from other studies previously conducted.

5.9 DISCUSSION OF RESULTS FROM THE KABP QUESTIONNAIRE

Following the three scales namely: knowledge, behaviour and attitudes, used in this research results were supposed to be discussed separately. However, knowledge and behaviour results share many similarities, therefore discussion of the results for the two scales were combined whereas the results for the attitudes scale is discussed separately as it differs with that of the other two scales.

5.9.1 Discussion of results from knowledge and behaviour scales

Knowledge and behaviour results from this study revealed that the adapted HIV and AIDS intervention managed to improve the participants' acquisition of HIV and AIDS knowledge although the rate of change was statistically not significant at 0.05 levels. In line with Gallant, Maticka-Tyndale (2004) and Kaponda, et al., (2009), the reason for this lack of significant change on these two scales could be due the fact that at pre-test, participants in the two scales of this study already had higher scores. As indicated in 5.5.2 on the knowledge scale totalling 14, the intervention group's mean score was 8.41 whereas the control group's mean score was 8.74, at pre-test. On the behaviour scale

which had a total score of 60, the intervention group's mean score was 39.35 whereas the control group's mean score was 40.55. According to Gallant, Maticka-Tyndale (2004) and Kaponda, et al., (2009) high scores at pre-test leave participants with less opportunity of improvement at post-test which affects the rate of change from pre-test to post-test.

Related to the point made by Gallant, Maticka-Tyndale (2004) and Kaponda, et al., (2009), the other reason for obtaining non-significant results could be the fact that in both scales the control group had an advantage of high mean score at pre-test. As indicated in 5.2.2, in the knowledge scale the intervention group's mean score was 8.41 whereas the control group's mean score was 8.74, leaving the control group with an advantage of a mean score of 0.3 at pre-test. On the behaviour scale the intervention group's mean score was 39.35 whereas the control group's mean score was 40.55, leaving the control group with an advantage of a mean score of 1.2 at pre-test.

However, results from the knowledge and behaviour scales in this study concur with results from many others studies previously conducted pertaining to the evaluation of HIV and AIDS interventions. Firstly, results in this study concurs with the results from the two quantitative evaluation studies of HIV and AIDS interventions by Maticka-Tyndale and Barnett (2010). From a critical review of 13 HIV and AIDS intervention delivered to young people in different countries in sub-Saharan Africa, Maticka-Tyndale and Barnett (2010) gave a report on mixed results from those studies. Of the 13 studies in which knowledge and behaviour results were reported, 10 studies reported a significant change between the intervention and the control groups whereas the other three studies reported non-significant results. As such, the results in this study concur with the three studies in which the results were not significant.

In other review of seven studies delivered in Uganda and South Africa, Pronyk, et al., (2008) reported similar findings. Two interventions delivered in Uganda showed no impact on participants whereas five of the interventions reported positive effects. The t-test results in this study resemble a trend from the studies in Uganda conducted by

Maticka-Tyndale, Barnett (2010); Pronyk, et al., (2008) in which results were not significant.

Another area of similarities between this study and some of the studies cited in Chapter 3 of this study, relates to an improvement of participants' score from pre-test to post-test on knowledge and behaviour scales. In this study the mean score of the intervention group improved from pre-test to post-test by 0.24 and 0.24, respectively in the knowledge and behaviour. Similar trends were reported in the evaluation of BART, IYG, PSABH and RBDSC in the studies conducted by Hurd, et al., (2010); Maticka-Tyndale, et al., (2007); Maticka-Tyndale, et al., (2010); Rijdsdijk, et al., (2011); Tortolero, et al., (2010), as reported in Chapter 3.

In the study by Hurd, et al., (2010) the baseline and exit means of AIDS risk knowledge had an increase of 0.95, i.e., from 17.83 to 18.78 in the eight sessions of the BART HIV and AIDS intervention programme. The baseline and exit means of preventative behaviour had an increase of 0.89, i.e., from 15.42 to 16.32 in the eight sessions of the BART HIV and AIDS intervention programme. The baseline and exit means of intention to use condom had a significant increase of 0.56, i.e., from 5.81 to 6.37 in the four sessions of the BART HIV and AIDS intervention programme whereas the eight sessions programme had an increase of 0.36, i.e., from 6.22 to 6.58.

Another BART study of 145 adolescents in Haiti by Malow, et al., (2009) showed similar trends of a slight increase in the mean score of participants on knowledge and behaviour scales. From pre-test to post-test there was an increase of 0.41, i.e., from 3.17 to 3.58, in the mean score of the BART intervention group as compared to a mean increase of 0.09, i.e., from 3.13 to 3.22 by the BART control group in the attitudes towards condom safety. From pre-test to post-test there was an increase of 0.18, i.e., 3.69 to 3.87 in the mean score of the BART intervention group as compared to a mean increase of 0.01, i.e., 3.75 to 3.76 by the BART control group in the preventative behaviour (intention to use condoms¹). From pre-test to post-test there was an increase of 0.2, i.e., 3.53 to 3.73 in the mean score of the BART intervention group as compared to a mean decrease of 0.02, i.e., 3.58 to 3.56 by the BART control group in the

preventative behaviour (intention to use condoms 2). From pre-test to post-test there was an increase of 0.26, i.e., 3.56 to 3.82 in the mean score of the BART intervention group as compared to a mean decrease of 0.02, i.e., 3.63 to 3.61 by the BART control group in the preventative behaviour (intention to use condoms 3). From pre-test to post-test there was an increase of 0.44, i.e., 2.96 to 3.40 in the mean score of the BART intervention group as compared to a mean increase of 0.07, i.e., 3.11 to 3.18 by the BART experimental group in the self-efficacy intention 1. From pre-test to post-test there was an increase of 0.41, i.e., 3.20 to 3.61 in the mean score of the BART intervention group as compared to a mean increase of 0.18, i.e., 3.28 to 3.46 by the BART control group in the self-efficacy intention 2. From pre-test to post-test there was an increase of 0.34, i.e., 3.20 to 3.54 in the mean score of the BART intervention group as compared to a mean increase of 0.02, i.e., 3.28 to 3.30 by the BART control group in the self-efficacy intention 3. From pre-test to post-test there was an increase of 0.3, i.e., 0.5 to 0.8 in the mean score of the BART intervention group as compared to a mean increase of 0.16, i.e., 0.43 to 0.59 by the BART control group in the condom skills test.

In a study evaluating the effect of PSABH intervention programme in Kenya, Marticka-Tyndale, et al., (2007) and Marticka-Tyndale, et al., (2010) reported similar trends of a slight increase in the mean score of participants on knowledge and behaviour scales. At pre-programme to 18 month post programme, the knowledge scores of boys who attended PSABH HIV and AIDS intervention programme increased by 0.56, i.e., from 0.55 to 1.11. On the other hand, the knowledge scores of girls who attended PSABH HIV and AIDS intervention programme also increased by, .054, i.e., from 0.48 to 1.02 at pre-programme to 18 month post programme whereas at 18 to 30 months their knowledge scores increased by 0.93, i.e., from 1.34 to 2.27. Pertaining to behaviour, the mean scores also increased slightly. For example, pertaining "Sexual debut in past year" the mean score for boys who attended PSABH HIV and AIDS intervention programme increased by 0.91, i.e., from 0.53 to 1.44 whereas the mean score for girls increased by 0.66, i.e., from 0.26 to 0.92 at pre-programme to 18 month post programme. "Engaged in sex in past three months" the mean score for boys who attended PSABH HIV and AIDS intervention programme increased by 0.91, i.e., from 0.53 to 1.44, whereas the mean score for girls increased by 0.3, i.e., from 0.18 to 0.48 at pre-programme to 18 month post programme. "Condom used at last sexual intercourse" the mean score for boys who attended PSABH HIV and AIDS intervention

programme increased from 0.72 to 1.44 whereas the score increased from 0.74 to 1.42 at 18-30 months.

In a study evaluating the effectiveness of World Starts with Me (WSWM) HIV and AIDS intervention programme in Uganda, Rijdsdijk, et al., (2011) also reported similar findings on the knowledge and behaviour scales. For example, regarding the knowledge of HIV and AIDS, the mean score for the intervention group increased by 0.04, i.e., from 0.38 to 0.34 whereas the control group increased by 0.03, i.e., from 0.27 to .0.30 on knowledge about non-causes of HIV (petting, fondling, deep kissing). Regarding HIV and AIDS behaviour, the mean score for the intervention group increased by 0.14, i.e., from 3.60 to 3.74 whereas the control group increased by 0.19, i.e., from 3.53 to 3.72 on beliefs about causes of HIV. The mean score for the intervention group increased by 0.02, i.e., from 3.92 to 3.90 whereas the control group increased by 0.06, i.e., from 3.89 to 3.95 on risk perception towards HIV.

In the study on the evaluation of the IYG intervention programme by Tortolero, et al., (2010) the same trends were reported. For example, regarding the knowledge of condom, the intervention group had an improvement of the mean score of 0.57 as compared to an improvement mean score of 0.55 by the control group in the condom knowledge. The intervention group had an improvement by a mean score of 0.51 as compared to an improvement of a mean score of 0.52 by the control group in the exposure to risky situations.

The other similarity between this study and other studies reported in Chapter 3 of this research was the impact on the acquisition of knowledge and behaviour pertaining to the handle of HIV and AIDS issues. Similar to the impact of the LSBE conducted by Liao, et al., (2010) in Hainan Province, this study managed to increase, appropriately, the respond rate of participants. Results from the study by Liao, et al., (2010) indicated that the proportion of students who knew the three routes of HIV transmission increased from 18.5% in the baseline (16.5% of intervention group, 23.5% of experimental group) to 43% in the short-term survey (45.2% of intervention group, 37.6% of experimental group). In this study Table 5.9, showed that there was an increase in the rate of respond

in Statements, 2, 3, and 7 on knowledge the transmission of HIV, an increase in the rate of respond in Statements 1, 2, 3, 4, 6, 7, 8, 11 and 12 on behaviour scale.

Finally, the knowledge and behaviour results from this study were not comparable with results from HEART, Stepping Stones, Soul City, Lovelife and SHAPE for a simple reason. HEART, Stepping Stones, Soul City, Lovelife and SHAPE as these HIV and intervention programmes were qualitatively evaluated whereas the current study made use of the quantitative evaluation. It was therefore not possible to explain the similarities between the results of this study and that of HEART, Stepping Stones, Soul City, Lovelife and SHAPE other than just indicating that both had an impact on participants.

5.9.2 Discussion of results from HIV and AIDS attitudes scale

Results from this study revealed that the adapted HIV and AIDS intervention did not manage to bring a significant change in attitudes of participants pertaining to HIV and AIDS. The reason for this could be associated with the disadvantages of using a self-rating scale. According to Maticka-Tyndale and Tenkorg (2010) and Pengpid et al., (2008) respondents are able to answer the questions for the sake of pleasing the authority in self-rating scales. As highlighted in 5.4.4, learners seemed to have been selecting the responses without reading the statements which lead to decreased scores in post-test instead of the scores increasing from pre-test to post-test. This could perhaps due to the fact that respondents were tired with the task of reading and answering the questions from the KABP questionnaire or else they were no longer interested in the task. This could be true as the attitudes scale came last in the questionnaire. This occurred despite the researcher's effort of shortening the KABP questionnaire used in this questionnaire as discussed in 4.5.3.1.

Furthermore, results from HIV and AIDS attitudes scale were different from results from other studies pertaining to the evaluation of HIV and AIDS interventions. In this study there was a decrease of the mean scores from pre-test to post-test for the intervention group whereas the control group's mean score increased from pre-test to post-test. The intervention group's mean scores decreased from pre-test to post-test by 0.01, i.e., from 43.98 to 43.97 whereas the control group mean scores increased from pre-test to post-

test by 0.33, i.e., from 43.91 to 44.24. This was contrary to the trends from the evaluation of BART, IYG, PSABH and RBDSC HIV and AIDS interventions as reported in Chapter 3.

In a study examining the effectiveness of adapted BART HIV and AIDS intervention by Hurd, et al., (2010) an increase from pre-test to post-test in the mean scores of participants on attitudes scale was reported. For example in a BART study of 145 adolescents in Haiti by Malow, et al., (2009), reported an increase on the mean score of participants on attitudes scale. From pre-test to post-test there was an increase of 0.41, i.e., from 3.17 to 3.58, in the mean score of the BART intervention group as compared to a mean increase of 0.09, i.e., from 3.13 to 3.22 by the BART experimental group in the attitudes towards condom safety.

In a study evaluating the effect of PSABH intervention programme in Kenya, Marticka-Tyndale, et al., (2007) and Marticka-Tyndale, et al., (2010) reported an increase in the mean score of participants on various attitudes sub-scales. For example, pertaining to attitudes “I can say no to sex” score for boys who attended PSABH increased by 0.74, i.e., from 1.18 to 1.92 whereas the score increased at 18-30 months by 0.28, i.e., from 0.49 to 0.77. “I can say no to sex” score for girls who attended PSABH also increased by 0.28, i.e., 0.49 to 0.77 at 18-30 months. “You should use a condom” score for boys who attended PSABH increased by 0.54, i.e., from 0.89 to 1.43 whereas the score increase by 0.75, i.e., from 1.23 to 1.98 at 18-30 months. “You should use a condom” score for girls increased by 0.62, i.e., from 0.85 to 1.47 at pre-programme to 18 month post programme whereas the score increased by 0.95, i.e., from 1.37 to 2.32 at 18-30 months.

In a study evaluating the effectiveness of World Starts with Me (WSWM) HIV and AIDS intervention programme in Uganda, Rijdsdijk, et al., (2011) also reported a mean score increase on the attitudes scale. For example, the mean score for the intervention group increased by 0.04, i.e., from 3.78 to 3.82 whereas the comparison group increased by 0.07, i.e., from 3.81 to 3.74 on attitude (wise to use a condom). The mean score for the intervention group increased by 0.25, i.e., from 3.52 to 3.27 whereas the comparison

group increased by 0.17, i.e., from 3.54 to .3.37 on attitude (pleasant to use a condom). Similar to the HIV and AIDS knowledge and behaviour scales, results in this study were not comparable with results from HEART, Stepping Stones, Soul City, Lovelife and SHAPE as these HIV and AIDS interventions were qualitatively evaluated.

5.10 SUMMARY

This chapter presented and discussed results following the four methods of data collection used in this study. In the chapter it was evident that results from the focus group interviews conform to results from other studies that were previously conducted. Results from the self-designed questionnaire were unique following the unique design in this study.

Results from the document analysis showed that there is no evidence of any HIV and AIDS intervention which was developed or adapted for high school adolescents in Mpumalanga Province. Results from the KABP questionnaire was two-fold following the three scales that were used in the study. Results from the knowledge and behaviour scales resembled each other as both of them were not significant possible due to an advantage of high scores of participants in the control group at pre-test and resembles results from other studies previously conducted on HIV and AIDS interventions. Results from attitudes scale were also not significant possibly due to a disadvantage of using a self-reported questionnaire.

The next chapter closes the report of this study by highlighting the main points and also identifying limitations in this study. Furthermore, the recommendations pertaining to the improvement of similar research is also made.

CHAPTER 6

SUMMARY, RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

This chapter closes the report of this study by highlighting the main points and also identifying limitations in this study. Furthermore, the recommendations for the improvement of similar research were also made. Specifically, the chapter is divided into five sections. Section one gives highlights on the aim and objectives of this study and also the design and methods followed in conducting this research. Sections two and three summarize the findings and limitations of this study. The last section discusses the recommendations specifically focusing on the improvement of similar research in future.

6.2 AIM, OBJECTIVES AND DESIGN OF THE STUDY

The aim of the study was to evaluate different HIV and AIDS intervention programmes with the intention of adapting an HIV and AIDS intervention programme that may change the knowledge, attitudes and behaviour of high school adolescents in Mpumalanga Province. The following four research objectives were set for this study;

- To conduct a baseline evaluation of any available HIV and AIDS intervention programme targeting high school adolescent learners in Mpumalanga Province.
- To conduct the needs analysis for an adaptation of HIV and AIDS intervention programme that may change knowledge, behaviour and attitudes of high school adolescent learners in Mpumalanga Province.
- To administer, support and monitor the HIV and AIDS intervention programme adapted for high school adolescent learners in Mpumalanga high schools.
- To evaluate the strength of the adapted HIV and AIDS intervention programme in changing the knowledge, behaviour and attitudes of high school adolescents in Mpumalanga Province.

A mixed method of both qualitative and quantitative was the design chosen for this study and the research was conducted in high the 113 high schools falling in the townships and rural areas of the Mpumalanga Province. Four methods of data collection were used, namely: document analysis, focus group interviews, self-design questionnaire and a standardized KABP questionnaire.

6.3 SUMMARY OF MAIN FINDINGS

As indicated in 6.2, the aim of the study was to evaluate different HIV and AIDS intervention programmes with the intention of adapting an HIV and AIDS intervention programme that may change the knowledge, attitudes and behaviour of high school adolescents in Mpumalanga Province. Four research objectives along with their research questions, as they respectively appear in 1.5 and 1.6 were set to guide the study. Below is the summary of the research following the four methods of data collection.

6.3.1 Findings from documents analysis

The first purpose of using document analysis was to conduct a baseline survey study in order to find any documented evidence of HIV and AIDS intervention programmes that was developed or adopted for adolescent learners in the high schools of Mpumalanga. The second purpose of using document analysis was to conduct a baseline survey in order to find any documented evidence of regarding the positive impact made by any of the HIV and AIDS intervention programmes delivered to adolescent learners in the high schools of Mpumalanga.

This search yielded no positive results. There was no evidence find regarding any HIV and AIDS intervention specifically developed or adapted for high schools adolescent learners the high schools of Mpumalanga Province. The same result also applies to the search of evidence of HIV and AIDS intervention programme that successfully changed knowledge, behaviour and attitudes of learners pertaining to the issues of HIV and AIDS. Results were found to support the reported high incidence of HIV and AIDS in Mpumalanga Province (DoH, 2011 & 2012).

6.3.2 Findings from focus group interviews

The purpose of conducting focus groups in this study was to conduct a needs analysis the adaptation of an HIV and AIDS intervention programme that may change knowledge, behaviour and attitudes of high school adolescent learners in Mpumalanga Province. From the conducted needs analysis several recommendations were made. Firstly regarding the aims of the HIV and AIDS intervention the following aims were recommended;

- To empower adolescents to respond to risky behaviours that make learners prone to HIV and AIDS infection.
- To enable adolescents in Mpumalanga to acquire necessary knowledge, attitudes and skills that will protect adolescents from HIV and AIDS infection.
- Furthermore, the programme must also aim at the development of self-in-society by teaching learners to understand issues of HIV and AIDS, problem-solving and decision-making strategies.
- Following the reported problems pertaining to workload of educators and lack of delivery time for lengthy HIV and AIDS intervention programmes an abridged programme that will run for one school term was recommended.

Regarding the adaptation of an HIV and AIDS intervention programme for high school adolescents in Mpumalanga Province, the following four topics were recommended for the effective HIV and AIDS programme;

- understanding of HIV and AIDS,
- staying safe from HIV and AIDS,
- management and caring for HIV and AIDS patients and
- myths on HIV and AIDS.

Furthermore, a duration of 45 minutes to one hour and thirty minutes was recommended per unit as this was in line with the periods range in the outcome based education curriculum.

6.3.3 Findings from self-designed questionnaire

The purpose of using a self-designed questionnaire in this study was to monitor any administrative challenges that arose during the eight weeks of the administration of the adapted HIV and AIDS intervention programme for the purpose improving the programme for future use. Findings regarding this monitoring indicated that, in general, the five units on adapted HIV and AIDS intervention programme were well implemented in the eleven sites and within the allocated time frame, as structured. However, there was a need of extending delivery time by at least 30 minutes in two units to allow group discussion dynamics. Workloads and lack of School Guidance periods, which will allow for the delivery of HIV and AIDS intervention programmes, during teaching times, was a systemic problem that was also reported by research assistants.

6.3.4 Findings from KABP questionnaire

The purpose of using the KABP questionnaire was to evaluate the adapted HIV and AIDS intervention. The results from quantitative evaluation revealed that the adapted HIV and AIDS intervention managed to increase, slightly, the acquisition of knowledge of participants in the study. For HIV and AIDS knowledge, the mean score of participants increased from 8.55 at pre-test to 8.87 at post-test. However, it was unfortunate that the significant tests indicated that the observed rate of increase in knowledge scale was statistically not significant at 0.05 levels. For knowledge scale $t = (934), p = 0.350 > 0.05$. Analysis of variance also indicated that there was no significant change caused by any of the following demographics variables used in this research namely: site, gender, age, language, residence, family composition, family structure, socio-economic status. The finding was also confirmed by the η^2 which indicated that socio-economic status differences contributed 1% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that a significant difference exists between the participants coming from a lower socio-economic status and high economic-status.

Pertaining to behaviour, results from quantitative evaluation revealed that the adapted HIV and AIDS intervention also managed to increase, slightly, the acquisition of

behaviour of participants in the study. The mean score of participants, on behaviour, increased from 39.44 at pre-test to 40.56 at post-test. For behaviour scale $t = (0.318)$, $p = 0.750 > 0.05$. Analysis of variance indicated that the effect of sites, gender and age were found to be significant on the behaviour scale. For sites, $F (10,1063)$, $p = 0.000 < 0.05$ and η^2 indicated that site differences contributed 5.4% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme for adolescent learners in Mpumalanga and those who did not receive the training. The post-hoc test results also indicated that a significant differences between Sites C, B, E, H, I, J, F, D, K and A prevailed. For gender, $F (1, 1081) = 4.464$, $p = 0.043 < 0.05$ and η^2 indicated that gender differences contributed 0.4% which is very minimal as it is less than 0%. No post-hoc test which was conducted as the variable had only two groups. For age, $F (2,1079) = 4.850$, $p = 0.008 < 0.05$ and η^2 indicated that age difference contributed 10%, in bringing this difference between the mean pre-test score and post-test score as far as behaviour of HIV and AIDS was concerned in this study. The post-hoc test results also indicated that a significant difference exists between the age group 16 and less and age group 18 and more.

Pertaining to attitudes, results from quantitative evaluation revealed that the adapted HIV and AIDS intervention did not manage to bring about significant difference between the mean scores of those learners who received training in the adapted HIV and AIDS intervention programme and those learners who did not receive the training. Instead the mean score of those learners who attended the training decreased from pre-test to post-test by 0.01, whereas the mean score of those learners who did not receive the training increased from pre-test to post-test by 0.33.

Furthermore, the significance tests indicated that the observed rate of change in attitudes scale was statistically not significant at 0.05 levels. For attitudes scale $t = (-0.511)$, $p = 0.602 > 0.05$. Analysis of variance indicated that the effect of sites, gender and age were found to be significant on attitudes scale. For sites, $F (10,1063)$, $p = 0.000 < 0.05$ and η^2 indicated that site differences contributed 5.5% difference between the mean scores of learners who received training in the adapted HIV and AIDS intervention programme and those who did not receive the training. The post-hoc test results also indicated that a significant differences between sites D, E, F, I, B, H, D, C, J, K and A.

For gender, $F(1, 1081) = 4.090$, $p = 0.043 < 0.05$ and η^2 indicated that gender differences contributed 0.6%. No post-hoc test which was conducted as the variable had only two groups. For age, $F(2, 1079) = 5.368$, $p = 0.005 < 0.05$ and η^2 indicated that age differences contributed 1.2%, in bringing this difference between the mean pre-test score and post-test score as far as behaviour of HIV and AIDS is concerned. The post-hoc test results also indicated that a significant difference exists between the age group 16 and less and age group 18 and more.

Finally, the influences of different demographics were also tested, and results indicated that age and site influenced both the knowledge and behaviour results. No influence was found on gender, language, residence, family composition, family structure and socio-economic status in both scales.

6.4 LIMITATIONS OF THIS STUDY

There are limitations to the conclusions that can be drawn from this research. Firstly, in order to compare learners with similar demographic aspects, both learners who participated in the intervention and experimental groups were selected from one school, which were called sites in this study. Although this had an advantage of comparing participants with similar background, it also raised the possibility of cross-contamination between the intervention and control groups, such that the results should be used with caution. Experience from previous studies indicated that participants are likely to share information pertaining to what they were trained on such that the expected differences at post-test is bridged resulting to no significance between the two groups, as it was the case in this study (Burnett, et al., 2010; Shin & Rew, 2010).

Secondly, in an attempt of reducing biasness which may have been increased by making use of other sampling methods, random sampling method was used to select the participants for the quantitative evaluation of the administered HIV and AIDS intervention in this study. This in itself may have rendered the study to the possible limitations because of the random sampling method. As indicated in Chapter 5 during the discussion of the distribution of pre-test scores for quantitative evaluations, participants in this study scored highly on both the three scales of the used KABP

questionnaire. These high scores were a possible indication that participants might have benefitted from other HIV and AIDS interventions that have been, previously, conducted in those sites. This is a limitation which could have been avoided by the use of other sampling methods other than random sampling. For example, with purposive sampling method, the researcher could have targeted the schools in which learners direly need such HIV and AIDS intervention, as sites of study.

Previous experience in survey research on sexual behaviours has produced plausible and reliable results with measures of knowledge, behaviour and attitudes such as the one used here (Maticka-Tyndale, 2010). However, researchers also gave caution regarding to the reliability of the using of self-reported questionnaires. In self-reported questionnaires participants are likely to respond in the manner that pleases the authority rather than reflecting themselves, especially in the attitudes and behaviour scales (Maticka-Tyndale & Tenkorg, 2010; Pengpid, et al., 2008). Although several procedures were used to maximize the reliability of the used KABP instrument a possibility of the respondents not responding in the manner that pleases the authority cannot be overruled. As such, results should also be used bearing in mind this limitation. Respondents may provide socially desirable answers to questions about sexual behaviour, rather than answers that accurately reflect their experiences, especially when they have been exposed to an HIV intervention.

Another limitation caused by the lack of technological equipment relates to the use of manual questionnaire as opposed to the electronic or computerized questionnaire. The researcher tried to comply with different factors that would motivate the respondents to reliably respond to the questionnaire, as explained in Chapter 4. This included the use of Likert Scale questions, limited number of questions in the questionnaire and assurance of confidentiality and anonymity of the respondents. However, the limited financial resources did not allow the researcher to make use of a computerized questionnaire which could also have encouraged the respondents to generate more reliable data, especially in this case in which the same questionnaire is used at pre-test and post-test. Experience from previous research indicated that respondents are not encouraged by completing a paper and pencil questionnaire to an extent that they just complete those questionnaire without paying attention (Hazrika, 2010). This could have

been a case with the reversed scores identified in the quantitative section of this study, as hinted in Chapter 6 during the discussion of the analysis of scores per individual question. If participants were paying attention to the question and their responses, there was no need for getting wrong at post-test the question that they got right at pre-test.

Another limitation which needs to be considered especially in this research relates to the weakness of longitudinal method of research versus the cross-sectional method of research. In this study, a longitudinal method was used in which participants were engaged for eight weeks which was a reasonable period of controlling the effect of other variables, rather than the chosen independent variable, that might have affected the results in this study. Furthermore, eight-week period was also considered more suitable for this research conducted in schools as learners would be committed to more serious academic work. However, experience from other researchers indicated that lengthy period experiment were likelihood to yield better results than shorter period experiment (Peltzer, et al., 2010; Shin, Rew, 2010; Yiu, Mak, Ho & Chui, 2010).

A final limitation that also needs to be taken into consideration in generalizing the findings relates to use of younger learners with an average of 16 years in the focus group. Although these learners were deliberately chosen to increase the chances of obtaining results in support of the hypothesis these learners were young with lesser sexual experience.

6.5 RECOMMENDATIONS

There are a number of recommendations pertaining to the future development of research of this nature. Following a systemic problem to education of adolescents on health promoting behaviours due to lack of guidance period and the overload of educators, authorities in the Department of Education needs to be aware of this status for reconsideration. Therefore, collaboration between health service providers and Department of Education needs to be strengthened.

There were important submissions made by learners themselves during the focus group interview, which also need to be seriously considered. Firstly learners raised an issue of involving parents in the support of HIV and AIDS intervention. Following this submission, it is therefore recommended that health education efforts aimed at improving HIV and AIDS-related knowledge, behaviour and attitudes should not focus only on children and adolescents but also on parents and guardians, who could also reinforce preventative issues of HIV and AIDS among the adolescents. Another issue raised by learners, pertained to the bad treatment that they sometimes get when visiting community health clinics. It is therefore important to consider for youth-friendly health clinics that will provide friendly services to the adolescents. Practitioners in such clinics should be appropriately trained on how to provide effective health education in collaboration with other significant persons including parents. In addition, such youth-friendly clinics could provide opportunity for counselling and identification of the students' developmental status so as to guide them appropriately and provide them the information and materials they could require to protect themselves. These could include advocacy for abstinence or the use of condom where necessary.

Following the identified limitations relating to the research design, it is recommended that more studies are still needed on this topic exploring other designs, including the use of purposive sampling method and computerized instrument. Whilst taking more effort to controlling the external variables which may affect the independent variable. There may also be a need to increase the study period to more than eight months as other researchers indicated the value of a long-span study versus short span study.

6.6 AVENUES FOR FUTURE RESEARCH

An aspect related to recommendations for future research will be avenues for futures research following the findings. Firstly, it is evident from the results of this study that despite no evidence of documented HIV and AIDS in Mpumalanga, learners who participated in this study showed good acquisition of HIV and AIDS knowledge, behaviour and attitudes at baseline evaluation. This revelation suggests that, other Soul Buddyz, Lovelife and RADS peer support programmes, there could be other HIV and AIDS intervention programmes, either in schools or community, which are playing a role in the education of learners on HIV and AIDS. However these programmes are not

documented and their impact investigated. Therefore there is a need of conducting research and publication of the results into role and impact of HIV and AIDS education by schools and community structures in Mpumalanga.

Secondly analysis of results from the KAPB questionnaire used in this study indicated parity in the acquisition of HIV and AIDS preventative skills among learners brought by socio-economic status, gender, age, language and place of residence. This finding suggests the following topics which need to be explored in future;

- An investigation into the role and the impact of socio-economic status on HIV and AIDS knowledge among learners in Mpumalanga.
- An investigation into the role and the impact of gender, age and language in changing behaviour of learners in Mpumalanga pertaining to issues of HIV and AIDS.
- An investigation into the role and the impact of gender, age and residence in changing attitudes of learners in Mpumalanga pertaining to issues of HIV and AIDS.

6.7 CONCLUSION

Despite the number of limitations and challenges identified in this research study, there were a number of advantages, in this study, that also need to be acknowledged as well. This study also made a number of contributions in the field of HIV and AIDS intervention. Firstly, this study demonstrated the importance of using of a large sample and a sampling frame that contributed to the representativeness of the population, collecting data from a large number of schools that allowed multi-level analysis, and developing locally relevant items to measure standard variables are strengths of the reported research.

The focus group interview findings suggested that need analysis towards the development of HIV and AIDS intervention with the young people themselves is feasible, acceptable, and logistically possible. In this study young people showed great interest in the HIV and AIDS intervention and offered appropriate strategies that they

think are appropriate for them. This study also added to the mounting evidence that also demonstrates that school-based HIV and AIDS interventions can help to reduce HIV risk behaviours in high-prevalence, disadvantaged rural communities.

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LIST OF APPENDICES

Appendix A:
Research tool for guiding the interviews of peer educators

Introduction:

I want us to talk about your experiences as Peer Educators of the HIV and AIDS intervention programme in your schools.

Questions

1. What do you think about the HIV and AIDS intervention programme that you are currently facilitating or mentoring in your schools, are they making an impact on (other) learners in your schools?
2. If you are given a chance to select a three month programme which specifically focuses on addressing problems around the HIV and AIDS learners in your region, what are some of the important issues that you will consider for the programme?

The probe will be around the following;

- What are the topics that you think will be important to include?
 - Nature and quality of training – How should the training be conducted, by who?
 - Material for training – Any material that you can recommend?
 - Strategies of the programme? Which ones would consider for your region and how can make sure that they are effective?
 - What would you say are the most important skills, behaviour and attitudes that we need to promote/ strengthen?
 - For the effectiveness of the programme, what kind of support would you need both in your school and at the community?
3. Any other aspect you think may be considered for an effective programme in your community?

**Appendix B:
Monitoring and support tool**

Instructions

- This tool must be completed by research assistants after the completion of each unit or when a problem is encountered at any stage of the implementation.
- The researcher will also complete it during his visit to the site.
- All completed tools must be forwarded to the researcher.

Section A: Furnish the following information

Site : _____
Unit : _____
No. of participants : _____

Section B: Please tick (✓) and furnish the information in the space provided, where necessary.

1. How much time did you take to complete the unit:

- [] ≥1 hour
- [] 1hour-1h30
- [] ≤ 2hours

2. Were the instructions of the units clear to you

Yes

No

If no, please explain what confused you

3. Any challenges that you have encountered during the delivery of the unit?

4. Any recommendations for improving the unit?

**Appendix C:
HIV and AIDS KABP research questionnaire**

Pre-test	Post-test	Site	
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RESPONDENT'S UNIQUE No.	
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AIM : **To evaluate the learners' Knowledge, Attitudes and Behaviour pertaining to HIV and AIDS Issues.**

INSTRUCTIONS:

1. Information obtained will be strictly confidential.
2. Participation is voluntarily.
3. Read all questions carefully.
4. Be honest and give answers according to your knowledge and understanding.
5. Do not write your name **Anywhere** in this Questionnaire.

SECTION B: HIV and AIDS KNOWLEDGE SCALE

In this section there is one correct answer either the statement is True or False. **Under the Rating Column, indicate whether each of the statement is True or False by rating the statement as follows:**

- 1** if the statement is True, and
- 2** if the statement is False

Example

No.	Statement	Rating
XX	Mandela is the first president in the democratic South Africa	1

The statement is rated 1 because it is True that Mandela is the first president of the democratic South Africa

In the similar manner rate the following statements

No.	Statement	Rating
1	A person can get infected with HIV by holding hands with an HIV positive person	
2	A person can get infected with HIV by sharing food with an HIV positive person	
3	A pregnant woman who is HIV positive can transmit HIV to her unborn baby	
4	Having sex with a virgin cures AIDS	
5	Abstinence can reduce the risk of contracting HIV and AIDS	
6	A healthy person can get HIV and AIDS	
7	Nevirapine can be used to reduce the chances of mother-child transmission of HIV during pregnancy	
8	A person can get infected with HIV if somebody bewitches them	
9	A person can get infected with HIV by having unprotected sex with an HIV positive person	
10	You can get HIV even if you only have sex once	
11	When you drink alcohol you are more likely to engage yourself in sexual Intercourse	

12	Having one sexual partner can reduce the risk of contracting HIV and AIDS	
13	One can get HIV and AIDS testing from a local clinic	
14	AZT can used to cure AIDS	

SECTION C: HIV and AIDS BEHAVIOUR SCALE

The questions in this section are not a test of how much you know. We are interested in what you believe about some important issues. Everyone will have different answers. Your answer is correct if it describes you well. Under the Rating Column, please rate each statement according to how much you agree or disagree with it if;

- 1** means you **Strongly Disagree** with the statement
- 2** means you **Somewhat Disagree** with the statement
- 3** means feel **Neutral** about the statement
- 4** means you **Somewhat Agree** with the statement
- 5** means you **Strongly Agree** with the statement

Example

No.	Statement	Rating
XX	<i>I like living in South Africa</i>	4

I rated the statement 4 because I Somewhat Agree with the statement

In the similar manner rate the following statements

No.	Statement	Rating
1	If a girl receives a presents from a boy, she must have sex with him	
2	I plan to get tested for HIV regularly	
3	I think it is sometimes okay for a person to have many sexual partners	
4	I think I will be able to ask my sexual partner about their other sexual Partners before having sex with me?	
5	HIV and AIDS can be avoided by limiting to only one sexual partner	
6	Alcohol and drugs can make one vulnerable to HIV and AIDS	
7	If a boy gives a girl presents, she must have sex with him	

	I think it is okay for a girl to have many sexual partners	
9	I think I will be able to make sure that my sexual partner goes for an HIV test before having sex with me?	
10	I will be able to refuse sex with someone who is offering money or a gift?	
11	HIV and AIDS can be avoided by abstaining from sexual intercourse	
12	HIV and AIDS can be avoided by limiting the number of sexual partners	

SECTION D: HIV & AIDS ATTITUDES SCALE

The questions in this section are still not a test of how much you know. We are interested on your attitudes about some important issues. Everyone will have different answers. Your answer is correct if it describes your attitudes well. Under the Rating Column, please rate each statement according to how much you agree or disagree with it. Still,

- 1 means you Strongly Disagree with the statement
- 2 means you Somewhat Disagree with the statement
- 3 means feel Neutral about the statement
- 4 means you Somewhat Agree with the statement
- 5 means you Strongly Agree with the statement

Example

No.	Statement	Rating
XX	<i>All red cars must be prohibited in the roads of South Africa</i>	2

I rated the statement 2 because I Somewhat Disagree with the statement

In the similar manner rate the following statements

No.	Statement	Rating
1	Drinking alcohol makes one to do think properly	
2	It is okay for someone to have sex to get nice things	
3	I believe people of my age should wait until they are older before they have sex	
4	There is no harm in drinking lots of alcohol	

5	It is okay to care for my relative with AIDS	
6	Female teachers with AIDS must not be allowed to continue teaching	
7	Abstinence is the best method of preventing HIV and AIDS to the people of my age	
8	I believe it is okay for people my age to have sex with several different people in the same month	
9	Drinking alcohol can put one in a risk of contracting HIV and AIDS	
10	It does not help to keep one's AIDS infection a secret	
11	There is no harm in buying vegetables from HIV infected vendor	
12	Male teachers with AIDS must not be allowed to continue teaching	

Appendix D:
Scoring of KABP Scales

Section B: HIV and AIDS Knowledge scale

b1	A person can get infected with HIV by holding hands with an HIV positive person	1=0 2=1
b2	A person can get infected with HIV by sharing food with an HIV positive person	1=0 2=1
b3	A pregnant woman who is HIV positive can transmit HIV to her unborn baby	1=0 2=1
b4	Having sex with a virgin cures AIDS	1=0 2=1
b5	Abstinence can reduce the risk of contracting HIV and AIDS	1=1 2=0
b6	A healthy person can get HIV and AIDS	1=1 2=0
b7	Nevirapine can be used to reduce the chances of mother-child transmission of HIV during pregnancy	1=1 2=0
b8	A person can get infected with HIV if somebody bewitches them	1=0 2=1
b9	A person can get infected with HIV by having unprotected sex with an HIV positive person	1=1 2=0
b10	You can get HIV even if you only have sex once	1=1 2=0
b11	When you drink alcohol you are more likely to engage yourself in sexual intercourse	1=1 2=0
b12	Having one sexual partner can reduce the risk of contracting HIV and AIDS	1=1 2=0
b13	One can get HIV and AIDS testing from a local clinic	1=1 2=0
b14	AZT can used to cure AIDS	1=1 2=0

Section C: HIV and AIDS Behaviour Scale

No.	Statement	Scoring
c1	If a girl receives a presents from a boy, she must have sex with him	1=5 2=4 3=3 4=2 5=1
c2	I plan to get tested for HIV regularly	1=1 2=2 3=3 4=4 5=5
c3	I think it is sometimes okay for a person to have many sexual partners	1=5 2=4 3=3 4=2 5=1
c4	I think I will be able to ask my sexual partner about their other sexual Partners before having sex with me?	1=1 2=2 3=3 4=4 5=5
c5	HIV and AIDS can be avoided by limiting to only one sexual partner	1=1 2=2 3=3 4=4 5=5
c6	Alcohol and drugs can put one vulnerable to HIV and AIDS	1=1 2=2 3=3 4=4 5=5

c7	If a boy gives a girl presents, she must have sex with him	1=5 2=4 3=3 4=2 5=1
c8	I think it is okay for a girl to have many sexual partner	1=5 2=4 3=3 4=2 5=1
c9	I think I will be able to make sure that my sexual partner goes for an HIV test before having sex with me?	1=1 2=2 3=3 4=4 5=5
c10	I will be able to refuse sex with someone who is offering money or a gift?	1=1 2=2 3=3 4=4 5=5
c11	HIV and AIDS can be avoided by abstaining from sexual intercourse	1=1 2=2 3=3 4=4 5=5
c12	HIV and AIDS can be avoided by limiting the number of sexual partners	1=1 2=2 3=3 4=4 5=5

Section D: HIV & AIDS Attitudes Scale

No.	Statement	Scoring
d1	Drinking alcohol makes one to do think properly	1=5 2=4 3=3 4=2 5=1
d2	It is okay for someone to have sex to get nice things	1=5 2=4 3=3 4=2 5=1
d3	I believe people of my age should wait until they are older before they have sex	1=1 2=2 3=3 4=4 5=5
d4	There is no harm in drinking lots of alcohol	1=5 2=4 3=3 4=2 5=1
d5	It is okay to care for my relative with AIDS	1=1 2=2 3=3 4=4 5=5
d6	Female teachers with AIDS must not be allowed to continue teaching	1=5 2=4 3=3 4=2 5=1

d7	Abstinence is the best method of preventing HIV and AIDS to the people of my age	1=1 2=2 3=3 4=4 5=5
d8	I believe it is okay for people my age to have sex with several different people in the same month	1=5 2=4 3=3 4=2 5=1
d9	Drinking alcohol can put one in a risk of contracting HIV and AIDS	1=1 2=2 3=3 4=4 5=5
d10	It does not help to keep one's AIDS infection a secret	1=1 2=2 3=3 4=4 5=5
d11	There is no harm in buying vegetables from HIV infected vendor	1=1 2=2 3=3 4=4 5=5
d12	Male teachers with AIDS must not be allowed to continue teaching	1=5 2=4 3=3 4=2 5=1

Appendix E:

**Letter to the Department of Education for requesting permission to conduct
research in schools**

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280
08 February 2011

THE HEAD OF DEPARTMENT
DEPARTMENT OF EDUCATION
NELSPRUIT
1200

PERMISSION FOR CONDUCTING RESEARCH IN SCHOOLS

I am a PhD student studying at the University of Limpopo. As part of the requirements for completing my studies, I am expected to conduct research. As such, I have considered a topic which will make use of educators and learners, specifically those who are HIV and AIDS Master Trainers, Peer Mentors and Peer Educators from the four regions of the province.

Briefly the aim of the study is to investigate HIV and AIDS programmes for learners in the province. The study will also be beneficial to the Department, specifically the HIV & AIDS Life Skills section, as the report will be submitted with recommendations for strengthening current existing programmes.

Attached is the motivation letter from the University.

Thanking you.

Maliavusa N.J (Mr.)

Appendix F:

Letter from the Department of Education giving permission to the researcher to conduct research in Mpumalanga high schools



education
DEPARTMENT: EDUCATION
MPUMALANGA PROVINCE

Private Bag X 11341
Nelspruit 1200
Government Boulevard
Riverside Park
Building 5
Mpumalanga Province
Republic of South Africa

Litiko leTemfundvo wezeMfundu Umyango weFundo Departement van Onderwys Umyango
Enquiries: A.H Baloyi (013) 766 5476

Mr. N.J. Maliavusa
P.O. BOX 2222
EVANDER
2280

RE: APPLICATION TO CONDUCT EDUCATIONAL RESEARCH IN SOME OF THE DEPARTMENT'S INSTITUTIONS.

Your application (dated 07 September 2010) to conduct educational research on HIV&AIDS program was received on the 08 September 2010.

The aim of the study as captured in your application letter gives an impression that your study will benefit the entire department especially the master trainers, peer mentors and the peer educators. Given the motivation and the anticipated report of the study, I approve your application to conduct your research in the institutions of the department.

You are further requested to read and observe the guidelines as spelt out in the attached research manual.

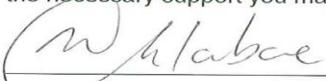
The importance of this study cannot be overemphasized; therefore you are expected to share your findings with the department. It will be appreciated if you

mom

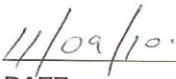
can present your findings in electronic form and make formal presentation to the regions and the research unit.

For more information kindly liaise with the department's research unit @ 013 766 5476 or a.baloyi@education.mpu.gov.za.

The department wishes you well in this important study and pledge to give you the necessary support you may need.



MRS MOC MHLABANE
HEAD OF DEPARTMENT



DATE

**Appendix G:
Parent or guardian consent form**

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280

08 February 2011

Dear Parent/ Guardian

My name is Maliavusa Nkhanedzeni Joshua. I am doing research study for a PhD at the University of Limpopo. The topic of the research study is “an HIV and AIDS intervention programme for high school adolescents in Mpumalanga Province of South Africa”. As such, the findings and the recommendations, which will be submitted to the Department of Education, will make meaningful contribution in reducing the spread of the HIV and AIDS infections in the province.

To do this research I would like to involve your child/ward. This will entail that she or he attend sessions for an HIV and AIDS intervention programme, take a test for assessing his/her knowledge, behaviour and attitudes and also make recommendations with regards to the effective HIV and AIDS intervention programme, where possible. Your child’s/ward’s anonymity will be guaranteed and responses treated confidentially. Once the data collected has been used and presented in the research, the original data will be kept safely. You are free to refuse permission for your child/ward to participate in this research. You may also withdraw him/her from participation at any time.

If you allow him/her to participate, kindly indicate by completing the part below on “participant’s response” and return the letter to the school on or before (..... date.....).

Maliavusa N.J
Researcher

Date

PARTICIPANT RESPONSE

I _____ have read the above form / have had the
(name of parent/legal guardian)

above form read to me, understand its contents, and I give consent for my child/ward to participate in the above research. I understand that participation is voluntary and that s/he may withdraw at any stage.

Signature of Parent _____

Date

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APPENDIX H:

Assent form by the learners who are minors

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280

08 February 2011

Dear Learner

My name is Maliavusa Nkhanedzeni Joshua. I am doing study for a PhD in Education at the University of Limpopo. The topic of the research study is "HIV and AIDS intervention programme for high school adolescents in Mpumalanga high schools". As such, the findings and the recommendations, which will be submitted to the Department of Education, will make a meaningful contribution in reducing the spread of the HIV and AIDS infections in the province.

To do this research I would like to involve you in the study. This will entail that you participate in an HIV and AIDS intervention programme, take a test for assessing your knowledge, behaviour and attitudes and also make recommendations on the effective HIV and AIDS intervention programme, where possible. Your anonymity will be guaranteed and responses treated confidentially. Once the data collected has been used and presented in the research, the original data will be kept safely. You are free to refuse permission to participate in this research. You may also withdraw from participation at any time.

Should you be willing to participate in the study, kindly give your permission to participate by completing the part below on “participant’s response” and return the letter to the school on or before (..... date.....).

Maliavusa N.J
Researcher

PARTICIPANT RESPONSE _____

I _____ have read the above form / have had the
(name of minor participating)

above form read to me, understand its contents, and I consent to participate in the above research. I understand that participation is voluntary and that I may withdraw at any stage.

Signature of Participant _____

Date

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**Appendix I:
Consent form by the educators who will be participating**

ENQ : Maliavusa N.J

Cell Number : 072 128 3071

**P.O. BOX 2222
EVANDER
2280**

08 February 2012

Dear Educator

My name is Maliavusa Nkhanedzeni Joshua. I am doing research study for a PhD in Education at the University of Limpopo. The topic of the research study is “HIV and AIDS intervention programme for high school adolescents in Mpumalanga high schools”. As such, the findings and the recommendations, which will be submitted to the Department of Education, will make meaningful contribution in reducing the spread of the HIV and AIDS infections in the province.

To do this research I would like to involve you in the research study. This will entail that you get training in the programme, facilitate the pilot study of the programme and also make recommendations on designing the programme, where possible. Your anonymity will be guaranteed and responses treated confidentially. Once the data collected has been used and presented in the research, the original data will be kept safely. You are free to refuse to participate in this research. You may also withdraw at any time.

I therefore request you to give your permission of participating in this research by completing the part below on “participant’s response” and return the letter to the school on or before (..... date.....).

Maliavusa N.J
Researcher

PARTICIPANT RESPONSE _____

I _____ have read the above form / have had the
(name of an educator)

above form read to me, understand its contents, and I consent to participate in the above research. I understand that participation is voluntary and that I may withdraw at any stage.

Signature of Participant _____

Date

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Appendix J:

Parental or guardian consent form in venecular: Siswati

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280

08 February 2012

Mtali

Ligama lami ngingu Maliavusa Nkhanedzeni Joshua. Ngenta tifundvo tePhD enyunivesi yase Limpopo. Ngenta sicubungulo ngesihloko lesitsi: "Singenelelo ngesifo sengculazi kuba fundzi belibanga leliphakeme kulesifundza sase Mphumalanga. Imiphumela lebanti yaloluhlolo letawenta kwekutsi kunciphe kubhebhetheseka kwalesifo, itawendluliselwa kulitiko letemfundvo yalesifundza saseMphumalanga.

Ekwenteni lesicubungulo sibe yimphumelelo benginesicelo sekusebentisa umntfwana wakho. Kutawudzingeka kwekutsi angenele tinhlelo letitsite letiphatselene naleligciwane kuhlolwe nelwati lwakhe ngaleligciwane, kubukwe futsi kutiphatsa kanye neluvo nemibono lanayo ngalesifo. Imibono neluvo lwakhe kutawugcinwa kuyimfihlo futsi endzaweni lephephile. Kusetjentiswa kwakhe akunamibandzela, uvumelekile kwala kwekutsi asetjentiswe nobe kumyekelisa nanobe ngusiphi sikhatsi.

Nangabe uvuma kwekuba asetjentiswe uyacelwa kwekuba ugcalise kulenzawo lengerasi.

Maliavusa N.J
Umcubunguli

LONGENELA LOLUHLELO

Mine ----- ngifundzile/ngifundzelwe lokucuketfwe
ngulelifomu
(*ligama lomtali*)

Ielinghla. Ngivisisile lokucuketfwe, ngolokho ngiyavuma kwekutsi umntfwana wami alingenele lelihlelo. Ngiyavisisa kwekutsi kungenela akunamibandzela, kantsi unelilungelo lokushiya nobe ngabe kukunini.

Kusayina umtali _____

Lusuku

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Appendix K:

Assent form by the learners who are minors in venecular: Siswati

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280

08 February 2012

Mfundzi

Ligama lami ngingu Maliavusa Nkhanedzeni Joshua.Ngenta tifundvo tePhD enyunivesi yase Limpopo. Ngenta sicubungulo ngesihloko lesitsi: "Singenelelo ngesifo sengculazi kuba fundzi belibanga leliphakeme kulesifundza sase Mphumalanga. Imiphumela lebanti yaloluhlolo letawenta kwekutsi kunciphe kubhebhethseka kwalesifo, itawendluliselwa kulitiko letemfundvo yalesifundza saseMphumalanga.

Ekwenteni lesicubungulo sibe yimphumelelo benginesicelo sekukusebentisa. Kutawudzingeka kwekutsi ungenele tinhlelo letiphatselene naleligciwane le-HIV /AIDS, kuhlolwe lwati lonalo ngaleligciwane, kutiphatsa kanye neluvo nemibono yakho ngalesisifo. Imibono neluvo lwakho kutawugcinwa kuyimfihlo futsi endzaweni lephephile.Kusetjentiswa kwakho akunamibandzela, uvumelekile kwala nobe kuyekela nanobe ngusiphi sikhatsi.

Uma uvuma kungenela lesicubungulo, uyacelwa kwekutsi unikete imvume yakho ngekugcwalisa mininingwane yakho ngentasi, bese uphindzisela lencwadzi esikolweni ngembi /nobengomhlaka (_____lusuku_____)

Maliavusa N.J
Umcubunguli

LONGENELA LOLUHLELO

Mine -----ngifundzile/ ngifundzelwelo ku cu
ketfwengu lelifomu (*ligama lemntfwana longaphansikweminyaka*)

Lelingenhla, ngakuvisisalokucuketfwe, kwe kutsiakunamibandzela kungenela kwami, kantsi ngine lilungelolo kushiya nobenini.

Kusayina lotawungenela

lolucubungulo

Lusuku

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Appendix L:

Parental or guardian consent form in venecular: Isizulu

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280

08 February 2012

Mzali

Ligama lami ngingu Maliavusa Nkhanedzeni Joshua .Ngenza ucwaningo ngeizifundo ze PhD kwinyi yunivesi yase Limpopo. Isihloko so cwaningo engisebenzela phezukwaso simi ngalendlela: "Isingenelelo ngesifo sengqulazi negciwane laso kubafundi be ba ngaeliphezulu kusifunda saseMpumalanga. Imiphume laebanzi yalolu hlolo iza kwenza uku ba kunciphe ukubhebhe theka kwa lesisifo, iphinde yendlulise lweku liziko leze mfundvo yale sifunda saseMpumalanga.

Ekwenzeni locwaningo ngicela ukuthi ingane yakho ibe yingxenye yocwaningo. Kuzoba nezikhathi okumele abe sohlelweni lokuhlolwa ukuthi unolwazi, isimilo nendlela ayibuka ngayo lendaba yengculaza negciwane layo aveze umbono ngacabanga ukuthi kungenziwa.Igama lengane lizogodlwa akekho ozokwazi umbono wakhe, kuzohlala kuyimfihlo.Uma izibalo zocwaningo sezitholakele zizosetshenziswa lapho kudingeka khona.Ucwaningo luzogcinwa endaweni ephephile.Unelungelo lokwala ngemvume yokuthi ingane yakho ibe yingxenye yocwaningo. Unga mkhipha noma yini uma sewunga sa funi ukuthi ibe yingxenye yocwaningo.

Uma umvumela ukuthi abe yingxenye yocwaningo ungabonisa ngokuthi ugcwalise
lencwadi engezansi bese uyibuyisa esikoleni ngomhlaka/ ngaphambi komhlaka
....(suku).....

Maliavusa N.J
Umcwangingi

Imvume yomzali

Mina _____ ngifunde konke okungenhla kwifomo

(Igama lomzali/Mnakekeli)

elingaphezulu/ ngifundelwe konke okukufomu elingenhla ngaqonda konke
okuqukethwe ngalokho ngiyandinika imvume yokuthi abe yingxenye yocwaningo.
Ngियाqonda ukuthi ukuba yingxenye kuwuku zinikela ngakho.

Ukusayinda komzali/
Mnakekeli _____

Usuku

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Appendix M:

Assent form by the learners who are minors in venecular: Isizulu

ENQ : Maliavusa N.J
Cell Number : 072 128 3071

P.O. BOX 2222
EVANDER
2280

08 February 2012

Mfundi

Ligama lami ngingu Maliavusa Nkhanedzeni Joshua. Ngenza ucwaningo ngeizifundo ze PhD kwinyi yunivesi yase Limpopo. Isihloko so cwaningo engisebenzela phezukwaso simi ngalendlela: "Isingenelelo ngesifo sengqulazi negciwane laso kubafundi be ba ngaeliphezulu kusifunda saseMpumalanga. Imiphume laebanzi yalolu hlolo iza kwenza uku ba kunciphe ukubhebhe theka kwa lesisifo, iphinde yendlulise lweku liziko leze mfundvo yale sifunda saseMpumalanga.

Ekwenzeni lesi siqubungulo si be yimpumelelo bengine sifiso so ku kusebenzisa. Kuzawu dingeka ukuthi ungenele izi inhlelo ezithi zeeziphathelenena legciwane le-HIV /AIDS, kuhlolweno lwazi onalo ngaleligqiwane, ukuzi phathakanye neluvonemibonoonayongalesisifo. Imi bono ne zimvo zakho, kuza wu gcinwa kuyi mfihlofuthi endaweni ephaphile. Ukusetshenziswa kwakho akuna mibandela, une lungelo lokwala noma ukuyekana noma ngusiphiisikhathi.

Uma uvuma uku ngene lalo luqubungulo, uyacelwa uku baugcwalise imini ningwane yakho ngezansi, bese uphindisela lencwadzi esikolweni ngaphambi /noma ngomhlaka (_____usuku_____)

Maliavusa N.J

usuku

Umcubunguli

ONGENELA LOLUQUBUNGULO

Mina ----- ngifundile/ ngifundelwe oku qukethengu lelifomu

(igamalomfundi)

elingenhla. Ngizwiisisileokuqukethwe, ngalo khongi ya vuma ukungenela lolu qubungulo. Ngiya zwisisa nokuthi ungunelela akuna mibandela, kangingi na lone lungelo lo kushiya phansino manga si phiisikhathi.

Kusayinaingane _____

Usuku

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Appendix N:

UNITS OF THE DEVELOPED HIV AND AIDS INTERVENTION PROGRAMME: IHAWU

Unit 1

Topic : An Introduction to Ihawu Programme		
Duration : 1 hour		
<u>Outcome of the Unit</u>		
Knowledge <ul style="list-style-type: none">• Understand the Nature of Ihawu Programme• Differentiate Ihawu Programme from other HIV and AIDS Life Skills Programme	Skills <ul style="list-style-type: none">• Listening• Critical Thinking	Value <ul style="list-style-type: none">• Loyalty• Patience• Appreciation

Activities

1. Greet and welcome the participants to Ihawu Project and further explain that you are aware that they don't know the Programme, but will introduce it to them after they have taken the next activity.
2. Conduct an ice-breaker which will break classroom monotony and further make participant to feel at home.
3. Introduce and explain the purpose of Ihawu to participants. Further introduce Ihawu by asking participants to name some of the HIV/AIDS and Life skills and

programme that they know of and identify similarities and differences between them and Ihawu.

4. Dividing the board into two columns and mark one column “Good Behaviours” and the other one “Bad Behaviours”. Leading participants to generate the group’s Ground rules, ask them to give you some of the good conduct which will contribute to the success of the Programme while you write them on the board under the Good Behaviour Column. If the list is exhausted, then proceed by asking them to give you bad conduct which they think may lead to the inefficiency of the Programme. Explain to participants that the statements of the two Columns will govern the behaviours of the participants during the proceedings of Ihawu sessions; hence we shall call them Ground rules. Emphasize that participants need to behave themselves according to the statements under the Good behaviour column and avoid behaving themselves according to the statement under the Bad behaviour column.
5. Introduce the commitment form which appears in Appendix B and then conduct a ceremony, as directed in Appendix C.

Unit 2

Topic : Understanding HIV and AIDS		
Duration : 1hour 30 Minutes		
<u>Outcome of the Unit</u>		
Knowledge <ul style="list-style-type: none">• What HIV and AIDS is.• Different types of HIV and AIDS.• Origin of HIV and AIDS and the related myths.• Understand facts on HI and AIDS	Skills <ul style="list-style-type: none">• Listening• Critical Thinking• Team work• Time Management• Communication• Decision making	Value <ul style="list-style-type: none">• Loyalty• Patience• Appreciation• Patience• Tolerance• Accountability

Activities

1. Greet and welcome the participants to the session.
2. Introduce the topic and using the current statistics of HIV infection which appears in Appendix A, explain to the participants why the topic is so important.
3. Based on the given outcomes, explain to the participants what new knowledge, pertaining to HIV and AIDS, will they get after the end of the session.
4. Divide the participants into three groups, assign each group a work corner in the class and then instruct each group to do the following;
 - a. To choose a group leader who will lead discussions in the group.
 - b. To choose a scribe which will write and report what was discussed in each group.

c. Groups will be given work which needs to be completed in 20 minutes.

5. Assign a discussion work to the groups as follows;

Group	Topic/s for Discussion
1	Need to read and make a brief summary of the following points; <ul style="list-style-type: none">• Explanations of HIV and AIDS.• The difference between HIV and AIDS.• The origin of HIV and AIDS.
2	<ul style="list-style-type: none">• Different types of the HI-virus and indicate the differences between them.• Implication of different types of HI-virus
3	<ul style="list-style-type: none">• The phases of HIV and AIDS infection.

6. After the groups had time to complete their task, call them back for reporting and give each group time to report back. Allow learners to add, clarify or seek clarity on the reported work.

7. Give participants a lecture explaining each item on the nature of HIV and AIDS as they appear on the manual. Make sure that you elaborate more on those items that participant missed, confused or misunderstand during the presentations.

8. Conclude the session by taking questions from the participants before you finally close the session.

Unit 3

Topic : Staying Safe from HIV and AIDS		
Duration : 1 hour 30 Minutes		
<u>Outcome of the Unit</u>		
Knowledge <ul style="list-style-type: none">• Causes of HIV and AIDS.• Factors Responsible for the spread of HIV and AIDS.• Strategies of combating HIV and AIDS virus.• Understand facts on HIV and AIDS	Skills <ul style="list-style-type: none">• Listening• Critical Thinking• Team work• Time Management• Communication• Decision making	Value <ul style="list-style-type: none">• Loyalty• Patience• Appreciation• Patience• Tolerance• Accountability

Activities

1. Greet and welcome the participants to the fourth session.
2. Recapitulate the previous lesson by asking participants to give you some of points they remember from the previous session. Fill up the gap where necessary and then introduce today's topic linking it with the previous one. Conclude this activity of introducing the topic by giving participants the outcomes of today's session.
3. Remind participants of the previous session's group work and indicate to them that you will continue with the group work, but this time you will regroup them again.

4. Divide the participants again into new two groups and again assign each group a work corner in the class and then instruct each group to do the following;
 - a. To choose a group leader who will lead discussions in the group.
 - b. To choose a scribe which will write and report what was discussed in each group.
 - c. Groups will be given work which needs to be completed in 20 minutes.
5. Assign a discussion work to the groups as follows;

Group	Topic/s for Discussion
1	Need to read and make a brief summary of the following points; <ul style="list-style-type: none"> • Factors exacerbating the spread of HIV and AIDS. • Identify prominent factors of HIV and AIDS in their community. They can add some which they think are left out in the item.
2	Need to read and make a brief summary of the following points; <ul style="list-style-type: none"> • Strategies of Preventing HIV and AIDS.

6. After the groups had time to complete their task, call them back for reporting and give each group time to report back. Allow learners to add, clarify or seek clarity on the reported work.

7. Give participants a lecture explaining each item on “Staying Safe from HIV and AIDS” as they appear on the manual. Make sure that you elaborate more on those items that participant missed, confused or misunderstand during the presentations.
8. Take questions from participants.
9. Introduce learners to the pledge form on abstain (Appendix D) and then conduct a pledge ceremony, as directed in Appendix E.

Unit 4

Topic : Caring and the Management of HIV and AIDS		
Duration : 45 Minutes		
<u>Outcome of the Unit</u>		
Knowledge <ul style="list-style-type: none">• Understand the role played by ARVs and immune system boosters.• Give palliative care to AIDS patients• Give social support to person living with HIV and AIDS	Skills <ul style="list-style-type: none">• Listening• Critical Thinking• Reading	Value <ul style="list-style-type: none">• Responsibility• Compassion• Human Dignity• Caring• Love• Support• Kindness

Activities

1. Greet and welcome the participants to the fourth session.
2. Remind participants about the high infection rate and the pandemic of HIV and AIDS as discussed in session two. Continue by ask them why they think HIV and AIDS is able to spread and cause misery like that in people's life? Drive them to realise that there is no cure for HIV and AIDS. End this activity by introducing the topic and then brain storm the meaning of the two key words on the topic, namely management and caring. (Please emphasize that HIV and AIDS cannot be cured, hence management and caring are used).

3. Remind participants of the previous session's group work and indicate to them that you are not going to use a group work approach today. Instead you will prefer to give them a lecture straight away as the work is full of scientific concepts which might take time for them to understand them. Proceed by giving participants a lecture explaining each item on "The Care and Management of HIV and AIDS" as they appear on the manual.
4. Conclude the session by taking questions from the participants and then close the session.

Unit 5

Topic : Myth around HIV/AIDS		
Duration : 45 Minutes		
<u>Outcome of the Unit</u>		
Knowledge <ul style="list-style-type: none">• Understand of the concept “myth”• Understand facts on HIV and AIDS• Know different myths on HIV and AIDS	Skills <ul style="list-style-type: none">• Listening• Critical Thinking• Reading	Value <ul style="list-style-type: none">• Responsibility• Compassion• Human Dignity• Caring• Love• Support• Kindness

Activities

1. Greet and welcome the participants to the fifth session. Commend participants for their commitment to the Programme throughout the entire period. Further announce to participants that you will be having a last session today which will end with a very important ceremony.
2. Announce the topic and brain storm “myth” as major concept in the topic. Make sure that participants understood what “myths” are before you proceed to the next activity.

3. Tell participants that you are going to approach this topic differently. Proceed by indicating to participants that you will pick-up some of the participants to read, loudly, one paragraph on the different myths around HIV and AIDS and then you will talk about each myth so that participants clearly understood each of the myths that appear in the manual. Proceed this way until all the myths in the manual are exhausted. Make sure that participants understood each myth before you proceed to the next one.
4. Ask participants to tell you some of the myths that they have had around HIV and AIDS. Be careful, some of the statement from the participants could be a fact, so make sure that for each statement given you adjudicate whether it's a fact or myth. For any myth make sure that you come up with the explanations that dispel it and make sure that participants are satisfied by the explanations.
5. Conclude the session by taking questions from the participants and then close the session.

APPENDICES 1

The statistics provided in this appendix come from two prevalence studies that estimate how many people are living with HIV in South Africa, and two reports on AIDS deaths. The first study is based upon data from the Department of Health's 'National Antenatal Sentinel HIV and Syphilis Prevalence Survey in South Africa, 2010', published in 2011. The study specifically looks at the annual data from antenatal clinics and uses it to estimate HIV prevalence amongst pregnant women.

The second study was on the 'South African National HIV Prevalence, HIV Incidence, Behaviour and Communication Survey, 2008'. In this survey, a sample of people were chosen to represent the general population. Of those who were eligible, 64% agreed to give a blood sample to be anonymously tested for HIV. The report contains estimates of HIV prevalence in various groups of people, derived from this general population sample.

The third section looks at AIDS-related deaths using data from death certificates. Reports published by 'Statistics South Africa' contain the raw data, while the article 'Identifying deaths from AIDS in South Africa' analyses a large sample of death certificates and attempts to estimate how many deaths caused by HIV have been misclassified. The page goes on to compare and draw conclusions from the two prevalence studies.

1.1 HIV and AIDS Prevalence: Survey from Antenatal Attendees

This is based on its sample of 32,225 women attending 1,424 antenatal clinics across all nine provinces of South Africa in 2010.

Figures per Province

Province	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
KwaZulu-Natal	33.5	36.5	37.5	40.7	39.1	39.1	38.7	38.7	39.5	39.5
Mpumalanga	29.2	28.6	32.6	30.8	34.8	32.1	34.6	35.5	34.7	35.1
Free State	30.1	28.8	30.1	29.5	30.3	31.1	31.5	32.9	30.1	30.6
Gauteng	29.8	31.6	29.6	33.1	32.4	30.8	30.5	29.9	29.8	30.4
North West	25.2	26.2	29.9	26.7	31.8	29.0	30.6	31.0	30.0	29.6
Eastern Cape	21.7	23.6	27.1	28.0	29.5	28.6	28.8	27.6	28.1	29.9
Limpopo	14.5	15.6	17.5	19.3	21.5	20.6	20.4	20.7	21.4	21.9
Northern Cape	15.9	15.1	16.7	17.6	18.5	15.6	16.5	16.2	17.2	18.4
Western Cape	8.6	12.4	13.1	15.4	15.7	15.1	15.3	16.1	16.9	18.5
National	24.8	26.5	27.9	29.5	30.2	29.1	29.4	29.3	29.4	30.2

Figures per Age Group

Age group (years)	2006	2007	2008	2009	2010
10-14	N/A	N/A	7.3	7.9	9.1
15-19	13.7	13.1	14.1	13.7	14.0
20-24	28.0	28.0	26.9	26.6	26.7
25-29	38.7	37.5	37.9	37.1	37.3
30-34	37.0	39.6	40.4	41.5	42.6
35-39	29.3	33.0	32.4	35.4	38.4
40-44	21.3	22.2	23.3	25.6	30.9
45-49	15.5	20.6	17.6	23.9	28.2

The data from the two figures implies the following;

- (a) It estimates that 30.2% of pregnant women (aged 15-49) were living with HIV in 2010.
- (b) Kwazulu-Natal and Mpumalanga Provinces recorded the highest HIV prevalence. KwaZulu-Natal =39.5%, Mpumalanga =35.1%, Free State =30.6% and Gauteng =30.4%. The Northern Cape and Western Cape recorded the lowest prevalence at 18.4% and 18.5% respectively.
- (c) HIV prevalence is high among the 25-29 and 30-39 age groups.

1.2 The South African National HIV Survey, 2008

The National HIV Survey is a household survey. This involves sampling a proportional cross-section of society, including a large number of people from each geographical, racial and other social group. This data is based on 15,000 households across South Africa, of which 13,440 (90%) took part. Of the 23,369 people within these households who were eligible to take part, 20,826 (89%) completed an interview and 15,851 (64%) agreed to take an HIV test.

Estimates of HIV prevalence (%) by province 2002-2008

Province	2002	2005	2008
KwaZulu-Natal	11.7	16.5	15.8
Mpumalanga	14.1	15.2	15.4
Free State	14.9	12.6	12.6
North West	10.3	10.9	11.3
Gauteng	14.7	10.8	10.3
Eastern Cape	6.6	8.9	9.0
Limpopo	9.8	8.0	8.8
Northern Cape	8.4	5.4	5.9
Western Cape	10.7	1.9	3.8
National	11.4	10.8	10.9

Estimated HIV prevalence (%) among South Africans aged 2 years and older, by age, 2002-2008

Age	2002	2005	2008
Children (2-14 years)	5.6	3.3	2.5
Youth (15-24 years)	9.3	10.3	8.7
Adults (25 and older)	15.5	15.6	16.8
15-49 year olds	15.6	16.92	16.9
Total (2 and older)	11.4	10.8	10.9

Estimated HIV prevalence among South Africans, by age and sex, 2008

Age	Male prevalence %	Female prevalence %
2-14	3.0	2.0
15-19	2.5	6.7
20-24	5.1	21.1
25-29	15.7	32.7
30-34	25.8	29.1
35-39	18.5	24.8
40-44	19.2	16.3
45-49	6.4	14.1
50-54	10.4	10.2
55-59	6.2	7.7
60+	3.5	1.8
Total	7.9	13.6

These figures still suggest the following;

- (a) KwaZulu-Natal, Mpumalanga and Free State have the highest HIV prevalence.
- (b) HIV prevalence is highest among females' 25 - 29 age group and peaks among males aged 30-34 years.

Based on this survey, the researchers estimated that 10.9% of all South Africans over 2 years old were living with HIV in 2008. In 2002 and 2005, this figure was 11.4% and 10.8%, respectively, showing a degree of stabilisation. Among those between 15 and 49 years old, the estimated HIV prevalence was 16.9% in 2008. The survey found the prevalence among children aged 2-14 to be 2.5%, down significantly since 2002, when prevalence was 5.6%.

1.2 AIDS deaths

In November 2010, Statistics South Africa published the report 'Mortality and causes of death in South Africa, 2008'. This large document contains tables of how many people died from each cause according to death notification forms.

The report reveals that the annual number of deaths rose by a massive 93% between 1997 and 2006. Among those aged 25-49 years, the rise was 173% in the same nine-year period. Part of the overall increase is due to population growth. However, this does not explain the disproportionate rise in deaths among people aged 25 to 49 years.

Reported deaths from all causes, 1997 to 2008

Year of death	Age (years)					Total
	0-9	10-24	25-49	50+	Unspecified	
1997	35,459	22,698	93,159	160,239	5,577	317,132
1998	41,183	25,873	114,711	178,979	5,107	365,853
1999	41,859	27,766	130,415	179,072	2,708	381,820
2000	42,873	29,761	151,374	189,930	2,217	416,155
2001	44,947	31,586	174,066	202,359	1,924	454,882
2002	50,844	34,593	202,359	212,217	2,037	502,050
2003	56,879	37,712	230,925	228,459	2,804	556,779
2004	63,350	38,720	246,259	225,290	3,090	576,709
2005	68,206	38,791	253,262	234,595	3,277	598,131
2006	69,912	39,526	253,923	248,053	1,364	612,778
2007	66,898	37,869	245,754	251,351	1,222	603,094
2008	65,646	36,504	237,036	251,919	968	592,073

Source

DoH. (2011). *The 2010 National antenatal sentinel HIV & syphilis prevalence survey in South Africa*. Health: Pretoria. Retrieved from: https://www.google.co.uk/search?sourceid=navclient&aq=&oq=department+of+health+south+africa%2C+antenatal+report+2010&ie=UTF8&rlz=1T4ADRA_enZA476ZA476&q=department+of+health+south+africa%2C+antenatal+report+2010&gs_l=hp....0.0.1.16490.....0.BXYf4bsWEO0 (Accessed 26 April 2012).

DoH. (2012). *The 2011 National antenatal sentinel HIV & syphilis prevalence survey in South Africa*. Health: Pretoria. Retrieved from: https://www.google.co.uk/search?sourceid=navclient&aq=&oq=department+of+health+south+afri+ca%2C+antenatal+report+2010&ie=UTF8&rlz=1T4ADRA_enZA476ZA476&q=department+of+health+south+afri+ca%2C+antenatal+report+2010&gs_l=hp... .0.0.1.16490.....0.BXYf4bsWEO0.k (Accessed 26 September 2013).

Appendix 2: Arrangement of Commitment Ceremony

You will need the following resources;

1. A venue or an ordinary class with an open space in which the whole class can stand.
2. A desk.
3. Candles:
 - 3.1 One big;
 - 3.2 Small ones for each learner.
4. Copies of commitment form (addendum C), enough for each learner.
5. One box, with an opening on top and nicely wrapped.

Activities in the ceremony

1. In their normal class setting explain to the learners about the importance of taking a commitment and vows. Further indicate that they are going to have a ceremony in which they are going to take such a commitment or vow regarding the ground rules they have set.
2. In the venue (resource 1) ask learners to stand in semi-circle form, with their lit candles (resource 3.2) around the desk (resource 2) which has a big candle (resource 3.1) and the box (resource 5).
3. Give each learner a commitment form (resource 4) and once more emphasize the importance of vowing.
4. Ask all learners to read aloud the commitment form and ask those who are committing themselves to sign the commitment form. Encourage all of them to sign.
5. Thanks all learners and close the session.

Appendix 3: Arrangement of Pleading Ceremony

You will need the following resources;

6. A venue or an ordinary class with an open space in which the whole class can stand.
7. A desk.
8. Candles:
 - 8.1 One big;
 - 8.2 Small ones for each learner.
9. Copies of Pledge form (addendum D), enough for each learner.
10. One box, with an opening on top and nicely wrapped.

Activities in the ceremony

1. In their normal class setting remind the learners about the importance of taking a commitment and vows. Indicate that they are going to have a ceremony in which they are going to pledge which is similar to the one in which they were taking a commitment or vow regarding the ground rules they have set. Further indicate that this time they are going to pledge for abstinence, meaning that you are going to vow that you are not going to engage yourself in sexual activities until marriage.
2. In the venue (resource 1) ask learners to stand in semi-circle form, with their lit candles (resource 3.2) around the desk (resource 2) which has a big candle (resource 3.1) and the box (resource 5).
3. Give each learner a pledge form (resource 4) and once more emphasize the importance of vowing.
4. Ask all learners to read aloud the pledge form and ask those who are committing themselves to sign the form. Encourage all of them to sign.
5. Thanks all learners and close the session.

I _____

(Surname and Name of student)

**Vow that I am not going to engage myself in the following form of risky
behaviour that will put me at a risk of contracting HIV/AIDS;**

Sex before marriage

Alcohol

&

Substance abuses

Signed

Student

Date

ASSESSMENT TASKS

Assessment Task: Unit 1

Listed below are characteristics responsible for the differentiation of HIV and AIDS Programmes. Using a tick (√) for applicable and a cross (×) for not applicable, can you please indicate which statement/s is/ are applicable to Ihawu Intervention Programme.

Characteristics	Indication , √ or ×
It's an intervention Programme	
It's a Per-led Programme	
It's an education Programme	
It specifically addresses the issues of HIV and AIDS	

Assessment Task: Unit 2

Listed below are True and False statements relating to HIV and AIDS. Using a tick (✓) for the statement/s that are correct and a cross (X) for statement/s which incorrect, please indicate which statement/s is/ are correct and which ones are incorrect.

Statements	Indicate ✓ or X
HIV stands for Human Immunovirus	
AIDS stands for Acquired Immune Deficiency syndrome	
HIV Africa and HIV America are types of HIV	
Co-infection refers to a situation in which a person is infected with more than two subtypes of the HI virus simultaneously.	
Re-infection refers to a case in which a person is infected by two or more types of the HI virus at different types	
Rapid HIV antibody test detect all types, groups and subtypes of HI virus	

Assessment Tasks: Unit 3

1. Class Activity

Related to the different factors that exacerbate the spread of HIV and AIDS, there are certain behaviours that can also exacerbate the spread of HIV and AIDS. From the list given below indicate which behaviours are risky and which ones are not risky.

Behaviours	Indicate Risky or Not Risky
Sitting next to an HIV positive person	
Getting tested for HIV regularly	
Having many sexual partners	
Hugging each other	
Shaking hands	
Consuming a lot of alcohol	

Behaviours	Indicate Risky or Not Risky
Abstaining from sexual intercourse	
Swimming with an HIV positive person	
Drinking tea	
To be taught by a person who is HIV positive	
Caring for my relative who is HIV positive	
Buying vegetables from a HIV infected vendor	
Using drugs	
Touching and comforting someone with AIDS	

2. Group work

1. Discuss some of the factors that accelerate the spread of HIV and AIDS?
2. Find out what discrimination and stigmatization around HIV and AIDS means and then discuss how it can spread HIV and AIDS?

Assessment Tasks: Unit 4

1. Learning Enrichment Group Work

Here are some of the Antiretroviral (ARV) drugs broadly classified by the phase of the retrovirus life-cycle that the drug inhibits. Can you discuss them with one of your friend and check whether you can understand how they assist the body to fight for the HI virus?

There are different classes of antiretroviral drugs that act on different stages of the HIV life-cycle.

Classes of drugs	Action
Entry inhibitors (or fusion inhibitors)	Interfere with binding, fusion and entry of HIV-1 to the host cell by blocking one of several targets. Maraviroc and enfuvirtide are the two currently available agents in this class.
CCR5 receptor antagonists	Are the first antiretroviral drugs which do not target the virus directly? Instead, they bind to the CCR5 receptor on the surface of the T-Cell and block viral attachment to the cell. Most strains of HIV attach to T-Cells using the CCR5 receptor. If HIV cannot attach to the cell, it cannot gain entry to replicate.

Classes of drugs	Action
Non-Nucleoside and nucleotide reverse transcriptase inhibitors (NNRTI)	Inhibit reverse transcription by being incorporated into the newly synthesized viral DNA strand as a faulty nucleotide. This causes a chemical reaction resulting in DNA chain termination.
Nucleoside reverse transcriptase inhibitors (NRTI)	Mimic nucleotides and inhibit reverse transcriptase directly by binding to the enzymes polymerase site and interfering with its function.
Protease inhibitors (PIs)	Target viral assembly by inhibiting the activity of protease, an enzyme used by HIV to cleave nascent proteins for the final assembly of new virions.
Integrase inhibitors	Inhibit the enzyme integrase, which is responsible for integration of viral DNA into the DNA of the infected cell. There are several integrase inhibitors currently under clinical trial, and raltegravir became the first to receive FDA approval in October 2007.

2. Class Activity 1

Can you think of other acts of love and care that you can give to the people who are living with HIV and AIDS?

3. Class Activity 2

Indicate whether the following statements are True or False

Statement	True or False
ARV's cure HIV	
ARV's cure AIDS	
Immune boosters can cure AIDS	
A combination of three to four types of ARV's is called a HAART	
ARV's restore and protect the immune functioning of the body by allowing the CD4 cells to replenish their numbers	
In order for the ARV treatment to be effective for a long time there is a need to take one ARV type at a time	

Statement	True or False
If ARV's cause side effects such as diarrhea, tiredness, headaches, swelling of the body, body paining it means they are ineffective	
In South Africa ARV treatment is recommended to start once the CD4 count is below 300	

APPENDIX O: LETTER CONFIRMING THE EDITING OF THE RESEARCH REPORT



ENQ : Dr. J J Thwala
Cell : 073 187 5298

14 January 2015

TO WHOM IT MAY CONCERN

EDTING OF THESIS

I, Dr. Thwala J.J, hereby confirm that I have edited a thesis for Mr. Maliavusa N.J entitled "*An HIV and AIDS intervention programme for high school adolescents in Mpumalanga Province of South Africa*".

Thanking you

A handwritten signature in black ink, appearing to read "Thwala", is written over a horizontal line.

Dr. Thwala J.J
Senior Lecturer: Department of Human and Social Sciences
University of Venda

