

Efficacy of School-based HIV and AIDS Education In Achieving Behaviour Change In Kenya: Towards A Contextual Model

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university

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DEDICATION

This thesis is dedicated to my parents Francis Nooseli and Elizabeth Nooseli who inspired me to believe in my inherent potential. It is devoted to L'parnoi P. Lengewa, the love of my life. I also dedicate it to the glory of God, whose word fortified my inner being to believe that 'I can do all things through Christ who strengthens me' Philippians 4.13. May this work inspire our children Silantoi and Lemayian to break through the glass ceilings in their lives. And last but not least to the Maasai girl-child who, because of the cruel hand of tradition, is not able to achieve her purpose in life.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired immune deficiency syndrome
ARV	Anti-retroviral treatment
BCC	Behaviour change communication
BSS	Behavioural surveillance survey
CfBt	Centre for British Teachers
EFA	Education for All
HIV	Human Immunodeficiency Virus
IAAT	Inter-Agency Task Force Team On Education
IEC	Information Education and Communication
ILO	International Labour Organization
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya Demographic Health Survey
KESSP	Kenya Education Sector Support Programme
KIE	Kenya Institute of Education
MDG	Millennium Development Goal
MOEST	Ministry of Education Science and Technology
NACC	National AIDS Control Council
NASCOP	National AIDS and STI Control Program
OVC	Orphans and vulnerable children
PRSP	Poverty Reduction Strategy Plan
PSABH	Primary School Action for Better Health
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNESCO	United Nations Educational Scientific and Cultural Organization
UNGASS	United Nations General Assembly Special Session
USA	United States of America
WHO	World Health Organization

ABSTRACT

In an effort to address the problems generated by HIV and AIDS and to avert further new infections among adolescents, a school-based intervention strategy has been widely recommended and implemented in many countries including Kenya. Nonetheless, a number of issues have been raised regarding the effectiveness of this approach. These issues revolve around the content of the HIV and AIDS education, its mode of delivery including the approaches, and the needs of HIV and AIDS educators. Critics are concerned that the technical components of the program are not supportive of the intended outcome. Very little systematic evaluation of the school-based HIV and AIDS intervention strategy is linked to the expected outcome of behaviour change. This study therefore sought to establish the effectiveness of the school-based HIV and AIDS intervention strategy in relation to the translation of knowledge into behaviour change. The study also sought to provide recommendations on a school based HIV and AIDS contextual model with a broader focus in addressing both the individual level phenomenon and a multi faceted range of influences that promote, reinforce and maintain the adolescent's protective behaviour towards HIV and AIDS.

The study employed cross-sectional study design, where both qualitative and quantitative data was generated to address the study objectives. Stratified random sampling was used to arrive at the eight selected public schools. Similarly, proportional and simple random sampling was used to select the 400 respondents. Five focus group discussions for adolescents, key in-depth interviews and structured observations for teachers were held. The population of study consisted of Forms One to Four students in public secondary schools aged 15- 19 years in Thika district. Quantitative data was analysed using SPSS and simple descriptive analysis used for qualitative data.

The main findings indicate that school-going adolescents have high levels of HIV and AIDS knowledge. Only 10 percent displayed moderate level knowledge while 90% indicated high level. Although the knowledge level was high, they still engaged in risky sexual practices. It was noted that 74% of the sexually-active respondents reported not using condoms during their first sexual intercourse, while 45% of the sexually-active adolescents reported having been sexually-involved with two or more partners within the twelve months prior to the study. Majority of adolescents and teachers considered the school-based HIV and AIDS education content ineffective in changing adolescents' sexual behaviour. Similarly, the teachers of HIV and AIDS considered themselves not adequately trained to handle the subject. The results also indicated a clear dissonance between the education sector AIDS policy, the curriculum content and actual school-based HIV and AIDS education implementation. Based on these findings, there was among school-going adolescence an apparent gap between HIV and AIDS knowledge on the one hand and practice on the other. The study identified three broad factors that may be linked to this gap and that play a role in influencing the HIV and AIDS behaviour change among school-going adolescents. These are policy and institutional framework, community participation and capacity building for both students and teachers. The study attempts to use these features to propose a school-based HIV and AIDS contextual model that takes into account both individual level phenomenon and environmental dynamics that influence the adolescents' sexual behaviour. The study recommends strengthening of the HIV and AIDS education policy implementation to bridge the gap between policy and practice. It also proposes a revision of the HIV and AIDS curriculum based on the proposed contextual model.

Chapter One: Introduction

1.0 Background to the study

HIV and AIDS has continued to be a major challenge globally and in Kenya. The number of people living with HIV worldwide was 33.2 million in 2007. This is a 16% reduction from the 39.5 million in 2006 (UNAIDS, 2008 and UNAIDS/WHO, 2006). Although there is a general decline in the global trends, 2.5 million new cases were reported in 2007, 68% of these being in Sub-Saharan Africa. There are strong indications that women are vastly affected, with their number living with HIV and AIDS rising from 13.8 million in 2001 to 15.4 million in 2007 (UNAIDS, 2008). Reports indicate that youth aged 15 to 24 are highly represented in the cases of new infections. It is estimated that 6,000 young people aged 15-24 are infected with HIV every day and account for more than half of all new HIV infections (UNAIDS, 2006). These trends pose a grave threat to the world's estimated 1.2 billion adolescents aged 10 – 19 years (UNICEF, 2002). In Kenya, among youth aged 15-24, women are 4 times more likely to be infected than men (6.1% compared to 1.5% [KAIS 2007]).

The prevalence of HIV among adults in Kenya was estimated to be 7.8 % by the end of 2006, compared to 10% in 1997/98. According to National AIDS Control Council (NACC) (2008) the prevalence among urban residents was 8.3%. Of the 1.1 million people living with HIV and AIDS (PLWHIV), children and older adults accounted for 18%. Statistics indicate that most of the new infections in Kenya occur among young people aged between 15-24 years (NACC 2005). Although the drop in the national prevalence of HIV from 10% in the late 90's to 5.1% in 2006 is a welcome trend, there are concerns that the drop is not commensurate with the nationwide HIV and AIDS awareness level estimated to be 98% (KDHS 2003). A more disturbing trend is the sudden increase in the HIV and AIDS prevalence rate from a low of 5.1% in 2005 to 7.8% in 2007 among Kenyan adults 15-64 (NACC, 2005 and KAIS, 2007). The KAIS (2007) report further reveals that a higher proportion of women aged 15-64 (8.7%) than men (5.6%) are infected with HIV.

Anecdotal reports shows that a number of factors make adolescents highly vulnerable to HIV. These factors include lack of HIV information, education and services and the risks that accompany adolescent experimentation and curiosity (UNAIDS 2004). Adolescence is the period of transition from childhood to adulthood where physiological, physical, psychological and behavioural changes take place in young people (Olaronke *et al*, 2003). Most people become sexually active at this stage and there is evidence that early sexual debut may increase an adolescent's vulnerability to HIV. Factors such as increasing urbanization, poverty, exposure to conflicting ideas about sexual values and behaviour, and the breakdown of traditional sex and reproduction information channels encourage premarital sexual activity among adolescents (UNAIDS 2004).

To stem the increased rates of HIV infections a number of countries have adopted school-based intervention strategies, particularly through the school-based HIV education. School-based HIV and AIDS education refers to prevention education conducted within a school set-up for school-going students. Its particular emphasis is on the need for behaviour development and change to combat the challenges of HIV and AIDS. Experts agree that prevention through education is the best way to fight the transmission of HIV and AIDS, and that such strategy must begin before adolescents commence sexual activity (Black & Jones, 1988; Kirby, Barth, Leland, & Fetro, 1991; White & Ballard, 1993). School therefore offers an appropriate environment in which to undertake activities promoting HIV-related risk-reduction among pupils and adolescents. (Kirby, 1992; Kirby et al., 1994; Kirby 1999). In schools there ready-made infrastructure and resource-efficient access to large numbers of adolescents from diverse social backgrounds (UNAIDS, 1997; Aggleton and Rivers, 1999). Schools thus offer a vital channel for reaching children and adolescents with HIV and AIDS prevention activities (Kelly, 2003; Skenker, 1996).

The schools have the capacity to reach children and adolescents with HIV and AIDS education before they commence sexual activeness. UNAIDS/UNICEF/WHO (2003) proposes the following four related ways through which the education system can address the HIV and AIDS challenge among youth: developing policies that address HIV and AIDS

education; providing HIV and AIDS-related knowledge and skills; linking adolescents to relevant health services and supportive activities that construct protective environments. In East Asia, South East Asia and the Pacific, HIV and AIDS education has been integrated into national curricula (Smith, Kippax, Aggleton, and Tyrer, 2000). At their initial stages these school-based HIV and AIDS education programs were largely information-based. However, there is now a growing emphasis on life-skills such as assertiveness and negotiation. In the European, Australian and USA schools, the uptake of the school-based HIV and AIDS intervention programs remains varied while in Canada the program was introduced into the curriculum for junior high school in 1990. However, according to Allan (1992), the Canadian program did not incorporate standardized national curriculum, adequate time and media advertising that normally makes a strong impression upon adolescents.

ADEA (2003) indicated that only 17 countries in Africa used curriculum-based education and extra-curricular activities (peer education) to impart knowledge on HIV and AIDS. Curriculum-based education refers to structured theory-based interventions used in schools to guide the learning of HIV (WHO 2006). And extra curricular activities or non-curriculum based interventions refers to a variety of activities such as one-on one spontaneous or opportunistic counselling about sexual activity and HIV and AIDS while the student is on school grounds, at health fairs and through drama (WHO, 2003). In most countries however, these programs ignored training of teachers to deliver the HIV and AIDS education (Education International, 2000)

In the Southern Africa region where the burden of HIV and AIDS is the highest (27% adult prevalence in 2007) in the Sub-Saharan region, the “Love Life” program promoting sexual health and healthy lifestyles for adolescents was adopted in 1999 (World Bank, 2003). This is a non-curriculum based intervention targeting 12-17 year olds. In Eastern Africa, Uganda and Tanzania have both adopted curriculum-based and non-curriculum interventions to HIV and AIDS education (World Bank, 2003). Different countries have attempted to adopt HIV and AIDS education into the curriculum using different approaches. These approaches include having HIV and AIDS as a new stand-alone subject, clearly labelled and including

all core aspects. Secondly, HIV and AIDS is integrated into one already-existing main carrier-subject containing most of the core aspects of HIV and AIDS education. Thirdly, it is included as a cross-curricular issue, integrated in a few existing subjects clearly defined and containing most of the core aspects of HIV and AIDS in a complimentary and coordinated approach. Fourth, it is infused throughout the curriculum, integrated in most or all subjects. Extra-curricular activities may complement curriculum-based HIV and AIDS education. The extra curricula activities include sports, school health clubs and theatre, which are implemented to reinforce the information taught in class room on HIV and AIDS. The terms used to describe the different approaches vary with the different countries and does not always appear conceptually clear. (IBE-UNESCO, 2005) According to IBE-UNESCO (2006), infusion into the entire curriculum and the integration in one main carrier-subject are favoured approaches because they don't require a revision of structure of the curriculum or reallocation of time between the different teachers. However it has led to fragmentation, lack of cohesion and lack of visibility. Kenya has adopted the infusion approach, where HIV and AIDS is integrated in most or all subjects.

It is now widely accepted that Kenya's education sector is adversely affected by the HIV and AIDS pandemic. HIV and AIDS affects pupils, students, teachers, parents and education personnel. It affects the quality of, access to, equity, supply and demand for education services. According to GOK (2004) it is estimated that the Kenya's Ministry of Education, Science and Technology loses an average of 15 teachers a day countrywide to HIV and AIDS. It has further been indicated that the rate of absenteeism of both teachers and learners continues to increase as a result of HIV and AIDS. Consequently, the Ministry of Education considers the fight against HIV and AIDS an integral part of Education for All (EFA) that addressed if the government is to achieve its commitment to providing free primary education and EFA (GOK, MoEST, 2001). The prevalence of HIV and AIDS particularly in Sub-Saharan Africa reduces the number of experienced teachers and forces children, especially girls, to drop out of school to care for family members. Education plays a significant role in the prevention of HIV and AIDS. (DFID, 2008)

Following the declaration of HIV and AIDS as a national disaster in 1999, Kenya's Ministry of Education embarked on the preparation of syllabi and accompanying instructional materials for all institutions. To include HIV and AIDS in the curriculum, Kenya adopted the approach where HIV and AIDS is integrated in most/all subjects. In an integrated course design, HIV and AIDS is incorporated in all or most existing courses. However, the effective implementation of HIV and AIDS education depends on how well teachers are prepared and trained and on the availability of relevant teaching and learning materials (GOK/MoEST, 2004).

Although school-based HIV and AIDS education has been identified as a weapon against HIV and AIDS, debates still rage on its effectiveness in achieving the set goals. The discussions are centred on the content of the HIV and AIDS education, the mode of delivery including approaches and the teacher/educator needs. To begin with, there is continuing debate about the content of HIV and AIDS-related education program and how and in what manner they are delivered to students (Aggleton, 2000; Siecus, 1999; Second International Symposium on HIV Prevention, 1999). It is generally agreed that HIV and AIDS education should include information on: the nature of the virus, its mode of transmission, the consequence of infection, and the steps taken to protect against infection (UNAIDS, 1997; UNESCO, 2001). However, since much of HIV-related education takes place within curriculum subjects the HIV and AIDS components in the integrated curriculum spread thinly. They are often given inadequate emphasis due to its appearance as a topic in passing (Malambo, 2000). This has made it difficult to incorporate all the required subject content.

Second, debates rage also regarding the mode of delivery and the approach: should HIV and AIDS and related issues be addressed through knowledge-based models of interactive and skills-based modes of learning (Smith et al 2003)? It is believed that HIV prevention is more effective if linked to everyday lives of students. Consequently, some educators have promoted life skill models (UNAIDS 1999). Concern here is whether HIV and AIDS education should be taught as a set of facts, or using more students-centred models. It was observed that learning facts is generally emphasized over learning skills that train young people to adopt right attitudes and safe behaviours. These skills-based approaches promoted

by educators centre around the individual. There is thus the need to go beyond one or two strategies to embrace other interrelated aspects and sectors. Information about sex and HIV may be insufficient by itself to bring about low-risk behaviours, but must be linked with the development of interpersonal skills and other related components such as critical and creative thinking, decision-making, and self-awareness. It must also run alongside the development of the knowledge, attitudes, and values needed to make sound health-related decisions (UNAIDS 1999). According to Bennel, Hyde and Swainson, (2001), HIV and AIDS education, particularly in schools, is not implemented as envisaged. It is clear that an overly scientific approach to HIV and AIDS education risks being divorced from any reality to which adolescents can relate. For adolescents to translate knowledge into behaviour change there is need to go beyond the individual level phenomenon to a contextual approach, where individual health behaviour is recognized as a component of this set of domains, rather than a primary focus of health behaviour.

Third, there are concerns related to the needs of the HIV educator or teacher. The teacher's needs range from inadequate HIV knowledge and skills to lack of teaching materials and teaching methodologies. The HIV educator or teacher refers to the individual entrusted with the coordinating and/or teaching of HIV subject. The International Institute of Educational Planning (IIEP) study on the impact of and responses to HIV and AIDS in Tanzania, Malawi and Uganda found that most ministries of education and development agencies were focusing on students and curricula but failing to recognise the needs of teachers and other sector staff (De Korte and Allemano, 2003). Cohen (2002) presents an analysis of the impact of HIV and AIDS on human capital and finds that Kenya will be second to South Africa in the number of teachers dying from HIV infection by 2010.

Further, Action Aid (2003) indicated that in Kenya and India many teachers of HIV and AIDS reported difficulties in discussing the subject with their students and opted for selective teaching and a focus on messages about abstinence. This was linked to negative attitudes towards condoms and safe sex. The teachers noted that lack on the one hand of knowledge, skills and training opportunities, and on the other of teaching and learning materials have been a barrier to effective implementations. Malambo, (2000) reported

similar difficulties with teachers in Zambia, adding that teaching methodology is also a challenge that mostly depended on whole class teaching, without much opportunity for participatory learning, peer education, community participation or involvement with people living with HIV and AIDS. Research in Kenya found that 24% of students and 17% of parents said that teachers did not set a good example for sexual behaviour (Shaeffer 1994). The Kenya National Union of Teachers has expressed concern that the unacceptable behaviour of a teacher affects the reputation of the profession as whole (Educational International, 2005).

It is worrying that despite high levels of awareness about HIV and AIDS and the adoption of school-based HIV and AIDS education, knowledge and practice gap persists among adolescents. This has led to high rates of new infections among this age group (National Aids Control Council 2007; KDHS 2003; MOH, 2005; BSS 2003.). The slow translation of HIV and AIDS knowledge into behaviour change may be attributed to the curriculum content, mode of delivery and approaches as well as the HIV and AIDS educator/teacher needs. It is widely accepted that knowledge is an important but not sufficient condition to change behaviour (Clarke 2003; UNAIDS IATT 2003; Kirky 2002; UNAIDS 2004; Caldwell et al, 1992.). Successfully rolling back the HIV and AIDS epidemic along with its impact is heavily dependent on full involvement of the education and school systems and the translation of knowledge into practice (Kelly 2003). To impact HIV prevalence, schools must go beyond disseminating good knowledge alone and to demonstrating significant and sustained improvements in sexual risks. They must address the more complex effective factors that influence them, such as values, attitudes and skills (WHO, 2006).

There are strong indications that focusing on risky behaviours of individuals is insufficient to achieve behaviour change when not taking into account the social determinants and deep seated inequalities driving the epidemic. According to Panos, (2003), programs designed to change sexual behaviour have been short-term, non-empowering, top-down and lacking in long term impact. UNAIDS (1999), in providing the new direction for behaviour change strategies, noted that most theories and models of HIV did not provide adequate foundation on which to develop interventions in Africa. The school-based HIV and AIDS education is

one of the programs developed using the HIV behaviour change theories and models that aim to achieve individual-based behaviour changes in sexual and social matters. While these aspects of the school-based HIV programs are desirable and should be maintained, a broader focus is necessary to overcome the limitations. According to CDC (1998), a multifaceted approach to HIV and AIDS prevention, which would include individual, peer, familial, school, church and community programs, is necessary for the reduction of incidences of HIV and AIDS among young people. HIV and AIDS education policy guidelines take a broad focus in prevention, care and support. However there is a missing link between the policy guidelines, the school-based education and the implementation of the education.

There seems to be a consensus on the need to go beyond giving information to embracing a broader range of influences that promote, reinforce and maintain adolescents' protective behaviour. Di Clemente (2003) stipulates (that emerging evidence does indicate) that a spectrum of prominent contextual factors and exposures, while interacting with each other, promote or inhibit adolescents' HIV-associated sexual behaviour, including psychological, social, relational, familial, elemental, structural, environmental and cultural factors. This spectrum of contextual factors informed by the evidence from findings will form a basis for recommendations on an alternative model for teaching HIV and AIDS education in schools. This framework is envisioned to strengthen acquisition of knowledge, adoption and maintenance of safe sexual behaviours among adolescents.

The study therefore sought to provide a linkage between the school-based HIV and AIDS intervention strategy and the expected outcome of individual behaviour change. The outcome indicators as described by Knut-Inge Klepp et al. (1997) and as discussed in this study, include increased students' knowledge about HIV and AIDS, changed attitudes towards risky sexual behaviours, delayed onset of sexual intercourse and increased condom use among sexually-active students.

1.1 Statement of the problem

The number of those infected with HIV/AIDS among the adolescents continues to be a major public health and development problem. The adolescents make a segment of the population that is particularly vulnerable to HIV. The high infection rates have been attributed to a number of factors including lack of adequate information and knowledge on HIV/AIDS, life skills, adolescents' experimentation and curiosity, early sexual debut, poor access to health services and commodities, sexual coercion and violence and growing up without parents. (WHO, 2006). Urbanization and problems like conflicting ideas about sexual values, breakdown in traditional flow of information and values about sex, inter-generational sex and widening gender disparity have also been associated to the trends in HIV infections (UNAIDS, 2004). The resultant effect has been high levels of mortality of pupils, teachers and parents, absenteeism, low academic achievements, high levels of orphanage, and a rise in poverty levels. (World Bank, 2001)

In an effort to address the emerging problems brought about by HIV/AIDS and to avert further infections a school-based intervention strategy has been widely recommended and implemented in Kenya. Nonetheless, a number of concerns have been raised with regard to the effectiveness of this approach. It has been pointed out that a number of issues still remain unresolved in relation to the content of the HIV/AIDS education, the mode of delivery including approaches and the HIV/AIDS educator needs (Kirby et al 1994; Boler, and Aggleton, 2005). Regarding the mode of delivery of the school-based HIV/AIDS intervention, studies carried out point out that teachers need to learn additional skills, instructional methods and models and perhaps change some of their old ways of teaching in order to effectively deliver school-based AIDS education (Kirby, 1995, Ragon 1995, Siegel 1996, & Schencker, Greenblatt, 1993). Regarding the HIV/AIDS educator needs, Nzioka, (2005) reiterates that educators may lack the competence and commitment to teach about HIV/AIDS in already crowded and exam driven curricula. Moreover, Panos (2003) has indicated that the school based program also ignores the social determinants and the deep seated inequalities that are driving the HIV/AIDS epidemic. It is therefore not clear as to

which is the major shortcoming of the school-based HIV/AIDS intervention strategy. These cited evaluations have concerned themselves more with the technical components of the program at the expense of the intended outcome. There is very little systematic evaluation of the school-based HIV/AIDS intervention strategy linked to the expected outcome of behaviour change which includes increased students knowledge about HIV/AIDS, changed attitudes towards risky sexual behaviours, delayed onset of sexual intercourse and increased condom use among sexually active students (Knut-Inge Klepp et al. 1997)

This study therefore sought to establish the effectiveness of the school-based HIV/AIDS intervention strategy in relation to the translation of knowledge to behaviour change. The study also sought to provide recommendations on a school based contextual model which will have a broader focus in addressing both the individual level phenomenon and multi faceted range of influences that promote, reinforce and maintain the adolescent's protective behaviour.

1.2. Purpose of the Study

The purpose of the study was to establish the effectiveness of the school-based interventions in relation to behaviour change in Thika district. This was achieved through identifying the influence of school-based HIV and AIDS education and the social determinants of the sexual behavior of adolescents. The study sought to fill the gap between HIV and AIDS knowledge and behaviour change among school-going adolescents. It would provide direction for what an effective school-based intervention should entail. This was achieved through proposing a school-based HIV and AIDS contextual model that embraces both individual level phenomenon and broader social and environmental factors. It further sought to highlight the linkage between the strategy and its effectiveness in preventing further transmission of new infections among adolescents. The study also sought to explore the broader variables that should constitute an alternative school-based HIV and AIDS education contextual model.

1.3 Research Objectives

The following were the objectives of this study:

1. To find out the knowledge level on HIV and AIDS and the sexual behaviour of secondary school adolescents in sample secondary schools in Thika District;
2. To find out in-school and out-of school factors that facilitate behaviour change among secondary school adolescents from sampled secondary schools in Thika District;
3. To establish the perception of school going-adolescents on school-based HIV and AIDS teaching methodologies;
4. To identify the influence of HIV and AIDS content delivery by the teacher on the behavioural outcomes of the adolescent and;
5. To propose a contextual model for effective school-based HIV and AIDS education in Kenya.

1.4 Research Questions

This study sought to answer the following questions:

1. What is the knowledge level of the secondary school adolescents on HIV and AIDS?
2. What are the sexual behaviours of school-going adolescents?
3. What are the out-of-school and in-school factors that facilitate behaviour change among secondary school adolescents?
4. What is the perception of school going adolescents on school based HIV and AIDS teaching methodologies?
5. What are the effects of the teacher's HIV and AIDS content delivery on the behavioural outcomes of the adolescents?
6. What are the broader variables that should constitute an alternative (are entailed in a) School based HIV and AIDS education contextual model?

1.5 Significance of the Study

The study has generated data that might illuminate our understanding of the dissonance in knowledge and behaviour change among the vulnerable group of adolescents. It has provided in-depth understanding of the factors that influence the translation of knowledge into behaviour change among secondary school-going adolescents. The study results, therefore, may be of great help to education planners and policy-makers through its recommendations on how to identify the cues for re-focusing school-based HIV and AIDS education. This would make the education more effective in assisting the students translate knowledge into behaviour change and maintenance. In effect, the structure and practice of the school-based HIV and AIDS education for adolescents might acquire a new outlook with greater practical benefits to their quest for positive behaviour change. More importantly, AIDS being a threat to humankind with neither a known vaccine nor known cure, prevention education is the best weapon this far (Kirby, et al 1992). Therefore, any strategy for prevention must be effective and linked to the intended results. This study sought to bridge the school-based HIV and AIDS intervention strategy to prevention of new infections. This it would do by enhancing the translation of the acquired knowledge into positive behaviour change. The study also sought to contribute to research on HIV and AIDS education.

1.6 Scope and Delimitations of the Study

The study had the following limitations: It was limited to four urban and four rural zones of Thika district. Since it involved in-depth analysis of issues, it therefore warranted a small sample size of eight schools. Consequently the research conclusions and generalizations for this study are considered representative of Thika district specifically. Any implementation of study findings outside the study area must thus be done with caution. The sample selected was suitable for determining parameters or characteristics of the school-going adolescents in Thika district. However, generalizations can be made considering that Thika town is an industrial urban centre and hence a cosmopolitan society. This implies that the schools' populations are representative of the cosmopolitan culture and is also fairly representative of both urban and rural populations of Kenya.

1.7. Assumptions of the Study

This study took cognizance of the following extraneous factors that could have affected results of this study:

1. It assumed that curriculum-based HIV and AIDS education is taught in all public schools in Kenya and that participants were beneficiaries of the program. In light of the study findings, all the schools sampled were implementing school-based HIV and AIDS education. This assumption therefore did not have any negative effect on the study findings.
2. That participant had deep understanding of issues under study. Similarly, in view of the study findings, the respondents had good understanding of the subject under study and their contribution went a long way in informing the conclusions and recommendations.
3. That the participant was willing to divulge information about their private lives especially sexual lifestyles. The researcher did not experience challenges in eliciting this information because self-administered questionnaires were used due to the sensitivity of the issues.

1.8 Theoretical Framework and Conceptual Framework

The overall goal for any effective school-based HIV prevention intervention is to develop a recommended behaviour or to reverse risky sexual behaviour in a target group. A key question in this context is: why and how do people adapt new behaviour?

1.8.1 Theoretical Framework

To understand the mechanisms involved in the process of behaviour change three theories were used as a guide in this study. These theories included *Health Belief Model* (HBM) by Rosenstock, Strecher and Becker, (1994), *Theory of Reasoned Action* (TRA) by Fishbein, Middlestadt and Hitchcock, (1994) and the *Social Learning Theory* (SLT) by Bandura (1986), and (1989).

The HBM and the TRA both explain behaviour change as an individual phenomenon, and focuses the design of school-based HIV education as individual level intervention. While the third theory SLT addresses individual level interventions, it also situates behaviour change

in a broader contextual domain to cater for environmental factors. To begin with, the HBM is a psychological model that attempts to explain and predict health behaviours by focusing on the attitudes and beliefs of individuals. Its key variables as described by Rosenstock, Strecher and Becker, (1994) and as it relates to school-based HIV education are perceived threat, perceived benefits, perceived barriers and cues to action. Perceived threat consists of an individual's subjective perception of the risk of contracting a health problem and feelings concerning the seriousness of contracting the illness. Perceived benefits are the anticipated effectiveness of strategies designed to reduce the threat of illness. Perceived barriers are the potential negative consequence that may result from taking particular health actions, including physical, psychological and financial demands. This theory guides in understanding the school-based HIV and AIDS interventions implementation. The intervention is designed to increase the risk perception of the learners while teaching the benefits of safer behaviours to prevent the transmission of HIV infection (Rosenstock, Strecher and Becker, 1994).

The HBM has general limitations which include; failure to take into consideration other factors e.g. environmental or economic, that may influence behaviour. The model does not incorporate either the influence of social norms or peer influences on people's decisions regarding their health behaviours. This is a very important aspect to consider especially when working with adolescents on HIV and AIDS issues. Peer pressure is usually a big determinant of young people's behaviour, both positive and negative. The social cognitive theory or social learning theory was used in this study to compliment the limitations identified and reflect the contextual domains of behaviour change.

The second theoretical base for effective school based interventions was the Theory of Reasoned Action (TRA). Based on the premise that humans are rational and that the behaviours being explored are under volitional control, the theory provides a construct that links individual beliefs, attitudes, intentions and behaviour (Fishbein, Middlestadt and Hitchcock, 1994). The theory variables and their definitions, as described by Fishbein et al. (1994) are; behaviour, intention, attitude and beliefs. A specific behaviour is defined by a combination of four components; action, target, context and time. In describing intention,

the intent to perform a behaviour is the best predictor that a desired behaviour will actually occur. Attitudes and norms shape a person's intention to perform behaviour. Behavioural beliefs are a combination of a person's beliefs regarding the outcomes of a defined behaviour and the person's evaluation of potential outcomes. Norms are a person's perception of other people's opinion regarding a defined behaviour (Fishbein, Middlestadt and Hitchcock, 1994). In determining effective school-based prevention strategies, it would be important to understand which variable and its corresponding cognitive structure exert the greatest influence on the young people's intention to change. And as elucidated earlier, this theory also focuses more on the individual level interventions as opposed to a broader contextual approach where structural and environmental factors are considered.

The third theory which complements the limitations of the above two theories is the social learning or social cognitive theory (SLT) Bandura (1986, 1989). Like the HBM, this theory states that the benefits of performing behaviour should outweigh the costs or negative outcomes. The learners must also have a sense of self-efficacy with respect to performing the preventive behaviour. This theory compliments the HBM and the TRA in two ways. First it addresses the environmental factors that influence behaviour and, second, it builds on the self-efficacy of learners in achieving behaviour change. It defines behaviour as triadic, dynamic and reciprocal interaction of personal factors, behaviour and the environment. According to this theory, individual's behaviour is uniquely determined by each of these three factors. Through feedback and reciprocity, a person's own reality is formed by the interaction of the environment and his/her cognition (Bandura 1986 and 1989) in addition to the learners' internal events which influence their perceptions and actions. Bandura describes this three way relationship as a reciprocal determinism.

1.8.2 Conceptual Framework

Drawing from the theories and literature review the researcher developed a conceptual framework that guided the study. The conceptual framework presents four independent variables; the HIV and AIDS knowledge level among the adolescents, the mode of delivery of HIV and AIDS including approaches, HIV and AIDS educator/teacher needs and social determinants of HIV and AIDS education. These are factors that determine the extent to which adolescents are able to translate HIV knowledge into practice or safer behaviour. It is conceptualised that for the school-going adolescents to practice safer behaviours, giving accurate information, knowledge and dispelling fears and misconceptions is not enough. Focus on skills-based education would be essential. Such skills as life skills, cognitive skills, coping skills and practical skills would be useful. If teachers learnt additional skills and instructional methods, and perhaps changed some of the old ways of teaching, learning would be enhanced. Utilizing non-conventional, innovative teaching methods helps the students to overcome fear and anxieties and explore attitudes, feelings and values.

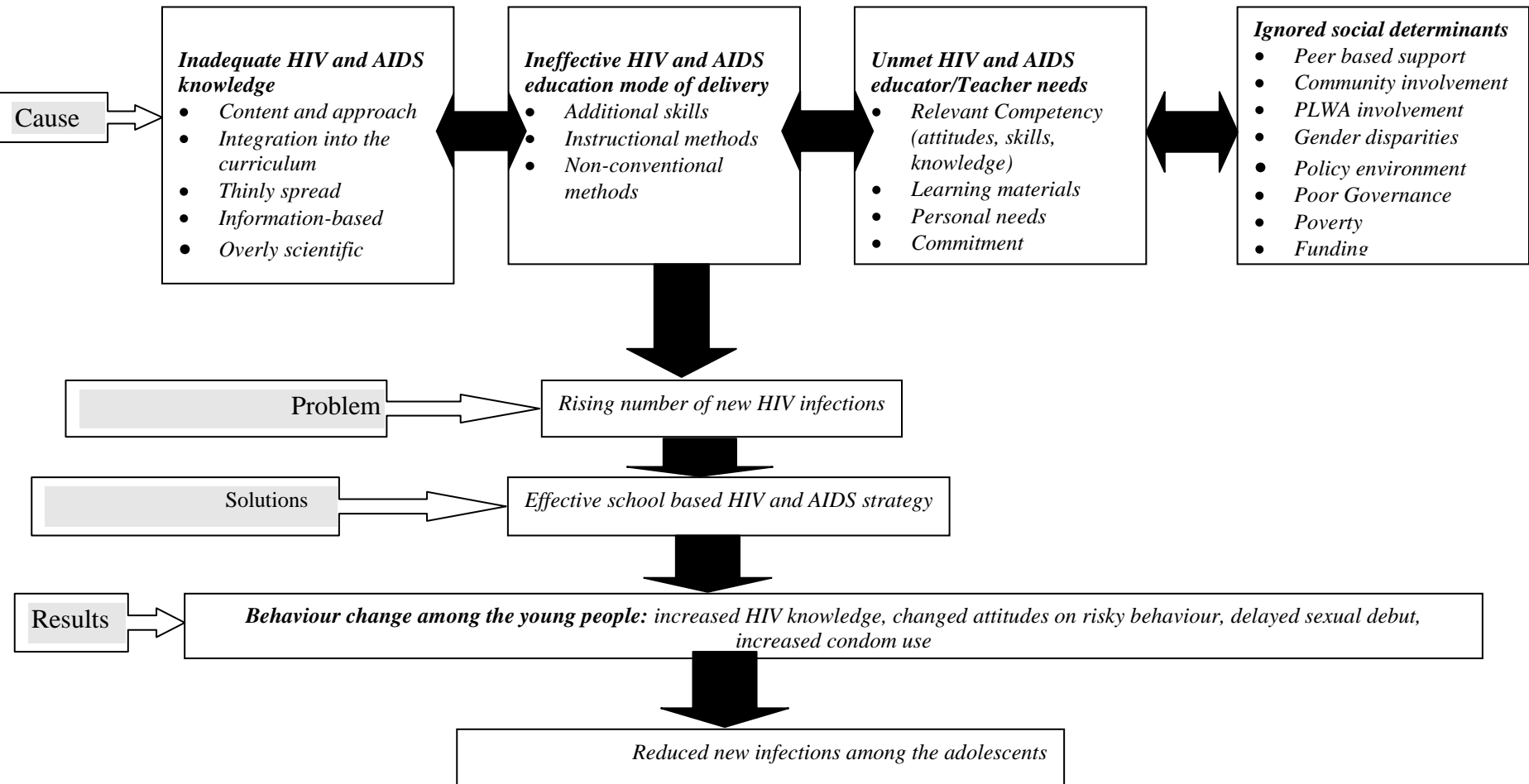
In considering the social determinants and broader issues that influence the behaviour of adolescents, protective influences would be strengthened both at home and school if school-based HIV and AIDS education linked with the community and parents. This would increase the likelihood of maintaining healthier behaviour. Conducive policy environment and youth-friendly health services will also support and help maintain safer behaviours. If educators/teachers have to serve on the one hand as a source of accurate information and skills and on the other as role models, mentors and advocates of healthier practices, they need to be much more specifically equipped than they currently are. They should be able to cope with the impact of HIV and AIDS in the classroom and at a personal level and still deliver lessons. The theory that supports the need for a consideration of broader factors as mentioned in the theoretical framework is the social learning or social cognitive theory Bandura (1986, 1989) and Health Belief Model by (Rosenstock, Strecher and Becker, 1994)

The central notion that guided the conceptual framework of this study was that knowledge was an important factor but not a sufficient influence to change behaviour. There was a need to go beyond giving information to embracing broader influences that promote, reinforce

and maintain adolescents risk and protective behaviour. The notion was grounded on the study theories which emphasized the complementarity of individual level phenomenon and contextual approaches to learning. The theories quoted in the study include the health belief model, theory of reasoned action and social learning theory. The readings on the proponents of this theory include Rosenstock et al (1994), Fishbein et al (1994), Bandura (1986), (1989).

The schematic figure below provides a summary of the conceptual framework, explaining the relationship between high HIV prevalence among adolescents and school-based HIV education.

Figure 1.1: Correlates of Behaviour Change among school-going adolescents



Source: Own Construction from Literature

1.9 Operational Definition of Key Terms

For purposes of this study, the following terms were defined hereunder. This was deemed appropriate since many researchers often use these words differently hence the need to provide the operational definition.

a) Adolescents

Persons between ages 10 to 19 years are defined by UNICEF and WHO as the adolescents. Adolescents are the primary target subject for this study. They are in a period of transition from childhood to adulthood where physiological, physical, psychological and behavioural changes take place.

b) School-based HIV and AIDS education

School based HIV and AIDS education refers to AIDS-related prevention education taught to in-school (primary and secondary schools) pupils, students and young people. The emphasis is on the need for behaviour development and change to combat the challenges of HIV and AIDS.

c) HIV and AIDS knowledge and information

This study defines "Knowledge" as the state or condition of understanding HIV and AIDS facts or subject and being able to apply such understanding. In this study, "information" may be described as what is communicated about HIV and AIDS facts or subject; something a person receives or is told.

d) Behaviour change

This is a complex process through which we strive to alter or influence an individual's attitudes (beliefs, feelings, actions) and sustain the desired positive change. The study will also refer to behaviour change as the ability to successfully execute the behaviour required (school-based HIV and AIDS education indicators) to produce the desired outcome.

e) Behaviour change outcomes /indicators

Behaviour change indicators for adolescents include increased students knowledge about HIV and AIDS, changed attitudes towards risky sexual behaviours, delayed onset of

sexual intercourse and increased condom use among sexually-active students (Knut-Inge Klepp et al. 1997)

f) Life skills

This term refers to a large group of psycho-social and interpersonal skills which can help people make informed decisions, communicate effectively, and develop coping and self-management skills that help them lead a healthy and productive life. Life skills may be directed toward personal actions and actions toward others, as well as actions to change the surrounding environment to make it conducive to health.

g) Health

Health is defined as "the state of complete physical, mental and social well-being" (WHO). Using this definition, social and economic conditions and the broader environment are considered key determinants of health.

h) HIV prevalence

This is the percentage of a population that is infected with HIV

i) Approaches

This is a pragmatic way of addressing social issues affecting the target population

j) Teacher/educator of HIV and AIDS

The teacher/educator of HIV and AIDS refers to the individual entrusted with the coordination and/or teaching of HIV and AIDS subject in a school.

k) Infusion

This is one of the curricula-based approaches where HIV and AIDS is spread in all the subjects in the syllabus

l) Integration

This is also a curricula-based approach where HIV and AIDS is fixed in one main carrier subject.

M) Efficacy

This refers to effectiveness or ability to cause the desired results.

In Chapter Two we review the literature of the existing school-based HIV and AIDS education and how the limitations of these impact the rate of the spread of the epidemic.

Chapter Two: Literature Review

2.0 Introduction

This chapter presents a review of literature related to school-based HIV and AIDS education and its relationship to HIV prevalence among adolescents. The chapter is organized under the following themes:

- HIV and AIDS: knowledge and behaviour change among the adolescents
- Factors affecting knowledge acquisition and sexual behaviour of adolescents
- School-based approaches to mitigating the spread of HIV and AIDS
- Existing pedagogical approaches and teaching methods
- HIV and AIDS-related needs of teacher/educator
- HIV and AIDS education models of teaching

2.1 HIV and AIDS: knowledge and behaviour change among the adolescents

Adolescents are exposed to HIV in different ways. The young age groups consist of a big portion of the world's population with more than three billion people under the age of 25 years (UNFPA, 2005). In high-prevalence Sub-Saharan Africa, the main mode of transmission is heterosexual intercourse. Indications of early sexual practice include high incidence of HIV and about 4 million illegal abortions committed by adolescents worldwide annually (Clark, 2004). This region contains almost two-thirds of all of the world's young people living with HIV. Of the approximately 6.2 million sub-Saharan Africans in this age-group who are living with HIV, 75% are female (UNAIDS, 2003.)

In Eastern Europe and Central Asia, HIV prevalence among young people is rising rapidly due to drug injecting with contaminated equipment and, to a lesser extent, unsafe sex. Young people 15-24 years old living with HIV, by region, by the end of 2003 are as follows; Sub-Saharan Africa 62%, Asia 22%, Eastern Europe and Central Asia 6% North Africa and Middle East 1%, Latin America and Caribbean 7%, high income countries 2% (UNAIDS/UNICEF/WHO 2004). In Central Asia and Eastern Europe, there is evidence that the age of initiation into injecting drug use is falling (Rhodes et al., 2002).

Adolescents injecting drug users are particularly at risk, since they may not have the knowledge or skills to protect themselves from infection via contaminated injecting equipment (UNAIDS 2003). Gender disparities increase the vulnerability of young women to HIV and AIDS. The proportion of women living with HIV who are over 15 years old is 1.7 times higher in Sub-Saharan Africa than in other regions (Population Reference Bureau, 2003). Surveys of 15 to 19 year-olds (1994–98) showed varying levels of knowledge across 17 countries, with greater knowledge in countries with a longer history of AIDS (UNAIDS 2000a). Girls were generally more poorly informed than boys. A survey of school children in Botswana showed some knowledge gaps; a common perception of teachers is that many students are in denial and unable to accept that staff and students are being infected (Kelly 2000a; Ministry of Health, Botswana). Other gaps include African university students' belief that oral contraceptives prevent HIV infection and that the virus can pass through an undamaged condom. Only 45 percent of surveyed students considered themselves at risk, manifesting “denial, fatalism, and an air of invulnerability” (Kelly 2001).

Studies show that adolescents who begin sexual activity early are likely to have sex with more partners including partners who have been at risk of HIV exposure. They are not likely to use condoms (WHO, 2000). Practices of sex among adolescents are being initiated earlier than expected, and this exposes them to a higher risk of HIV exposure (Donenberg *et al.*, 2005). Early debut of sex subjects young people to more frequent sexual intercourse, a higher risk of STDs, less consistent contraceptive use, and a higher chance of having multiple sexual partners (Fasin and Schneider, 2003). Young people also find themselves in coerced sexual relationships. For example, 20% of all young girls interviewed in Kisumu, Kenya, and Ndola, Zambia, said their first sexual encounter involved physical force (Glynn *et al.*, 2001). Similarly, around 25% of 15–24-year-old girls in KwaZulu-Natal, South Africa said they had been ‘tricked’ or ‘persuaded’ into their first sexual experience (Manzini, 2001). Early sex debut was identified by the Population Service International (PSI, 2006) to put youth at higher risk of HIV, increase life-long number of sex partners and expose them to unwanted pregnancies.

According a Family Health International (FHI, 2004) report, young people are highly vulnerable to HIV because of lack of knowledge about risks associated with sexual practice. It also indicated that the first sex encounter for girls is usually forced or coerced, and that boys tend to have their first sexual experience with more experienced women or sex workers. It is estimated that more than 14 million adolescent girls give birth each year worldwide, and 90% of these are in developing countries (WHO, 2006). Further research shows that a large proportion of young people are not concerned about being infected with HIV (CDC, 1998).

In Kenya, 2006 prevalence estimates for youth aged 15-24 was 4% for females and 1.4% for males whereas there were an estimated 2.4 million orphans (NASCO 2007). In Kisumu, Kenya, 25% of sexually active young boys and 33% of young girls said they had not used a condom during their first and subsequent sexual encounters (Glynn et al., 2001). One of the goals of school-based HIV and AIDS education is to abstain or postpone onset of sexual activity among young people. However literature reviewed noted that children as young as 8-10 years are sexually active especially in slum areas and broken homes (Nyamongo et al 1999). ‘Male youth aged 15-24 years were likely to have (had) sex in the last 12 months and have multiple partners’ (MOH, 2005 pg 21).

A study conducted to determine the baseline data of secondary school students in the Midlands district of Kwa-Zulu, Natal, South Africa, concluded that the discrepancy between awareness and behaviour calls for a reorientation of sexuality education. The study recommended that education should include those elements critical for behavioural change, such as addressing gender discrepancies and promoting skills for communication through planned intervention programmes (James et al, 2004).

Most people become sexually active in their teens. As mentioned earlier, factors encouraging premarital sexual activity among adolescents include increasing urbanization, poverty, exposure to conflicting ideas about sexual values and behaviour and the breakdown of traditional sexuality and reproduction information channels.

The literature reviewed on sexual practices and behaviour change identifies areas of concern regarding behaviour change. The first concern is the early sexual debut among adolescents and the gap in translating HIV and AIDS knowledge into behaviour change. This study will bridge the gap by providing insights on how school-based HIV and AIDS education can be strengthened to facilitate acquisition of knowledge and adoption of safer behaviours among the adolescents.

While highlighting the prevalence and impact of HIV and AIDS on adolescents, this section also discusses their risky sexual practices and vulnerability and bridges the gap between HIV and AIDS knowledge and the translation of that knowledge into behaviour change. This study provides insights on factors that influence the transfer of knowledge to behaviour change.

2.2 Factors affecting knowledge acquisition and sexual behaviour of adolescents

Education of girls is a factor that may significantly delay the onset of sexual activity and early marriage. It has been shown that enrolment in school is significant in safeguarding adolescents against risky sexual behaviors (WHO, 2006).

Communication between parents and children is important in building responsible behaviours including reproductive health issues. Parental guidance for young people is still a big problem in Africa. Most parents look at sexual issues too sensitive and embarrassing to discuss with their children (AYA 2002). Many children first hear about issues to do with reproductive health from peers. This information is in most cases misleading. Quoting the eco-developmental theory, Donenberg *et al* (2005) relates a higher likelihood of risky behaviour to parental permissiveness or total absence of parental monitoring.

A mothers influence on the sexual behaviour of adolescents was prominently highlighted in a study that showed that that children living with fathers only were associated with

significantly early sex than those with either both parents or single mothers (Leighton *et al*, 1993). This indicates that parents have a role to play as far as their young people's sexuality is concerned.

Religious guidance is one of the factors seemingly important in the development of a child's behaviours. Data from a study by Leighton *et al* (1993) showed that males who went to church more often at the age of 14 were less likely to have early intercourse. The moral and spiritual support is hereby mentioned to be important in lives of adolescents and to potentially reduce risks of early sexual debut.

Adolescents especially girls are tempted to have sex due to economic disparity and need. This may be at family level or an individual adolescent's decision. Up to 38 per cent of unmarried adolescents aged 15 to 19 years are said to have engaged in sex for money or goods in some sub-Saharan Africa (UNFPA, 2005).

High rates of sexual exploitation seem to be affecting adolescents today. Though most of the cases are not reported, studies conducted in sub Saharan Africa show that a number of girls had their first sexual experience against their consent (UNFPA, 2005). A study in South Africa points at sexual violence as a big contributing factor to the spread of HIV (Fassin and Schneider, 2003). The study identified acts of violence that include coercion, rape, and forced early marriages.

In a Kenyan study conducted among 10,000 female secondary school students, 24% of the sexually active young women reported that their first sexual encounter had been coerced (Moore *et al*, 2005). Coercion generally accounts for a big portion of young girls' initiation into sex. The most unfortunate part is that these girls are found unprepared and therefore exposed to a higher risk of pregnancies and sexually transmitted diseases.

The use of drugs and alcohol among adolescents has been identified to directly influence sexual behaviors (Neema *et al*, 2004). According to Donenberg *et al* (2005), incidents of sex while or after drinking alcohol have often been reported among adolescents. Many

adolescents today use drugs and alcohol as a gesture for socialization. When no longer in their normal senses, they are influenced to have sex with their peers.

The media industry has been recognized as one of the main informers of young people in all aspects. Sources of information include radio, cinema, television and magazines. Movies and television are particularly important today and are readily available to adolescents even in deepest village settlements. Social learning theory predicts that teens that see characters having casual sex without experiencing negative consequences will be more likely to adopt the behaviours portrayed (Collins *et al*, 2002).

The key issues in this section are that knowledge is an important but not sufficient factor in change of behaviour. There is need to go beyond giving information to embracing broader influences that promote, reinforce and maintain young people's risk and protective behaviour. This section of the study literature reviewed presents the complimentary of individual level phenomenon and contextual approaches or other social determinants of behaviour. This study will fill the gap in school-based HIV education by highlighting the out-of school factors that facilitate behaviour change and further suggest a contextual framework that will embrace the environmental phenomenon.

2.3 The Evolution of policy and school-based approaches to mitigate HIV and AIDS

According to Schencher, (2002) school AIDS education has been evolving from fear-driven and local to well-coordinated and transnational. At the same time the content has evolved from information-based to theory-based. The above author further states that the fifth generation of programs is characterized by three interrelated strategies aimed at reducing the impact of HIV in the education system which include; school health programs together with skills-based health education, formal and non-formal education programs addressing sexuality and reproductive health, and finally coordinated school/community HIV prevention programs.

School-based HIV and AIDS education was primarily introduced to prevent transmission of HIV and AIDS and mitigate the epidemic's impact. The UNGASS declaration of commitment on HIV and AIDS states that by 2005 at least 90% and by 2010 at least 95% of young men and women aged 15 to 24 have access to information and education. This includes peer education and youth specific HIV /AIDS education, together with services necessary to develop life skills required to reduce their vulnerability to HIV infection. All this is to be pursued in full partnership with young persons, parents, families, educators and health-care provider.” (Article 53, Declaration of Commitment to HIV and AIDS, UNGASS, 2001). This commitment drew attention to the urgent need to combat HIV and AIDS through school-based programs.

To meet the demands created by HIV and AIDS in agreement with the transnational initiatives, the following comprehensive education sector response to HIV and AIDS was developed to enable the shift from policy to practice. It indicates that the HIV and AIDS structures should be established at the national, district and school level. An enabling legal and policy framework should be in place and HIV and AIDS should be mainstreamed into all human resource management functions. Further, workplace HIV and AIDS programs should be developed, implemented and monitored while HIV and AIDS is mainstreamed into life orientation and other curricula. There should also be a

holistic support for infected and affected staff and learners, training and capacity building to meet the challenges of HIV and AIDS, and partnerships to enhance HIV and AIDS responses and research guided programs. (UNESCO Nairobi, 2005)

Countries in the developed and developing world have taken steps to address the impact of HIV and AIDS on the education sector and adopt systems responsive to the epidemic. The concern with the above steps is that most countries have been able to only achieve less than half of the ten steps. The responses achieved include: development of the education sector policy that sets out principles, minimum standards and commitments related to HIV and AIDS. Other achieved response is the HIV and AIDS mainstreaming into the curricula. The importance of having a comprehensive response in addressing HIV and AIDS in the education sector is the fact that changes in behaviour result from a coordinated set of complementary, mutually-reinforcing activities. All the segments of the comprehensive response are important. It is likely that the gaps in strategy implementation are contributing to the challenge of young people translating knowledge into behaviour change and hence the new high HIV and AIDS infection rates.

Educators/teachers play an important role as a source of accurate information and skills and as role models, mentors and advocates of health in school environments. They therefore need to be equipped to cope with the impact of HIV and AIDS in the classroom and to provide support to the infected and affected learners as well as deliver HIV and AIDS education.(action Aid 2003). In India HIV lessons were not taught at all in some schools. The study revealed the following key challenges identified by teachers; there is conflict between curriculum content and societal norms and assumptions about young people and sex. Oversized classes, an already full curriculum and lack of time were cited by over half of teachers in both India and Kenya. Educator or teacher conduct can have a positive or negative impact on learners and it can undermine HIV education. Research in Kenya found that 24% of students and 17% of parents said that teachers did not set a good example for sexual behaviour (Shaeffer, 1994). In a study of primary school pupils in Uganda, 11% of girls said they had been forced to have sex with a teacher (Action Aid 2003).

Other weaknesses in the school-based HIV and AIDS education include the fact that HIV and AIDS is not a subject area in its own right with dedicated trained educators and teachers. The school-based HIV and AIDS education is not well linked to health education and health services (Action Aid 2003). While the HIV and AIDS education has been implemented for two decades now, it is apparent that it calls for a re-think and re-evaluation to make it more effective in translating knowledge into behaviour change and maintaining the safer behaviours.

While HIV and AIDS continue to spread rapidly throughout Africa and Asia, especially among young people aged 15-24, children aged 5-14 remain largely free of the virus. This group has been termed the “window of hope” for limiting the spread and mitigating the damage being wreaked by HIV. (World Bank, 2001) It is also this group that should normally receive or ought to have received a primary school education, which provides the protective effects of increased knowledge and life skills both critical to raising a generation that will grow up without being infected with HIV.

According to Kelly (2000), education has a critical role to play in mitigating the effects of HIV and AIDS, providing “knowledge that will inform self-protection; fostering the development of a personally held, constructive value system; inculcating skills that will facilitate self-protection; promoting behaviour that will lower infection risks; and enhancing capacity to help others to protect themselves.”

A Global Campaign for Education Report (2004) states that without education, young people are less likely to understand the information they receive regarding HIV and AIDS education. They are also less confident in accessing services and openly discussing the HIV epidemic. Kilian (1999) and Blanc (2000) support this idea that school attendance may directly affect access to health services and exposure to health interventions. There are strong indications that focusing on the risky behaviours of individuals is insufficient to achieve behaviour change when social determinants and deep-seated inequalities driving the epidemic are not taken into account. There seems to be consensus on the need to go beyond giving information to embracing a broader range of influences that promote,

reinforce and maintain young people's risk and protective behaviour (Di clemente, 2003). The gaps identified here are that the weaknesses of the school-based HIV and AIDS education are clear. As has been noted before, however, very little systematic evaluation of this intervention strategy has been linked to the expected outcome of behaviour change. As stated previously, behaviour change includes increased students knowledge about HIV and AIDS, changed attitudes towards risky sexual behaviours, delayed onset of sexual intercourse and increased condom use among sexually active students. This study will seek to establish the linkages by illuminating the dissonance and identifying the factors that facilitate change.

2.4 Existing pedagogical approaches and teaching methods

Integration of HIV and AIDS education into the existing curricula is expected to improve the learning outcomes. To be able to achieve these learning outcomes, modifications in the pedagogical practice in the classroom is vital. This section will highlight a range of pedagogical participatory activities that can be used to facilitate HIV and AIDS education. Again as has been mentioned, one of the gaps identified in this study is that teachers need to learn additional skills and instructional methods, and even change their old ways of teaching in order to effectively deliver the schools-based HIV and AIDS education (Kirky 1995, Schencker et al 1993). The teaching-learning methods discussed in this section are some activities that lead learners to collectively use knowledge, attitudes and skills.

IBE-UNESCO (2006) highlights the different interactive pedagogical approaches and benefits for each. These approaches include: class discussions, debates, brainstorming, role plays, games, story-telling, situation analysis, case studies, surveys and theatre. The merits of these approaches are that they deepen understanding on HIV and AIDS issues, develop skills, explore problems and issues and also personalize situations (IBE-UNESCO 2006).

2.5 HIV and AIDS education models of teaching

The use of effective HIV and AIDS education model is important for the prevention of HIV in schools. Different models and frameworks of teaching this subject in schools have been adopted globally and in the Kenya. This section explored some selected school-based HIV and AIDS approaches and models in Africa. The approaches and models include; The *Mema kwa Vijana* program in Tanzania, The Copperbelt Health Education Project (CHEP) in Zambia, and *Straight Talk* in Uganda. In Kenya, the curriculum-based HIV and AIDS education as well as the Kenya Institute of Education (KIE) life skills program will be discussed. Other sector-wide models discussed about school-based HIV and AIDS education were drawn from the Gambia, and Papua Guinea

The '*Mema Kwa Vijana*' program was initiated in Mwanza region of Tanzania in January 1999. Its main objective was to improve reproductive health knowledge among 12 years to 19 year-olds and decrease the infection rates of sexually transmitted infections (STIs) and HIV as well as the number of unwanted pregnancies. Some of the methods used include drama, songs, role plays, games, comedies, peer counselling, video films, adult involvement, and community involvement (World Bank, 2003). This is an effective school-based approach that links up partners and utilizes non-conventional methods of teaching. Based on discussions by Kelly, (2000), CDC (1988) and Schencker (2001), establishing partnerships is one of the considerations for effective school-based interventions.

According to these authors, school-based HIV and AIDS education should focus on the specific student population of each school, while maintaining close links with their parents and the community at large. These links allow for the strengthening of protective influences on young people from both the school and home. They also help teachers gain support for introducing and sustaining education for HIV and AIDS prevention in school. Community-based organizations (non-governmental organizations, hospitals, teachers' unions, religious groups, youth groups, sports clubs, etc.) could also provide complementary support, up-to-date information and practical assistance to this effort.

Some of the policies set to guide partnerships and integration at the global level as indicated by UNICEF state that HIV and AIDS prevention programmes work best where they are supported by other strategies - such as policies and health services - and reinforced by other sectors. The HIV and AIDS education model utilized by the *Mema Kwa Vijana* program utilizes non-conventional methods of teaching. According to Kirby et al (1994) some of the characteristics of health education programmes that have been successful in preventing HIV and AIDS as presented by Kirby et al (1994) is that they use participatory activities (games, role playing, group discussions etc.) to achieve the objectives of personalizing information, exploring attitudes and values, and practising skills.

The Copperbelt Health Education Project (CHEP) focuses on health education and HIV and AIDS prevention in the Copperbelt Province of Zambia. The project started in January 1988. The main goal was to ensure that children and youth formed and maintained behaviours that would not put them at risk of contracting STDs and HIV (World Bank, 2003). The integrated nature of the interventions in this program is the main lesson learnt. The component has an in-school program which includes anti-AIDS clubs, the SARA communication initiative, education through entertainment, Games for Life, and youth-friendly health services. The elements in the program facilitate adoption of change in school and support for the young person even out of school. This HIV and AIDS education model puts emphasis on open communication. It concurs with the views of Crosby (1996) who takes note of the need for open communication and the development of open and honest atmosphere between teacher and student

In 1986, the Ministry of Education of Uganda launched a major campaign that included the development of school curricula for primary and secondary schools, seminars, training workshops for teachers, AIDS drama shows and the inclusion of HIV prevention education in national policy-making. Other two educational programmes on HIV and AIDS in Uganda are *Straight Talk* which is a widely distributed newsletter targeting secondary school students (15-19) and young adults in colleges and universities aged 20-24 (World Bank, 2003).

In Papua New Guinea, a skills-based model of sexual and reproductive health is being promoted in schools. The model incorporates STD/HIV and AIDS knowledge and transmission, self-awareness, social relationships, self-respect, responsible behaviour, decision-making, self-esteem, and values clarification. These 'life skills' are intended to assist youth to make informed decisions when negotiating around or dealing with sexual situations. Personal and interpersonal skills education covers a range of skills relating to decision-making, communication, respecting others, self-control, conflict resolution, assertiveness, negotiation and gender role-plays. These skills specifically encourage equity between the sexes and emphasise resistance to peer-pressure, pressure from one's partner to engage in sex, and learning to control one's own behaviour (World Bank, 2003).

Kenya's two HIV and AIDS education initiatives, the HIV and AIDS curriculum and the life skills school program portray interesting experiences. The HIV and AIDS curriculum was introduced in 2000. It puts great emphasis on the need for behaviour development and change. Although integrated, the curriculum can also be taught as a separate subject (Cfbt, 2006). To provide guidelines on how to respond effectively to the challenges of the pandemic as it affects the entire training and education system, the Education Sector Policy on HIV and AIDS was developed.

Critical analyses of the above HIV and AIDS education approaches reveal a number of limitations. According to Kirby, (1995) and Schencker, & Greenblatt, (1993), to effectively deliver school-based AIDS education using many different channels, teachers need to learn additional skills, instructional methods and models and perhaps change some of their old teaching ways. They need to be professionally trained in HIV and AIDS education and be actively involved as educators. This is not the case in Kenya. The Quality Assurance Directorate and KIE are still working towards this goal.

For the HIV education to successfully transfer knowledge into practice there is need to utilize non-conventional methods of teaching. Kirby et al (1994) reiterates that in order for HIV education to achieve its goals, teaching methods must evolve from the style in

which educators lecture their students from the front of the classroom to more participatory teaching methods, where students play an active role in the learning process. The *Mema Kwa Vijana* program in Tanzania has successfully utilized this broad range of methods. For this approach to be pragmatic Boler and Aggleton (2005) raises the issue of compatibility of formal education system and life participatory approaches. Teachers need to be trained on how to bridge the gulf between these two different educational processes and approaches especially in the present challenge of crowded classrooms brought about by the free education.

Gender-specific approaches are one of the characteristics of successful prevention education. Grunseit (1997) and Wash & Bibace, (1990) all have given gender specific approaches as considerations for effective school based interventions. Girls and women are particularly vulnerable to HIV. Gender disparities are an issue of concern especially when the primary mode of HIV transmission is heterosexual. Young women are the worst affected. The proportion of women living with HIV who are over 15 years old is 1.7 times higher in sub-Saharan Africa than in other regions of the world. In Kenya 3% young women aged 15-19 are infected, compared with less than 0.5% of young men in the same age bracket (MOH, 2005). The Kenya AIDS education syllabus does not clearly indicate the adaptation of teaching to both male and female students.

Cenelli (1994) and Janz & Zimmerman (1996), allude to the fact that local attitudes and behaviours are important influences on the development of young people. If a community emphasizes and supports healthy behaviour, then the likelihood of adolescents adopting and maintaining such behaviour increases. The value of peer-based support is important and needs to be reflected in the HIV and AIDS education. The value of collectivism in behaviour change should not be undermined. The prevention education should target the broader range of influences that promote, reinforce and maintain young people's risk and protective behaviour.

AIDS education in Kenyan schools is mainly information-based. It lacks the skills necessary for learners to achieve self-efficacy. Ashworth et al., (1992), Ogletree et al.

(1995) and Whitman (2001) note that AIDS education curricula should provide learners with problem-solving skills, decision-making skills, communication, refusal and negotiating skills, as well as skills that help them avoid alcohol and drugs use. Specific skills, such as conflict management and the ability to successfully refuse sex, need greater attention and inclusion. Developing self-sufficiency may help individuals to become motivated to act in healthier ways. As earlier alluded in the health belief model, self-efficacy, a concept that was introduced by Bandura (1977), will enable an individual to successfully execute the desired behaviour. However the education that 5-14 year olds receive can be skills-based. Otherwise, sustainability of behaviour may not succeed due to lack of consideration of the structural, environmental or economic factors.

The strengths of some of the approaches like the Kenyan and Ugandan cases shown are premised on the fact that they have been developed and reviewed as part of a wider curriculum reform to provide ownership. It utilizes the already existing infrastructure and hence do not require massive injection of resources to train teachers to deliver the subject.

Another HIV and AIDS school-based program in Kenya is the Life Skills Education Program by the UNICEF and KIE. The programme's purpose is to curb the spread of HIV infection by supporting those who facilitate the process of behaviour development and change among the youth in and out of schools. The outputs of this programme are to have teachers who are able to provide learners with the knowledge, attitude and skills to avoid being infected with HIV. The program is based on living values and life skills. This program is ongoing and is yet to be implemented in schools while the Life Skills Education curriculum is under development. (Cfbt 2006)

There has been increased support for the teaching of life skills to young people, partly due to the perceived limitations of information-based HIV and AIDS education. However, implementing life skills education in schools has to-date proved problematic, especially in circumstances where approaches to teaching are very formal. Boler, and Aggleton (2005) critically analyses the life skills approach and present the following issues for consideration; There is a need for greater political commitment at national level

from a range of ministries before any life skills curriculum is introduced. The authors also raise the issues of compatibility between formal education system and life skills education. A fundamental problem with introducing life skills education into schools derives from the difficulties of trying to introduce a certain new educational approach into a pre-existing system, often a not conducive system. Teaching in most classrooms around the world tends to be didactic, non-participatory, inflexible and assessment-driven. In contrast, life skills education is intended to be participatory and responsive, raising questions rather than providing clear-cut answers, and challenging young people and adults to find new ways of relating to one another. To-date, not enough thought has gone into how to bridge the gulf between these two different educational processes. Indeed, it is often assumed that teachers will just be able to teach a radically different curriculum in life skills. It is important to define the pedagogical framework for learning and teaching which can be the starting point of any educational process.

Because life skills education has generally been donor-driven, it has largely been an alien concept imposed upon schools. As a consequence, the life skills curriculum is often not put through the general curriculum planning and review process. Boler and Aggleton (2005) recommend that Life Skills curricula be developed and reviewed as part of a wider curriculum reform to establish ownership. Other recommendations are that more effort be placed on introducing a participatory approach into a non-participatory system. Obviously, there is a need for research into how life skills can be suitably adapted in the formal education system. Life skills require highly skilled and motivated staff with in-depth understanding of issues. A massive injection of resources is needed to train teachers to deliver life skills and to support them in their work.

In Kenya the 8-4-4 system of education created more workload for both teachers and students. The free primary education opened the door to large classes. In the face of HIV and AIDS these factors in themselves create a wider crisis in education system. The participatory approaches in life skills become impossible due to the high pupil to teacher ratio. The KIE life skills approach trains a pool of teachers as trainers who in turn train others through a cascade learning system. This approach is known to water down the

quality of learning. Therefore the crises among teachers spirals. The system gets overworked, under-equipped in HIV and AIDS education, the teachers are under-paid while working in resource-poor settings. It renders many teachers unmotivated and unable to cope.

The life skills approach focuses on the individual's attitudes, beliefs, skills and values. As discussed in the health belief model and in theory of reasoned action, these approaches have limitations. The models downplay the fact that young people live within a complex web of social and cultural interactions, which frame their decisions and actions. Political, economic and cultural constraints militate against the success of HIV and AIDS-prevention efforts. The models downplay the significance of the constraints. The theory of reasoned action, which heavily influences the life skills, is individualistic, assuming that individuals have the freedom to learn and act, to become self-autonomous and self empowered over their own actions.

In Kenya as opposed to the western countries, collectivism and solidarity are the norm, and an individual's self-identity is very much incorporated within that of the group, be it family, village, community, peers, etc. The UNAIDS Framework for Communication (1999) stipulates that for HIV and AIDS preventive health behaviour to be effective, government policy, socio-economic status, culture, gender relations and spirituality should be taken into account. Individual health behaviour is recognized as a component of this set of domains, rather than as a primary focus of health behaviour. Therefore a re-think of school-based HIV prevention strategies is critical to allow for the paradigm shift from individual level phenomenon to contextual approach. The following recommendations are provided by Boler et al (2005): There is a need to pay attention to the structural barriers that affect susceptibility to HIV, including poverty, gender, age, and race. The suitability of an individualistic approach needs to be assessed in contexts where a spirit of collectivism prevails. Future programmes and interventions should be based on theories that take the realities of young people's lives, with all their complexities, as the starting point.

2.6 HIV and AIDS-related needs of teacher/educator

The impact of HIV and AIDS on teachers has also been reviewed. The weakness with the program is that it focuses more on the curriculum and the pupils and it ignores the teacher's needs. This study highlighted the impact of the teacher's needs on the behavioural outcomes of the young people under his/her instruction and consequently the new infection rates.

According to Kelly (2000) the number of teacher deaths tripled between 1995 and 1999, with HIV thought to be the largest contributor to this spike in mortality. In the Central Africa Republic, 85% of teachers who died in 1995 to 1998 were HIV and AIDS-positive (UNAIDS 2000A). In Zambia 1300 teachers died in the first 10 months of 1998, compared to 680 teachers in 1996 (Kelly, 1999). HIV-positive teachers are estimated at 30% in parts of Malawi and Uganda (Coombe, 2000b), 20% in Zambia (Kelly, 2000a) and 12% in South Africa (Coombe 2000a). In Kenya teacher deaths rose from 450 in 1995 to 1500 in 1995 as reported by Teachers Service Commission (Kiragu et al 2006)

A study conducted in Kenya indicates that teachers are in need of teacher-centred programs that provide education services related to HIV prevention, care and support, and stigma reduction (Kiragu et al 2006). The teachers require from the national education authorities a long-term and systematic approach because what are visible are the non-governmental initiatives which are generally restricted to local areas (UNAIDS IATT, 2004). School-based HIV interventions in Sub-Saharan Africa rely on teachers as behaviour-formation and behaviour-change agents to deliver prevention messages to children. Few teachers are targeted as direct beneficiaries even though they are themselves at risk of HIV infection (Kiragu et al 2006). A study on the capacity of the education system to give an adequate response to the HIV and AIDS epidemic revealed that most interventions focused on learners only. Where they existed, few programs, , aimed to equip teachers to deliver the new curricula that embodied HIV and AIDS education (UNAIDS IATT, 2004). These studies further report that teachers have difficulties addressing HIV and AIDS in classroom settings: the topics are sensitive such that teachers are inclined to limit themselves to the transfer of knowledge. Selective

teaching is manifested in HIV and AIDS education. Discriminatory teaching of HIV and AIDS appears to be linked to negative stances on safe sex and condom (Action Aid 2003). The Kenya National Union of Teachers (KNUT) reported in February 2006 that there is no systematic pre- or in-service training for teachers on HIV and AIDS in the Kenyan school system. The teachers' training colleges are didactically reduced to lecturing methods only, while teaching materials are inadequate. Out of the 16,800 pre-service trainee teachers in colleges, none had been trained on HIV and AIDS (Education International, 2006).

This study provided the education planners and policy makers with recommendations for facilitating educators to successfully deliver an HIV and AIDS education that will enable young people translate knowledge into behaviour change. In essence the study sought to further explain that education officials must ensure that teaching is monitored. Teachers must also have access to support, receive ongoing training, and provide input into HIV and AIDS school-based education development.

2.7 Chapter Summary

The section reviewed issues that concern the school-based HIV and AIDS education which was introduced to prevent transmission of HIV and AIDS and mitigate the spread. The literature reviewed showed that the new HIV and AIDS infection rate among adolescents was high, with prevalence higher among female adolescents. The adolescents began sexual activity early and were unlikely to use condoms. This put them, when compared with the rest of the population, at higher risk of HIV infection and unwanted pregnancies. The literature also highlighted discrepancies between HIV and AIDS awareness and behaviour. The analysis of other social determinants and broader behaviour influences led to the conclusion that knowledge is an important but not sufficient factor to change behaviour of adolescents.

The literature reviewed on the school-based HIV and AIDS education revealed concerns regarding its effectiveness in changing the behaviour of adolescents. Among its

weaknesses is the fact that teachers are not equipped to manage the impact of HIV and AIDS in the classroom, support infected and affected learners and deliver HIV and AIDS education. Challenges of mode of delivery of the subject, the content and the approaches have also been discussed. Four examples of HIV and AIDS school programs in the African region have been provided complete with their critical analysis in light of the characteristics of effective school-based programs. The indicators analyzed include: the appropriateness of the pedagogical approach, the program approach (information-based v/s skills-based) and contextual approaches. These gaps were addressed by the study in a number of ways. The study illuminated the dissonance between the technical components of the school-based HIV and AIDS education and the intended behavioural outcomes in the adolescents. The behavioural outcomes are increased students knowledge about HIV and AIDS, changed attitudes towards risky sexual behaviours, delayed onset of sexual intercourse and increased condom use among sexually-active students. The study filled the gaps by systematically linking the HIV and AIDS strategy with adolescent behavioural outcome. It also did this by investigating other social determinants that go beyond the individual to facilitate behaviour change among adolescents. The next chapter provides details on the methodological procedures that was used in the study,

Chapter Three: Methodology

3.0 Introduction

This chapter presents the methodological procedure that was used in the study. Specifically it provides details on the study area, research design, population, sample and sampling procedures, research instruments and data collection procedures, validity and reliability, variables and data management and analysis.

3.1 Research Design

The study employed cross-sectional study design which allowed for collection of data from a population sample within a set period of time using similar tools. This design studies people at a 'point' in time without requiring follow up. This was appropriate given the short period of time available for the study and the similarity of characteristics in the study population. In addition, this design was also strong in soliciting both qualitative and quantitative data that was very useful in answering the study objectives. The cross-sectional study design was appropriately used to capture information from the adolescent respondents without requiring follow up. It enabled the researcher to base the overall findings on the views and behaviours of those targeted, assuming them to be typical of the whole group.

The research was essentially a descriptive study aiming at identifying the essential components of school-based HIV and AIDS education. According to Kerlinger (1969), descriptive studies are not only restricted to fact findings, but may often result in both the formulation of important principles of knowledge and solutions to significant problems. Orodho and Kombo (2002) stated that descriptive approach is used when collecting information about people's attitudes, opinions, habits or any of the variety of education or social issues.

3.2 Location of the Study

Thika is an administrative district in the Central Province of Kenya. It is adjacent to the North West border of Nairobi. Thika has a population of 645,714. (GOK, 1999). The administrative divisions of Thika district are Gatanga, Gatundu, Kakuzi, Kawangi, Ruiru (Juja) and Thika Municipality. For the purposes of running its affairs, however, the district education office divides Thika into three divisions that are further sub-divided into nine zones. The three divisions are Gatanga, Thika Ruiru and Kakuzi. The zones are as follows; Gatanga, Kariara, Kihumbuini, Juja, Gatuanyaga, Ruiru, Kakuzi, Mitubiri, and Ithanga. Thika district has 69 public secondary schools with a total student enrolment of 17,502 as at May 2007.

Thika district was selected as an area of study because it had one of the highest HIV prevalence rates in the country and especially in Central province. In 2001, its HIV prevalence was 37% against a national average of 10%. At the same period the HIV prevalence among its primary school pupils was 17% and secondary schools 22% (NASCO 2002/2003). Thika was also selected because it has been having erratic and consistently high HIV prevalence rates since the early 90's.. In 1990 the prevalence was 2%, 39% in 1994 and in 1998 31%. In 2006 it had fallen to 9.1% (NASCO 2006). Although there is a trend of decreasing HIV prevalence in the country, Thika still has the highest prevalence in Central province which has a rate of 4.7% (KAIS, 2007).

3.3 Study Population

The population of study comprised secondary school students aged 15-19 years in public secondary schools in Thika District. The reason for selecting this age group as the target population is that it fell within the 15-24 years age bracket, which had the highest HIV and AIDS prevalence in the country. It was the age group particularly at risk, especially the women. Sub-Sahara Africa is home to almost two-thirds of all of the world's young people living with HIV (6.2 million), with 75% of those infected being girls and young women (UNAIDS 2004).

The other reason the age group was selected was that they were adolescents. The adolescents experiment with independence, search for identity and learn to apply values acquired in early childhood (UNICEF, 2002). Adolescence is a time when enduring patterns of behaviour can be established including postponing the onset of sexual activity. Establishing healthy behaviour patterns from the start is easier than changing risky behaviours already entrenched (UNAIDS/WHO, 2002). For a majority of people, sexual activity begins in adolescence. In many countries, unmarried boys and girls are sexually active before age 15 (UNICEF, 2002). Public schools have been selected because in Kenya, the majority of secondary school-going students attend the public institutions. Therefore this target population was expected to illuminate our understanding of the dissonance in HIV and AIDS knowledge and behaviour change.

3.4 Sampling and Sample Size Determination

Since the time and resources available for the study were limited, a reliable sample size and an appropriate sampling design was established. This was important because not all the school-going adolescents could be reached given the time and resources available.

3.4.1 Sample Size Determination

The target population for this study was the 15-19 year-old secondary school students from public schools and the classroom teachers of HIV and AIDS. Webster (1985) defines a sample as a finite part of a statistical population whose properties are studied to gain information about the whole. The sample size was determined using the Fisher *et al* (1995) formula for populations above 10,000. The formula was found to be very useful since it took care of both the occurrence and non-occurrence of the phenomenon under investigation on the one hand as well as the design effect on the other. This study was limited to one design effect and the population under study were homogeneous in the sense that all were school-going adolescents in public schools. The only limitation in the use of the methodology was that the occurrence and non-occurrence levels of behaviour change among school going adolescents was not known. This limitation, as suggested by Fisher *et al* (1995), was overcome by treating the occurrence and non-occurrence levels

as being at the same rate. The effect of this is that a larger sample size is therefore considered which by all degrees reduce those levels of bias. The Formula is presented in Equation 1.

$$n = \frac{(z^2 \cdot p \cdot q)D}{d^2}$$

Equation 1: Sample Size Determination for Populations above 10,000

Where-:

Z -: is the corresponding standard score with the probability of error at 0.05 and a confidence level of 95% which is 1.96

p -: is the occurrence level of the phenomenon under study and is equal to 0.5 where the occurrence level is not known

q -: is the absence of the phenomenon under consideration and is equal to 0.5 where the value is not known

D -: is the design effect and is equal to the number of groups to be compared in this case

d -: is the selected probability of error of the study corresponding with 95% confidence level in this case 0.05

Substituting for the values

$$n = \frac{(1.96)^2 \cdot (0.5) \cdot (0.5) \cdot 1}{0.05^2}$$

$$n = \frac{(3.84)(0.25) \cdot 1}{0.0025}$$

$$n = \frac{(0.9604) \cdot 1}{0.0025}$$

$$n = (384.16) \cdot 1$$

$$n = 384.16$$

$$n = 384$$

From the computed minimum the study sampled 400 students to take care of attrition effect. There was a return rate of 97% representing 388 of the targeted 400 respondents. This was still within the count of 384 respondents to the minimum.

3.4.2 Sampling and Sampling Procedures

Probability sampling approaches were applied in this study, where the researcher applied randomization to make generalization to the larger population and make inferences. The various methods used to accomplish the applied probability sampling included: stratified random sampling and simple random sampling. In addition to probability sampling, purposive sampling (non-probability method) was carried out to get representative information from the various divisions and the few relevant cases in the case of HIV and AIDS teachers.

The stratified random sampling procedures were used to group the population into homogeneous subgroups to enable the researcher arrive at the individual respondents. In the first stage of using purposive sampling all the district's three divisions were selected. These divisions included; Gatanga, Thika and Ruiru, The divisions were divided into two strata; the urban and rural.

In the second stage, using purposive sampling public schools were selected from the two urban and two rural divisions identified. They were separated by type into the following strata; mixed boarding/mixed day, boys' boarding/boys' day, girls' boarding/girls' day schools.

In the third stage, using simple random sampling a total of eight schools were identified from these selected divisions. Proportional-to-size sampling methods were used to apportion schools in the three divisions.

The allocation of the number of respondents was done using the proportional sampling method in which the total sample size (400) was apportioned to secondary schools based on the total student populations. Simple random sampling method was used to identify the respondents from each school using the class registers. A total of 388 respondents participated in the self administered interviews, which is 97% of the total target. Ninety-six (96) respondents were targeted in each school, 12 from each stream (Form One to

four), the difference of 4% catered for the attrition rate. Table 3.2 provides details on the proportion of sample attained.

Table 3.1: Distribution of Attained Sample by Class and Gender

Class	Gender	Sample attained by class	
		Frequency	Percent
Form 1	Female	59	28.6%
	Male	36	19.8%
Form 2	Female	47	22.8%
	Male	39	21.4%
Form 3	Female	57	27.7%
	Male	55	30.2%
Form 4	Female	38	18.4%
	Male	43	23.6
Total	Females	206	388
	Males	182	

Participants for the focus group discussions were purposively selected from the students who had not been included in the self-administered questionnaires. A total of five sessions and two focus group girls-only discussions were held for girls from the selected girls' schools in both urban and rural zones. Two focus group boys-only discussions were held for boys from the selected boys' secondary schools also from both rural and urban zones. One mixed boys and girls' focus group discussion was held in one of the selected mixed schools. Each group had between six and 10 participants. Table 3.2 provides a distribution of the target sample according to type of school.

Simple random sampling was used to identify two class teachers of HIV and AIDS from each of the eight schools sampled. The teachers were also categorized as from either urban or rural schools. A total of 15 teachers out of the targeted 16 participated in the interviews. Key in-depth interviews were administered. The observation checklist was

used for the same teachers to observe teaching of HIV and AIDS in classrooms as well as HIV and AIDS teaching materials. A total of four observations were done.

Table 3.2: Distribution of target sample by type of school and gender

Type of school	Gender	Frequency	Percent
Girls boarding	Female	102	49.5%
	Male	NA	NA
Boys boarding	Female	NA	NA
	Male	88	48.4%
Mixed day school	Female	97	47.1%
	Male	85	46.7%
Total	Female	206	388
	Male	182	

3.5 Research Instruments

Qualitative and quantitative methods of data collection were adopted and various data collection techniques utilized. These included Focus Group Discussions (FGDs) and interviews for teachers. Self-administered questionnaires were used for students.

3.5.1 Self Administered Questionnaires

Data was collected using self-administered questionnaires for the students. The self administered tools were selected because of the high sensitivity of the subject of sexuality. This subject also required a high level of confidentiality and hence the appropriateness of the tool. The questionnaire was designed according to the objectives of the study and it consisted of several items representing variables that were considered relevant in the study. According to Walker (1985: 91), a questionnaire offers considerable advantages in administration - it presents an even stimulus to a large number of people simultaneously, and provides an investigator with an easy (relatively) accumulation of data. According to Best and Khan (1992: 8), questionnaires enable the person administering them to explain the purpose of the study and give meaning to the items that may not be clear. A total of 400 questionnaires were administered in the eight schools

selected. Each school had fifty students filling in the questionnaires and each stream twelve. This research instrument collected data that addressed the knowledge and behavioural indicators stipulated in the objectives. The instrument also measured the perception of students on HIV subject content and teaching methods. This instrument was also employed in two ways. It was used to measure, one, the accuracy of students' knowledge about HIV and AIDS and, two, students' confidence in their knowledge of HIV and AIDS.

3.5.2 Key informant interviews

Key informant interviews were conducted with HIV subject teachers. They provided in-depth information useful for the study. Each interview was designed to elicit a vivid picture of the participants' perspective. This information was used to countercheck some responses which were given in the questionnaire. According to Walker (1985:91) interviews rely on the assumption that people are able to offer accounts of their behaviour, practice, and actions to those who ask them questions. The interviews enabled the researcher to obtain more information and clarified vague statements especially addressing the variables on the teachers' perception of the teaching methods, the needs and perceptions a teacher of HIV on translation of knowledge into behaviour change. A total of 15 teachers participated in the interviews out of the targeted 16. Key in-depth interviews were administered

3.5.3 Focus group discussions

Focus group discussions were also used for this study among the pupils. The method was appropriate because this is a socio-behavioural research. It added value to the study because it illuminated group norms and opinions. The key indicators that were implored in this instrument were reasons for the current behavioural trends. Five focus groups discussions were conducted consisting of 6-10 students each - one mixed focus group, two for boys only, two for girls only.

3.5.4 Structured observation guides

Observation in this study served the following purposes: it offered additional, more accurate information on certain aspects of the study than the interviews and questionnaires had. It equally acted as a countercheck on information collected, supplementing verbal statements made by respondents. Observations equally assisted in validation and strengthening of quality of data gathered. These observations were done for the teacher of HIV and AIDS to verify the mode of teaching of the subject, the HIV teaching materials available and class size among, other things. A total of six observations were made out of the targeted 8 (75%). The following indicators formed the basis for the observation checklist: availability of HIV and AIDS teaching materials; reference books, policy, posters, videos, linkages to communities and teaching methods used.

3.5.5 Secondary data

Analysis and review of the following documents were made: HIV and AIDS information publications, HIV and AIDS curriculum, students' and teachers' handbooks and guides on HIV implementation, policy documents, publications on HIV and AIDS and education, and behaviour change publications all formed part of this study.

3.6 Validity and reliability of instruments

This study did not ignore the general scientific validity limitations levelled against qualitative methods centring on their low levels of objectivity that limit the generalization of data obtained. (Mckenzie et al, 1997, Kane, 1995). This being a behavioural study, the researcher guarded against these limitations by using methodological triangulation. Multiple methods of data collection were applied - interviews, focus group discussions, observations, and use of different data sources like teachers and students. The use of focus group discussion was to compliment data collected through interviews. Checking data interpretation with stakeholders and experts in HIV and AIDS education sector supported the validation process of the study approach and tools.

Careful design and pre-testing of instruments, training of interviewers and standardization of interview techniques and tools such as questionnaires was also done to reduce validity threat. According to Straight et. al, (1993), validity refers to the extent to which an instrument accurately measures what it is supposed to measure. The research instruments were validated through application of content validity procedures. Moser and Kalton (1977:356) argue that validity is a matter of judgment by researcher and supervisor.

Fraenkel and Wallen (1993:147) refer to reliability as the consistency of an instrument to yield the same results at different times. In addition, the use of simple quantitative statistical analytical tools like frequencies and percentages also greatly enhance the credibility of the results obtained (Mc Kenzie et al, 1997, Kane 1995).

The credibility of the tools was further enhanced by having more than one observer making observations as well as supervision in any one given site. The consistency between observers was maintained through training of research assistants. Test retest method was used during the piloting of the instruments to also enhance reliability of the tools.

Before collecting data for this study, the researcher carried out a pilot study. One school in Thika was randomly selected for the pilot. This was done to detect any weaknesses with the tools and allow for necessary corrective measures. One focus group discussion consisting of 10 students was conducted and twenty students were randomly selected to fill in the questionnaires. Five students were randomly selected from each class. One teacher of HIV education was also selected. Piloting of the instruments was one way of validating reliability of the instruments.

3.7 Variables

The research variables for this study were identified as both independent and dependent. Independent variables are those items that can be manipulated and measured, while dependent variables are those that can be observed and measured to determine a fact on the independent variables (Bless and Achola, 1987).

The independent variables in the research included: the school HIV and AIDS education content, teaching methodologies, teaching approach, teacher needs and out-of-school factors like religion, parental guidance, and peer groups. The dependent variable is the young people's behavioural outcome. These behaviour outcomes included increased students knowledge on HIV and AIDS, changed attitudes on risk-safe behaviours, increased condom use among the sexually-active and delayed onset of sexual debut

3.8 Data Collection Procedures

Data was collected by following a systematic procedure as stipulated below:

- A research permit was obtained from the Ministry of Education, Science and Technology;
- A Literature search was done as familiarization exercise before engaging in field work;
- Development and preparation of research instruments was done;
- The research instruments were reviewed to eliminate errors and possible problems;
- The instruments were piloted in one school in Thika district to improve effectiveness of the tools in collecting the required information;
- The actual data collection was conducted simultaneously in the selected divisions over a period of two months.

Though the study was successfully undertaken, a few challenges were experienced. One challenge was that the teachers of HIV and AIDS education were not willing to divulge the required information. This was overcome, however, by assuring them of confidentiality.

3.9 Data analysis and presentation

Kerlinger (1973:134) defines data analysis as categorizing, ordering, manipulating and summarizing of data to obtain answers to research questions. The data to this study was both quantitative and qualitative. The quantitative data was checked for quality control before processing. The data went through a pre-processing stage to correct problems identified in the raw data. The data collected was coded in a data code book to facilitate entry into computer data-entry sheets that is identify a coding system. The sheets were directly keyed into Statistical Package for Social Sciences (SPSS) software package, which was helpful in handling large amounts of data and efficiently. Simple statistical tools like frequencies, percentages and inferences were used. A range of graphic options like chart types (bar charts, pie charts, etc) were used.

Simple descriptive analysis was used for qualitative data. The data was first converted to a write-up using predetermined coding categories which are related to research questions. This data was used in thematic descriptive analysis of research questions.

The following steps were used in qualitative data processing and analysis;

- Coding and classification of various responses
- Identifying key responses for various themes
- Listing and tallying key responses by specific themes
- Identifying patterns emerging from key responses
- studying the interrelationships between identified patterns
- Making inferences from the patterns and their interrelationships and reaching conclusions.

The analysed data was presented using statistical and graphical techniques. In statistical techniques, frequency distribution was employed. The data analysis and presentation was based on broad themes derived from the study objectives.

3.10 Logistical and ethical considerations

The researcher obtained a research permit from the Ministry of Education headquarters, which scrutinized the research proposal and determined that it was not harmful to the

subjects. The copy of the research permit was submitted to the District Education Office in Thika which also received a copy of the proposal and introduced the researcher to the head-teachers in the different sampled schools. The researcher discussed the protocol with the different head-teachers and class teachers who concurred that the study could be undertaken because it was beneficial to the school community. They granted access to the students and supported in mobilizing them. The researcher further fully explained to the sampled respondents the purpose of the study and assured them of confidentiality. Voluntary participation was stressed and hence each of them was given an opportunity to either undertake the study or opt out. The researcher maintained confidentiality at all times and no teacher accessed the information. Only the research team knew the identity of the participants.

The chapter that follows presents an interpretation of findings with regard to the research questions and objectives.

Chapter Four: Data Analysis, Results and Discussion

4.0 Introduction

This chapter focuses on the presentation and analysis of the data obtained from the field. The results are presented in frequency tables, graphs, charts and percentages where applicable and are arranged based on thematic areas. Descriptive cross-tabulation is used to describe the sample and problem under study and to ground interpretative analysis. The quantitative and qualitative results will be corroborating in relevant hypothetical conclusions. The following broad themes derived from objectives of the study have formed the basis for the analysis and discussions in this section:

- Knowledge on HIV and AIDS, sexual behaviour of and socio-economic factors affecting adolescents' sexual conduct
- School-based HIV and AIDS education content, teaching methods and needs of teacher/educator of HIV and AIDS.

4.1 Knowledge on HIV and AIDS of school-going adolescents

The main aim of school based HIV and AIDS education is to improve the knowledge levels of the school going adolescents with a view of initiating positive behaviour formation and behaviour change. In this study knowledge was assessed under three major themes of knowledge on HIV, stigma and misconceptions on HIV and AIDS.

4.1.1: Elements of HIV and AIDS Knowledge

The study assessed eleven elements covering the three major knowledge domains of general knowledge on HIV and AIDS, HIV related stigma and HIV and AIDS-associated misconceptions. Table 4.1 provides the results of the responses per element. Each element was measured on a five level Likert Scale.

Table 4.1: Distribution of responses for each of the twelve elements used to measure knowledge

Element	I am sure it's true.		I think it's true		I don't know		I think it's false.		I am sure it's false	
	F	P	F	P	F	P	F	P	F	P
HIV infection can be avoided by having sexual contacts with only one faithful uninfected partner	212	57.8	64	17.4	13	3.5	26	7.1	52	14.2
Can a person get HIV from mosquito bites?	17	4.4	14	3.7	16	4.2	42	11.0	294	76.8
Can a person get HIV by using a toilet together with a person who is HIV positive?	19	5.0	19	5.0	19	5.0	47	12.3	278	72.8
Can a person get HIV by sharing food with someone who is infected?	12	3.2	13	3.4	12	3.2	45	11.8	298	78.4
Can a person reduce the risk of getting HIV by using a condom every time they have sex	133	35.8	115	30.9	22	5.9	45	12.1	57	15.3
Can a healthy looking person have HIV?	318	84.1	30	7.9	9	2.4	5	1.3	16	4.2
At this time, there is no cure for AIDS	279	73.2	33	8.7	26	6.8	9	2.4	34	8.9
You can't get AIDS if you have sex only once or twice without a condom	66	17.6	18	4.8	18	4.8	22	5.9	251	66.9
One can get HIV by sharing sharp objects like razor blades	331	87.1	19	5.0	2	0.5	6	1.6	22	5.8
A teacher who has the HIV and AIDS virus should be allowed to continue teaching in school	251	65.7	56	14.7	38	9.9	8	2.1	29	7.6
A student who has the HIV and AIDS virus should he/she be allowed to continue studying in this school	279	73.4	48	12.6	20	5.3	7	1.8	26	6.8
The virus that causes AIDS is found in the blood.	265	69.9	47	12.4	29	7.7	9	2.4	29	7.7

4.1.2. Adolescents level of knowledge on HIV and AIDS

A total of 12 items were identified and a Five Level Likert Scale used to measure the variations in the score. The highest possible score per item was 5 while the least possible score was 1 giving a possible highest score per person of 60 and a minimum score per person of 12. A composite score was then computed from the selected items and later regrouped into three categories representing high knowledge level, moderate knowledge, and low knowledge. The scores were distributed such that those individuals with scores ranging from 12 to 28 were considered to have low knowledge level, those with 29 to 44 moderate and those with 44 to 60 high. Further analysis was conducted to determine the internal reliability of the 12 items by use of Cronbach Alpha. The results yielded a score of 0.414 which is considered to be high given that these items are being used for the first time.

The results of the composite variable on knowledge are presented in Table 4.2. From the results it is shown that the school-going adolescents had high (90%) levels of knowledge on HIV and AIDS. Only 10 percent indicated moderate knowledge none was found in low knowledge levels. This is in line with a number of studies which have consistently showed high levels of knowledge on HIV and AIDS among young people. The KDHS (2003), BSS (2003) and KAIS (2007) are such studies which all state that the level of HIV and AIDS awareness is high (above 90 %.). The challenge in this study was to understand the slow translation of high HIV and AIDS knowledge into positive behaviour change among adolescents and identify the best model for dealing with this discord. The study posits a thesis that bridging the gap between high HIV knowledge and low positive behaviour change will significantly reduce the HIV prevalence of adolescents through prevention of new infections. This is because studies have estimated that 6000 young people aged 15-24 are infected with HIV each day, which accounts for more than half of all new HIV infections (UNAIDS, 2006). These trends pose a great threat to the world's estimated 1.2 billion adolescents aged 10 – 19 years (UNICEF, 2002).

Table 4.2: School going adolescents' knowledge on HIV/AIDS

Level	Frequency	Percentage
Low (12-28)	-	-
Moderate (29-44)	33	10.3
High (45-60)	287	89.7
Total	320	100.0

4.2 Sexual behaviours of school-going adolescents

The study sought to establish the sexual practices of school-going adolescents to determine whether the knowledge acquired through the HIV and AIDS school-based education translated into positive sexual behaviour. It is now accepted that between 95 to 99 percent of the HIV infections are transmitted through sexual intercourse. Subsequently, an understanding of sexual behaviour patterns provides an important predictor into the course and possible patterns of infections. In any case the now popular slogan of ABC (Abstinence, Being faithful, and use of Condom) rule in the prevention of HIV focuses on sexual behaviour. In this study, a number of sexual behaviour patterns were assessed including abstinence and factors affecting abstinence and age at sexual debut.

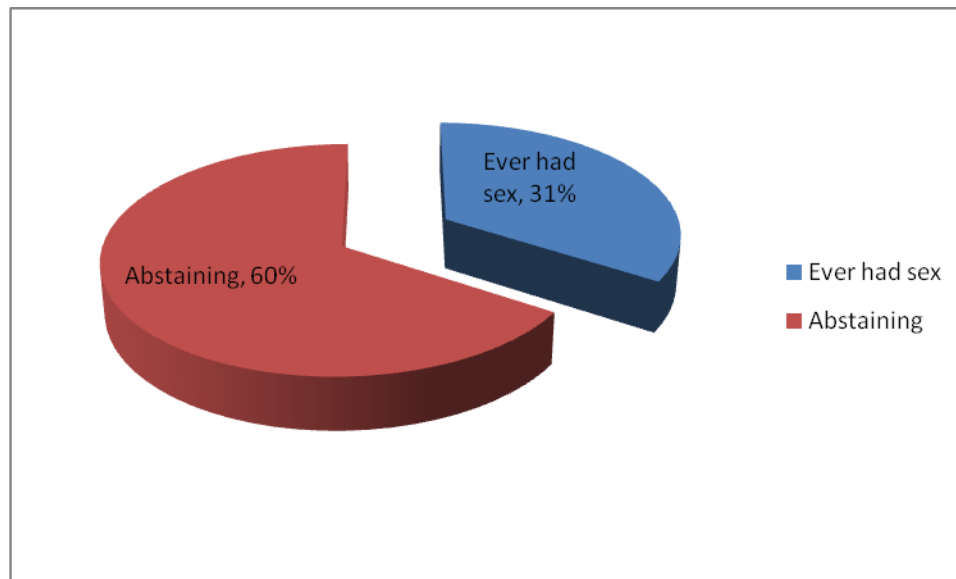
4.2.1 Abstinence among school-going adolescents

In this study it was important to ascertain the sexual practices of adolescents regarding abstinence, age at sexual debut, sexual partner and behaviour change. Abstinence is viewed as the most effective method of HIV prevention among the adolescents. One of the indicators of the effectiveness of the school-based HIV and AIDS education is the ability of adolescents to abstain and postpone sexual intercourse. This is because in Sub – Sahara Africa, the main mode of HIV transmission is sex.

The results presented in Figure 4.1 indicate that about 7 of 10 school going adolescents were abstaining. Further analysis however indicated that a still significantly larger proportion (80%) of the adolescents believed that it is possible to abstain from sexual

intercourse until marriage. This perhaps indicates that abstinence is a highly valued trait among the adolescents which is however difficult to attain.

Figure 4.1: Abstinence among school-going adolescents



The results also showed that 26% of those who had sexual intercourse had it within six months prior to the study. Thus about 8% of the school going adolescents had had sex within six months prior to the study. The FGDs showed that most of the school-going adolescents who engage in sexual activity do so during holidays. The stated sexual involvements might have occurred in the months of April and August when the Kenyan education calendar is in recess or during short mid-term holidays. It was the feeling of many school-going adolescents that the month of December is normally worse, involving higher sexual involvement, since it is a longer holiday and is often associated with lots of merry-making. These trends therefore underscore the importance of parental/guardian involvement in the school-based HIV and AIDS education. Unfortunately, this component of parental involvement in the Kenyan school-based HIV and AIDS education system is weak and altogether absent in many instances.

4.2.1.1 Out-of-school factors and sexual abstinence

Sexual abstinence is one of the components of the ABC strategy on HIV and AIDS. It is thus important to identify factors that may need to be strengthened to sustain the practice among school-going adolescents. The study identified some of the factors that are independent of the school. These factors included gender, knowledge, social settings and parental involvement.

a) Gender and sexual abstinence

Gender is a key indicator in understanding the factors that influence the sexual behaviour of the adolescents. This is because socialization practices in many communities are often structured along gender lines. It is therefore important to establish the gender-related inequalities that drive HIV infection among the adolescents. The results in Table 4.3 indicate that male adolescents had a higher proportion (48.3%) of those not abstaining relative to the females (15.3%). The results of the Chi-Square test of significance ($C = 0.337$; $X^2 = 48.922$; $df = 1$; $p = 0.000$.) indicated that there is a significant relationship between gender and abstinence among school-going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 34% of the variations in the levels of abstinence. Accordingly, female adolescents are likely to practice abstinence compared to male ones. Based on this information, majority of the adolescents have never had sexual intercourse and more males compared to females are sexually active. This result would point towards an apparent vulnerability among adolescent males. However, it juxtaposes a contradiction with the National HIV statistics (KAIS 2007, NASCOP, 2003), which indicates that the HIV prevalence among males is 1.5%, lower than that of the females (6.1%) who are not as sexually active. This is understandable since the biological make up of a woman makes them more vulnerable to HIV infection relative to men. However it is further complicated by the fact that males have more influence in decisions relating to sex than their female counterparts due to the gender power relations especially in patriarchal societies like Kenya.

Table 4.3: Relationship between gender and sexual abstinence

Gender	Not abstaining	Abstaining	Total
Female	31 (15.3%)	172 (84.7%)	203 (100.0%)
Male	87 (48.3%)	93 (51.7%)	180 (100.0%)
Total	118 (30.8%)	265 (69.2%)	383 (100.0%)

$C = 0.337$; $X^2 = 48.922$; $df = 1$; $p = 0.000$.

b) Abstinence and knowledge on HIV and AIDS

Knowledge is often referred to as power. This means that it is state or condition of understanding facts or a subject and being able to apply them. The intention of the school-based HIV and AIDS education is to help adolescents acquire knowledge about HIV and AIDS, which will facilitate positive behaviour formation or behaviour change to safer sexual practices. Table 4.4 presents cross-tabulation analysis between abstinence and knowledge on HIV and AIDS. The results of the Chi-Square tests of significance ($C = 0.016$; $X^2 = 0.081$; $df = 1$; $p = 0.776$.) indicate that there is no significant relationship between knowledge on HIV and AIDS and abstinence. This result implies that high knowledge on HIV and AIDS does not necessarily translate to changed perceptions and beliefs on abstinence and sexual behaviour. This means that high or moderate knowledge on HIV and AIDS does not necessarily lead to the belief of ‘abstinence from sex until marriage’, nor does it prevent adolescents from engaging in sexual intercourse. The Contingency Coefficient Measure of association indicated that knowledge on HIV and AIDS accounted for only 2% of the variations in abstinence among the school going adolescents. This means that the knowledge on HIV and AIDS acquired in school is not enough to facilitate the transfer of this knowledge into behaviour change. More innovative interventions need to be put in place to create supportive environments for the adolescents to put the knowledge into practice.

Table 4.4: Relationship between knowledge and abstinence

Level	Not Abstaining	Abstaining	Total
Moderate	10 (30.3%)	23 (69.7%)	33 (100%)
High	94 (32.8%)	193 (67.2%)	287 (100%)
Total	104 (32.5%)	216 (67.5%)	320 (100%)

$C = 0.016$; $X^2 = 0.081$; $df = 1$; $p = 0.776$.

c) Relationship between the respondents' social setting and sexual behaviour

It was important to establish whom the adolescents live with when at home, their parents' residence, economic status and education level. This is important because social settings, social norms and family environments are also determinants of behaviour. The results in Table 4.5 indicate that about two-thirds of the respondents (62%) live with both parents, and 81% of these parents were reported to be alive. Similarly, 61% of the respondents come from a monogamous family setting, while 24% are brought up by single parent families and only 7% live in a polygamous family setting.

Table 4.5: Distribution of respondents by whom they stay with when out of school

Relations	Frequency	Percent
Both parents	241	62
Fathers only	15	3.9
Mothers only	84	21.6
Guardian	47	12.1
Other	1	.3
Total	388	100

Parental guidance and influence on the sexual behaviour of adolescents is an important contribution to the prevention of HIV infection., It was therefore important to find out the relationship between the person with whom they stayed when out of school and sexual contact. The Chi-Square test of significance ($C = 0.124$; $X^2 = 6.104$; $df = 4$; $p = 0.191$) reveal no significant relationship between whom the adolescents live with and sexual contact. The contingency coefficient measure of association indicated that the persons the adolescents live with accounted for 12% variation in sexual practice. However, Table 4.6 presents findings showing that very few female adolescents who live with both parents (15%) and mothers only (3%) have had sexual contact compared to males., Put together, 47% of adolescents (both males and females) who stay with their fathers only, have had sexual intercourse compared to 23% of those who stay with mothers only. This result confirms a similar study by Leighton *et al*, 1993, which highlighted the mothers' influence on the sexual behaviour of adolescents. The study showed that children living with fathers only were associated with significantly early sex than those with both parents and single mothers. Therefore similar interpretation can be made regarding this study that adolescents who lived with their fathers only were more likely to engage in early sexual intercourse than those who lived with mothers only or both parents. It can also be implied that mothers provide close monitoring of their adolescents compared to fathers. Although culturally mothers are caregivers, the fathers need to take a more proactive role in the issues of an adolescent's sexuality and reinforce positive behaviour formation. Donenberg *et al* (2005) concurs with this finding because he relates a higher likelihood of risky behaviour to parental permissiveness or total absence of parental monitoring. As is shown, the greatest risk of early sexual contact for females was observed among those who were staying with guardians.

Table 4.6 Relationship between whom live with when out of school and Abstinence

Whom they stay with when out of school	Gender	Has had sexual contact		
		Yes	No	Total
Both parents	Females	(19) 15%	(107) 85%	(126) 100%
	Males	(58) 50.4%	(57) 49.6%	(115) 100%
Fathers only	Females	(2) 25%	(6) 75%	(8) 100%
	Males	(5) 71.4%	(2) 28.6%	(7) 100%
Mothers only	Females	(3) 7.1%	(39) 93%	(42) 100%
	Males	(17) 40.5%	(25) 59.5%	(42) 100%
Guardians	Females	(8) 27%	(22) 74	(30) 100
	Males	(7) 41.2%	(10) 58.8	(17) 100
Total	Females	(32) 15%	(174) 85%	206 100%
	Males	(88) 48.4%	(94) 51.6%	(182) 100

(d) Parental economic status and sexual behaviour of adolescents

Regarding their economic status, the study has shown that most of the guardians and parents are either farmers or business people. Twenty five percent of the guardians do business and 19% do farming. Among the fathers, 16% engage in business and 12% farming, while 8% of mothers engage themselves also in farming and business. The rest of the guardians and parents are employed by the government, private sector, and non governmental organizations. The economic status of the parents can influence the sexual behaviour of adolescents. UNFPA, 2005, states that adolescents especially girls are tempted to have sex due to economic desperation and need. Lower socio-economic status makes a group more susceptible to HIV and AIDS. (UNAIDS 1999)

(e) Parental level of education and sexual behaviour of adolescents

In examining the respondents Parents'/Guardians' level of education, it is clear that majority of the parents and guardians have attained secondary school education and above. More mothers (43%) compared to fathers (38%) have secondary education, while 23% of the mothers and 29% of the fathers have university education. It is important to note that only 2% of fathers and 3.9% of mothers do not have any formal schooling. This means that the literacy level is high because majority of the parents and guardians have secondary school level education and above. The KAIS 2007 has examined the link between educational level and HIV prevalence. It was found out that women 15-64 years old with higher educational levels have significantly lower HIV prevalence, which is 10% for those with primary education, 7% for secondary education and 4% tertiary level. This may be interpreted to mean that since the majority of the parents of adolescents have secondary school education and higher, they have lower HIV prevalence. The key question here is, does the low HIV prevalence rate among parents translate to safer sexual behaviour among the adolescents? Due to the importance of this variable, the study examined issues on parental involvement in the sexual behaviour of adolescents. The parental educational level may be a predictor to the level of engagement in educating the adolescents on HIV and AIDS. The study analyzed the relationship between the level of education of the respondents' parents and sexual practice of adolescents. The Chi-Square tests of significance ($C = 0.119$; $X^2 = 6.196$; $df = 4$; $p = 0.233$) indicate no significance relationship between level of education of mother and sex contact. The contingency coefficient measure of association indicates 11% variation. Correspondingly, the fathers' level of education was analyzed in relation to those adolescents who have had sex. The Chi-square tests of significance ($C = 0.123$; $X^2 = 5.993$; $df = 4$; $p = 0.200$) indicate no significance relationship between level of education of father and sex. The contingency coefficient measure of association indicates 12% variation in the levels of education and sex.

However, the parents' level of education has been found out in other studies to influence the behaviour of adolescents. According to AYA (2002), communication between parents and adolescents is important in building responsible behaviours including behaviours concerning reproductive health. Most parents look at sexual issues as too sensitive and

embarrassing to discuss with their Children. Based on this concept, it is expected that the level of education will enhance communication between the adolescent and parent which would translate to safer sexual practice.

(g) Parental residence and sexual contact

Most (57%) of the respondents indicated that they live with their parents in the rural areas and 43% lived in urban areas. The study sought to establish if there was a relationship between those who have ever had sex and place of residence. The Chi-Square test of significance ($C = 0.019$; $X^2 = 136$; $df = 1$; $p = 0.713$) indicate no significant difference in the relationship between adolescents' residence and sexual contact. This result is consistent with the KAIS 2007, which reveals a marginal variation in the HIV prevalence between urban (8.9%) and rural (7.0%). According to the KAIS 2007, there is a higher prevalence among the urban residents, but the burden is greater in rural areas because three quarter of Kenyans live in rural areas. Similarly, there is a general increase in the HIV and AIDS prevalence in rural areas overall. In this study a similar general trend in sexual practice can be noted, where 31.9% of urban adolescents have engaged in sex compared to 30.2% of rural adolescents. Although the percentage of the sexually-active is lower in the rural area, it represents a higher number compared to urban adolescents because majority of the school-going adolescents live in rural areas with their parents. This means that the level of exposure to HIV and unwanted pregnancies due to risky sexual behaviour is higher among the rural adolescents.

Table 4.7: Relationship between parents/guardians residence and sexual contact

Place	Have had sex	Abstaining	Total
Rural	54 (30.3%)	124 (69.7%)	178 (100%)
Urban	53 (31.9%)	113 (68.1%)	166 (100%)
Total	107 (31.1%)	237 (68.9%)	344 (100%)

$C = 0.017$; $X^2 = 0.101$; $df = 1$; $p = 0.750$.

h)) Religion, Sexual Abstinence

One of the values advocated by protestant Christians, Roman Catholics and Muslims is abstinence from sex until marriage. This study revealed as mentioned earlier that 54% of adolescents are Protestant Christians and 40% Roman Catholic Christians and only 3% were Muslims. Each of the religious groupings has different value systems related to sex and sexuality. While Protestant Christians and Muslims promote abstinence until marriage, the Catholics are silent about the issue. However in the debate on condom use, the Roman Catholics do not advocate for the use of condoms both for the adolescents as well as in marriage. Protestant Christians, however, promote condom use in the context of marriage but are against it for adolescents. It is expected that this religious values will translate into healthy and safer behaviours. In this study it was important to establish the relationship between religion, abstinence and condom use. The results of the Chi-Square test of significance ($C = 0.071$; $X^2 = 1.928$; $df = 3$; $p = 0.588$.) indicated that there is no significant relationship between religion and abstinence among school-going adolescents. Table 4.8 gives specific results disaggregated by gender. There is a higher proportion of female adolescents among the Catholics (82%) and Protestants (86.5%) who are abstaining. Statistics elsewhere in this study reveal that religion is one of the main facilitating factors in the application of HIV and AIDS knowledge into behaviour change. This contradiction needs to be investigated further to explain the discrepancy.

Table 4.8 Comparison between religion and sexual contact

Religion	Gender	Has had sexual contact		
		Yes	No	Total
Catholics	Females	(15) 18%	(69) 82%	(84) 100%
	Males	(37) 54%	(32) 46.4%	(69) 100%
Protestants	Females	(15) 14%	(96) 86.5%	(111) 100%
	Males	(48) 48%	(52) 52%	(100) 100%
Muslims	Females	(2) 33.3%	(4) 66.7%	(6) 100%
	Males	(1) 20%	(4) 80%	(5) 100%

It was also important to establish if religion is contributing to the low uptake of condoms and poor perception of its efficacy. The results of the Chi-Square test of significance ($X^2 = 0.511$; $p = 0.917$; $df=3$) indicated that there is no significant relationship between religion and condom use among the sexually-active adolescents.

4.2.1.2 School-based, out-of-school factors and sexual behaviour among school-going adolescents

The school plays a very important role in mentoring and formation of the behaviour of the adolescent. Furthermore, HIV and AIDS education is taught to directly influence their sexual behaviour. It is on this premise that the study sought to establish the relationship between class, type of school and sexual behaviour (abstinence and sexual activity) among the school-going adolescents.

Cross-tabulation analysis was conducted to determine the variation in the practice of abstinence between classes (Form 1 to 4). The results indicates that the highest proportion of those abstaining were in Form One (81%) followed by Form Two (80%), Form Three (65%) and Form Four (48%) in that order. The results of the Chi-Square test of significance ($X^2 = 28.746$; $p = 0.000$) indicated that there is a significant relationship between class and abstinence among school going adolescents at 0.05 probability of error. The Contingency Coefficient Measure of association indicated that class accounted for 27% of the variations in the levels of abstinence among the school-going adolescents. Thus the more one advances in class the less likely they are to abstain from sexual contact. Form Fours had the highest percentage of adolescents who ever had sexual intercourse, at 52%, while Form Ones had the lowest percentage at 19%. The results of the Chi-square tests of significance ($C = 0.263$; $X^2 = 28.829$; $df = 4$; $p = 0.000$) attest to this. Table 4.9 presents further cross-tabulation analysis disaggregated by gender where it indicates that a higher percentage (72%) of Form Four adolescent males have had sex compared to Form Four adolescent females at only 29%.

Table: 4.9. Level of abstinence by class and gender

Class	Gender	Abstaining		Not Abstaining		Total	
		Freq	Percent	Freq	Percent	Freq	percent
Form One	Females	6	10.2%	53	89.8%	59	100%
	Males	10	33.3%	24	66.7%	36	100%
Form Two	Females	3	6.4%	44	93.6%	47	100%
	Males	14	35.9%	25	64.1%	39	100%
Form Three	Females	10	17.5%	47	82.5%	57	100%
	Males	29	52.7%	26	47.3%	55	100%
Form Four	Females	11	28.9%	27	71.1%	38	100%
	Males	31	72.1%	12	27.9%	43	100%

It clearly emerges from the results in this table that a higher percentage of males are sexually active across all the classes and it peaks in Form Four. Similarly, results of the comparison between type of school and the practice of abstinence reveal that girls boarding schools had the highest proportion (88.9%) of those abstaining followed by mixed day schools (64.1%) and boys boarding (56.2%) in that order.. The outcome of the Chi-Square test of significance ($C = 0.266$; $X^2 = 28.987$; $df = 2$; $p = 0.000$) indicated that there is a significant relationship between type of school and abstinence among school going adolescents at 0.05 probability of error.

These results confirm the female adolescents' positive perception on abstinence from sex and the finding that male adolescents are more sexually active. This finding however raises more questions than answers because it is not consistent with the National HIV statistics (KAIS, 2007) which reveals that the prevalence of HIV among females aged 15-24 years is higher (6.1%) compared with males (1.5%) of the same age. This variation can further mean that if a higher proportion of adolescents from girls schools believe they can abstain from sex until marriage, and a lower percentage (15%) are sexually active compared to males (48%), it should translate to lower HIV prevalence among them. This in essence juxtaposes a contradiction in belief, intention and outcome. It also pauses a contradiction of the theory by Fishbein et al (1994) that states that the intention to

perform behaviour is the best predictor that a desired behaviour will occur. This can be interpreted to mean that there are other factors beyond the individual adolescent especially the female adolescent that drives the HIV prevalence. To be able to investigate the other social determinants of behaviour and inequalities that drive the infection rate, the FGDs conducted in this study highlighted some of the factors and challenges faced by adolescents in trying to abstain, post pone or delay sexual intercourse. They include negative peer pressure, availability of the Emergency contraceptive pill or the ‘morning after pill’, uncontrolled media with pornographic content, lack of money, and curiosity. It further explored the perceptions of adolescents on reasons for the high HIV and AIDS infection rate.

4.2.1.3. Perception of adolescents on reasons for the high HIV and AIDS prevalence among adolescents

According to the KAIS 2007 results, the female adolescents HIV prevalence is four times higher than the male adolescents. According to Table 4.10, 47% of respondents consider relationships with sugar daddies as the main reason for the high HIV and AIDS infection rate among adolescents. Findings from the teachers’ interviews also indicated that they concurred with the students’ opinion that cross generational infections (relationships with sugar mummies and sugar daddies) are prevalent and may be a big contributor to the high HIV infection rates among the adolescents.

According to these data lack of skills which include; life skills such as negotiation, assertiveness, communication skills accounted for (26%), practical skills (26%) and cognitive skills (27%) are also reasons associated to the high HIV and AIDS infection rate among the age group. Condom availability to the students (12%) was not perceived as a main reason for the high infection rate. This finding may explain the low uptake of condoms. The teachers attributed the high HIV and AIDS infection rate to the fact that they are not prepared to teach HIV and AIDS in schools, life skills like negotiation, assertiveness, and communication are not taught in schools. Majority of teachers also indicated that they did not provide good and positive role modelling (13/15) which is a barrier to behaviour change. Further, most (12/15) of the teachers also stated that students

are not receptive and open to HIV and AIDS education. Likewise some adolescents attributed the high infection rate to lack of parental guidance. This was reverberated by the following voice ‘*we have very poor parental guidance because many parents rarely talk to their children on HIV and AIDS.*’

Table 4.10: Reasons for the high HIV infection rate among adolescents

Reasons for the high HIV infection rate among adolescents	Frequency	Percent
Method of teaching not good (N=388)	79	20%
Teachers not prepared to teach HIV and AIDS (N=388)	76	20%
Life skills not taught (negotiation, assertiveness, communication etc) (N=388)	101	26%
Cognitive skills not taught (problem solving, decision making etc) (N=388)	105	27%
Practical skills not taught (N=388)	99	26%
Abstinence being promoted is not a solution (N= 388)	92	24%
Condoms not available to students (N= 388)	48	12%
Lack of community involvement (N= 388)	99	26%
Relationship with sugar mummies and sugar daddies (N= 388)	183	47%

Due to the high proportion of adolescents who cited the sugar daddy and sugar mummy phenomenon, it was important to further analyze this factor to shed more light on how it affects adolescent’s sexual behaviour. Table 4.11 indicates that 52.9% of females and 33% of males cited want for money as the main reason attributed to HIV infection.

Table 4.11: Relationship between gender and want for money

Gender	Want for money				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Females	109	52.9	97	47.1	206	100
Males	60	33	122	67	182	100
Total	169	43.6	219	56.4	388	100

$C = 0.197$; $X^2 = 15.636$; $df = 1$; $p = 0.000$

The results of the Chi-Square test of significance ($X^2= 15.636$; $df= 1$; $p = 0.000$) indicated that there is a significant relationship between genders and “Sugar daddy” and “sugar mummy” phenomenon among school going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 19% of the variations in want for money among the school going adolescents. This significant variation indicates that more female adolescents than males are affected by this factor.

Indeed many scholars have similar views. First it confirms earlier statistics that revealed that 43% of the respondents considered want for money as a reason for engaging in risky sexual behaviour. Secondly, this information corroborates documented evidence by UNFPA 2005, that up to 38% of unmarried adolescents aged 15-19 years are said to have engaged in sex for money or goods in Sub-Saharan Africa., The implication of this finding is that strategies to address the adolescents on HIV and AIDS information should consider involving the community as well as addressing the economic status of the members. Lack of community involvement in the school based HIV and AIDS education has come up among the respondents as a factor to be considered. This concurs with documented evidence by Cenelli, (1994) who alludes to the fact that local/community attitudes and behaviours are important influences on the development of young people.

4.2.2 Initial Sexual Contact

Age at first sexual intercourse is an essential indicator of sexual patterns of the adolescents. Studies show that adolescents who begin sexual activity early are likely to have sex with more partners and with partners who have been at risk of HIV exposure and they are not likely to use condoms (Donenberg et al, 2005). This section presents the sexual experience of the adolescent detailing the age at sexual debut, age of sexual partner at first sexual debut, and relationship to the partner at first sexual debut.

4.2.2.1 Age at sexual debut

The ages of the adolescents have been grouped into three, 5-9 years, 10-14 years and 15-19 years. The results presented in Table 4.12 indicate that half of the adolescents who had engaged in sex had their sexual debut between the age of 15 to 19 years.

Table 4.12 Age at sexual debut

Age	Frequency	Percent
9 years or younger	27	24.5
10 -14 years	23	20.9
15 to 19 years	60	54.5
Total	110	100

It is also shown in the table that a quarter of the adolescents who had engaged in sexual intercourse had their sexual contact at 9 years or younger while one fifth of them had their sexual contact at between 10 to 14 years. Thus slightly below half of the adolescents who had engaged in sexual intercourse were actually defiled and the cases may not have been reported. The results indicate that adolescents have early sexual contact. Similar findings have been recorded by Fasin and Schneider, (2003), who state that early debut of sex, subjects' young people to more frequent sexual intercourse, a higher risk of STDs, less consistent contraceptive use, and a higher chance of having multiple sexual partners.

It was important to ascertain if the respondents' first sexual encounter was forced. Forced sexual intercourse exposes the adolescents to greater risk of HIV infection. It was found out that 15% of the respondents described their first sexual encounter as forced sex. This data confirms documented evidence from the Sub – Saharan region that stipulates that young people find themselves in coerced sexual relationships, it confirms a study conducted in Kisumu, Kenya and Ndola, Zambia which revealed that 20% of the respondent's first sexual encounter involved physical force.(Glynn et al, 2001) In a Kenyan study conducted among 10,000 female secondary school students, 24% of the sexually active young women reported that their first sexual encounter had been coerced

(Moore *et al*, 2005). This implies that the young people are highly vulnerable to HIV and AIDS due to forced sexual encounters.

Consequently, it is important to illuminate the gender perspectives of sexual behaviour of adolescents. Table 4.13 presents the age at first sexual intercourse of respondents by gender. More female adolescents had their first sexual debut between 5-14 years as compared to males. However more males had their sexual debut between 15-19 years. The mean age at first sexual debut for both boys and girls is 15 years. The mean age among female adolescents is 19 years compared to adolescent male which was 14 years. The result is also consistent with the KAIS 2007 survey which reveals that 21.7% of men had sex before 15 years compared to 11.1% of women. These differences could be attributed to the differences in populations of focus. This study focused on school going adolescents while KIAS (2007) studied the general populations

Table 4.13: Age at first sexual debut by gender

Gender	Age at first sexual intercourse				
	5-9 years	10-14 years	15-19 years	Not stated	Total
Males	22%	19.3%	48.9%	5.7%	100
Females	25%	21.9%	40.6%	12.5%	100

4.2.2.2 Age of partner during first sexual contact

Table 4.14 presents results of the age of partner during first sexual contact. The study found out that 68% of the respondents who reported to have ever had sex described the age of their first sexual partner as an age mate (5 years more or less). Seventeen percent reported a person younger than them and 16% an adult. It further revealed that 44% of the respondents describe the partner at first sexual intercourse as a schoolmate or classmate while 20% were described as family friends, 9% as relatives and 15% as girl/boy friend. The respondents also mentioned house helps and teachers as partners at first sexual intercourse. Thus a large proportion of the first sexual intercourse occurs between the peers and virtually all the partners at first sexual intercourse were known and the relations close. This is particularly a great concern since only 27% reported having

used condoms during their sexual debut and a paltry 15% reporting having visited a VCT before the sexual debut.

Table 4.14: Age of partner during first sexual intercourse

Age	Frequency	Percentage
An adult older	18	15.7
Age mate (5 years younger or older)	78	67.8
A person younger	19	16.5
Total	115	100

4.2.2.3 Relationship between the adolescents and sexual partner during sexual debut

The results in Table 4.15 revealed that the sexual partners of female school-going adolescents were their classmates or schoolmates (40%) followed by others who were largely persons without a defined relationship with them (21.9%), relatives (18.8%), family friend (12.5%) respectively.

Table 4.15: Relationship with sexual partner during first sexual contact by gender

Relationship	Female	Male	Total
Classmate/schoolmate	13 (40.6%)	58 (65.9%)	71 (59.2%)
Teacher	2 (6.3%)	1 (1.1%)	3 (12.5%)
Relative	6 (18.8%)	3 (3.4%)	9 (7.5%)
Family Friend	4 (12.5%)	19 (21.6%)	23 (19.2%)
Other	7 (21.9%)	7 (8.0%)	14 (11.7%)
Total	32 (100.0%)	88 (100.0%)	120 (100.0%)

$C = 0.355$; $X^2 = 17.263$; $df = 24$; $p = 0.002$

It is also shown that male school-going adolescents had the largest proportion of their sexual partners during the first sexual intercourse being their classmates or schoolmates (65.9%) followed by family friends (21.6%), other persons without defined relationships (8.0%), relatives (3.4%) and teacher (1.1%). The results of the Chi-Square test of significance showed that the observed differences in the relationship between the sexual

contact of the school-going adolescents by gender was significant at 0.05 probability of error. Thus it can be said both males and females are culpable to their peers. It can also be concluded that female school going students are more likely to have initial sexual relationships with persons not related to them in any way, their relatives and teachers more than the males. Comparatively, the males were found to be more likely to have their initial sexual contacts within their comfort zones with family friends more than the females. It is no wonder that the Contingency Coefficient Measure of Association indicated that gender accounted for 35.5% of the total variations in the relationship with partners at initial sexual contact.

4.2.2.4 Use of condom during First Sexual Contact

The use of condom has been recognized as one of the methods that can help reduce the possibility of HIV infection. The results presented in Table 4.16 indicate that a higher proportion of females than males reported having used a condom during the first sexual contact.

Table 4.16: Use of condom during first sexual contact by gender

Gender	Used	Not Used	Total
Female	10 (31.3%)	22 (68.8%)	32 (100.0%)
Male	20 (22.7%)	68 (77.3%)	88 (100.0%)
Total	30 (25.0%)	90 (75.0%)	120 (100.0)

$C = 0.087$; $X^2 = 0.909$; $df = 1$; $p = 0.340$

Nonetheless, the Chi-Square test of significance ($X^2 = 0.909$; $df = 1$; $p = 0.340$) showed that the observed variations are not significant at 0.05 probability of error. Further analysis using the Contingency Coefficient Measure of Association showed that gender accounted for 9% of the observed variation in the use of condom during the first sexual contact. It is thus clear that there are no significant gender variations in the use of condom during the first sexual contact. In either gender more than two thirds did not use

condom during the first sexual contact. This is quite worrying because as is will be discussed later only 14% of the school going adolescents visited a VCT before their initial sexual contact. The risk levels of contracting HIV are much higher given that many adolescents may incur some injuries during their first sexual contact.

4.2.2.5 Uptake of VCT Before First Sexual Contact

Table 4.17 revealed that there were generally low levels of uptake of the VCT services among the school going adolescents. It also shows that the proportion of females reporting to have visited a VCT prior to the first sexual contact was higher than that of males. However, the Chi-Square test ($X^2= 0.234$; $df= 1$; $p = 0.629$) of significance indicated that the observed differences in the visit to a VCT prior to first sexual contact was not significant at 0.05 probability of error. Thus, both female and male school-going adolescents do not generally visit VCT with their potential sexual partners before the first sexual contact.

Table 4.17: Uptake of VCT services prior to first sexual contact by gender

Gender	Visited VCT	Not Visited VCT	Total
Female	5 (16.7%)	25 (83.3%)	30 (100.00)
Male	11 (13.1%)	73 (86.9%)	84 (100.0%)
Total	16 (14.0%)	98 (86.0%)	114 (100.0%)

$C = 0.045$; $X^2= 0.234$; $df= 1$; $p = 0.629$

4.2.2.6 Nature of initial sexual contact

Adolescents are sometimes encountered with forced sexual contacts. The results presented in Table 4.18 showed that 13.7% of the school going adolescents had forced sex during their first sexual contacts. The results also show that more females than males were encountered with forced sex during their initial sex. The Chi-Square results showed that the observed variations were not significant at 0.05 probability of error. This therefore implies that both males and females have more or less equal chance of undergoing a forced sex during their initial sexual contact. Further, the Contingency

Coefficient Measure of Association indicated that gender accounted for 16.3% of the observed variations in the experience of forced sex.

Table 4.18: Nature of initial sexual contact by gender

Gender	Forced contact	Voluntary contact	Total
Female	7 (23.3)	23 (76.7%)	30 (100.0%)
Male	9 (10.3%)	78 (89.7%)	87 (100.0%)
Total	16 (13.7%)	101 (86.3%)	117 (100.0%)

$C = 0.163$; $X^2 = 3.188$; $df = 1$; $p = 0.074$

4.2.3 Condom use among school-going adolescent

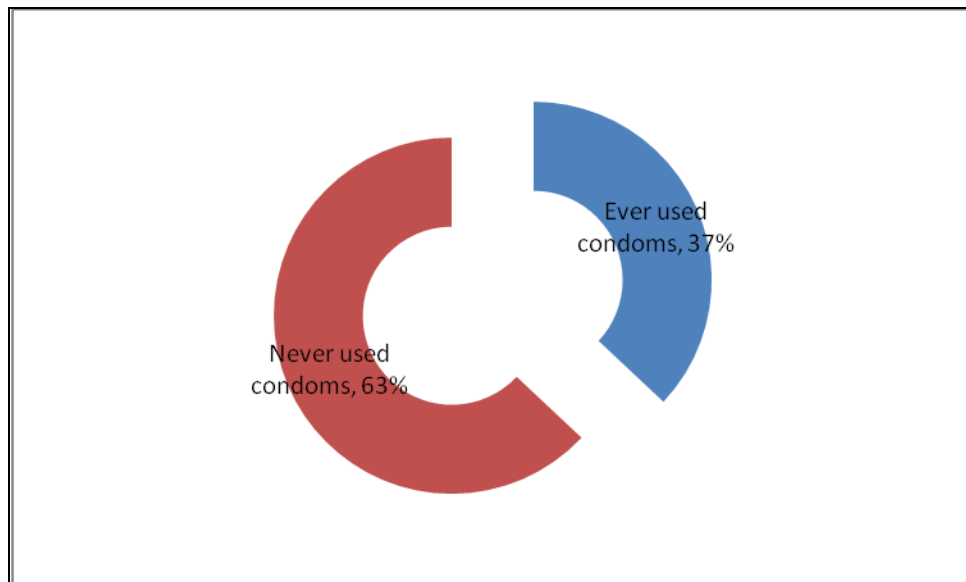
This study further explored knowledge on prevention of HIV through condom use. Increased condom use among the sexually active is one of the behaviour outcomes of HIV and AIDS prevention education. The variables explored include; knowledge on condom use, perception on efficacy of condoms and pattern of use.

4.2.3.1 Pattern of condom use among adolescents

The pattern of condom use determines the effectiveness of this strategy. The standard practice is to use a condom consistently and correctly. In this regard, the study sought to establish the pattern of use of condoms among the respondents. The data under this section summarizes the findings. Seventy four percent of the respondents who are sexually active reported that during their first sexual intercourse they did not use a condom while only 26% used. This finding confirms studies carried out by WHO in 2000, that show that adolescents who begin sexual activity early are likely to have sex with partners who have been at risk of HIV exposure and they are not likely to use condoms. Figure 4.2 shows that slightly below two fifth of sexually active adolescents had ever used condoms. This was a slight improvement from the slightly above one quarter who indicated they used condoms during their sexual debut. The low trend in the use of condom is particularly worrying given that 45% of the sexually active adolescents reported having had two or more partners within twelve months prior to the study and

only 35% indicating having used condoms in their recent sexual encounter. According to discussions in FGDs, the non use of condom was attributed to the vain trust of the sexual partner, lack of adequate knowledge on the use of condom and unavailability of condoms. One of the adolescents capped it in the FGDs with this statement, '*condoms are not free and it is difficult to buy from adults in shops and chemists who may sell you out to your parents through gossips*'. Those who used condoms linked their action to fear of HIV, knowledge on HIV and the fear of pregnancy in that order.

Figure 4.2: Condom use among school going adolescents



Cross tabulation analysis conducted to determine the pattern of condom use between genders reveals that 40% of male adolescents use condoms compared to 31% of females. The results from Table 4.19 presents the Chi-Square test of significance ($X^2 = 1.058$; $df = 1$; $p = 0.304$) which indicates that there is no significant relationship between gender and condom use among school going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 01% (0.093) of the variations in the condom use among the school going adolescents. The results however point to a higher uptake of condoms among the adolescent males who are sexually active.

Table 4.19: Relationship between gender and condom use

Gender	Ever used condom				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Females	11	30.6	25	69.4	36	100
Males	34	40.5	50	59.5	84	100
Total	45	37.5	75	62.5	120	100

$C = 0.093$; $X^2 = 1.058$; $df = 1$; $p = 0.304$

The high uptake of condoms among adolescent males is corroborated by the finding on comparisons of type of schools and uptake of condoms. The results indicate that 56% of those using condoms are from boys' boarding schools compared to 11% from girls' boarding schools. This means that there is a higher uptake of condoms among boys schools compared to girls. The results of the Chi-Square test of significance ($X^2 = 8.674$; $p = 0.070$) indicated that there is a significant relationship between type of school and condom use among school going adolescents. The Contingency Coefficient Measure of association indicated that type of school accounted for 26% of the variations in condom use among the school going adolescents.

Therefore, according to this information it can be concluded that the uptake of condoms is high among the sexually active adolescent males. Although fewer adolescent girls engage in sexual activity, it can be concluded that they are also vulnerable to HIV because of the low uptake of condoms among the sexually active. This finding confirms the KIAS 2007, which indicates that condom use is higher among adolescent males (51.8%) compared to females 35%.

A comparison performed on pattern of condom use across Form One to Form Four indicates a higher percentage of Form Threes (53%) who are sexually active and have

ever used condoms. This is in contrast to 24% of Form Ones, 24% Form Twos and 41% of Form Fours have ever used condoms. It needs to be noted that out of the 72% males who are sexually active in Form Four, only 47% have used condoms. Similarly out of the 29% sexually active female adolescents in Form Four, only 25% have ever used condoms. The low uptake of condoms among the sexually active adolescents could be a pointer to the low risk perception. This may predispose them to higher vulnerability to HIV infection. However, this study was not able to ascertain whether the condoms are consistently and correctly used.

Table 4.20 below demonstrates condom use disaggregated by gender. It can be noted that male adolescents among the Catholics and Protestants have a higher uptake of condoms. This means that the different religious affiliations have no effect on the uptake of condoms.

Table 4.20: Comparison between religion and condom use

Religion	Gender	Ever used condoms		
		Yes	No	Total
Catholics	Females	(7) 39%	(11) 61%	(18) 100%
	Males	(12) 34.3%	(23) 65.7%	(35) 100%
Protestants	Females	(3) 20%	(12) 80%	(15) 100%
	Males	(21) 46.7%	(24) 53.3%	(45) 100%
Muslims	Females	(0) .0%	(1) 100%	(1) 100%
	Males	(0) .0%	(1) 100%	(1) 100%

The relationship between condom use and the person with whom the adolescents live when at home was also analyzed. This is because parental guidance in sexual and reproductive health issues is important in supporting prevention of HIV transmission. The results of the Chi-Square test of significance ($C =$; $X^2 = 5.031$; $df = 4$; $p = 0.284$) indicated that there is no significant relationship between whom the adolescents stay with and condom use. The Contingency Coefficient Measure of association indicated 20% of the variations. The specific results show that majority (60%) of adolescents who live with fathers only, use condoms followed by those who live with mothers only (47.6). This

means that although condom uptake is generally low, it is lowest among adolescents who live with both parents (35%),

4.2.3.2 Frequency of use of condoms

Consistent use of condom is believed to have a potential of protecting one from contracting HIV. The results in Table 4.21 show that only 35.1% of the school-going adolescents reported using condoms always when they had sexual contacts. The rest of the respondents showed patterns that were not safe at all in the use of condoms, ranging from not at all (30.9%), most of the times (14.4%), rarely (10.3%), and some of the times (9.3%). Thus, most of the school-going adolescents do not practice safe sex and are thus vulnerable to HIV infection.

Table 4. 21: Frequency of use of condoms

Frequency of use	Counts	Percent
Always	34	35.1%
Most of the time	14	14.4%
Some of the times	9	9.3%
Rarely	10	10.3%
Not at all	30	30.9
Total	97	100.0

4.2.3.3 Use of condom in last sexual intercourse

The results presented in Table 4.20 show that in the sexual contact within twelve months prior to the study, more males than females used condom. The results of the Chi-Square test of significance indicated that the observed differences in the use of condom within the twelve months prior to the study were significant at 0.05 probability of error. Thus more males than females used condoms. The Contingency Coefficient Measure of Association showed that the observed differences accounted for 20.7% of the total variations.

Table 4.22: Use of condom in most recent sexual contact by gender

Gender	Used	Not used	Total
Female	7 (30.4%)	16 (69.9%)	23 (100.0%)
Male	33 (54.1%)	28 (45.9%)	61 (100.0%)
Total	40 (47.6%)	44 (52.4%)	84 (100.0%)

$C = 0.207$; $X^2 = 3.750$; $df = 1$; $p = 0.053$

4.2.3.3 Perception on efficacy of condoms among adolescents

Knowledge and skills on condom use are important in the uptake of condoms and overall prevention of the disease. This study attempted to examine perception on efficacy of condoms because it influences attitudes and behaviour regarding the condom. The study found that only 34% of the respondents indicated that a person can reduce their risk exposure to HIV by using a condom every time they had sex. Results reveal that 65% of the respondents indicated that they were sure they could not get HIV if they had sex only once or twice without a condom. Equally, 66% of the respondents did not know they could reduce the risk of getting HIV by using condoms every time they had sex. It was surprising to note that the adolescents' knowledge on efficacy of condom was poor. This negative attitude on the efficacy of condoms had evidently translated to low uptake. This consequently may have accounted for the high pregnancy rates and rise in new HIV infections among this age group.

4.2.3.4 Factors motivating use of condoms among adolescents

In this study it was important to ascertain the reasons for the low uptake of condoms. This will help in understanding the deficiencies of the school-based interventions and consequently help find ways of filling the gap. Table 4.23 presents findings on reasons given by adolescents for their failure to use condoms during the last sexual encounter. Ninety percent of female respondents and 79.1% of male respondents cited unavailability of condoms. Condoms were not usually availed in schools and so access was limited to

government facilities and private outlets that were not youth-friendly. Other factors as indicated in the table below included the ‘trusted partner’ phenomenon. According to this, using a condom was interpreted as lack of trust in a partner. A few respondents indicated that they did not know about condoms. This was not surprising because teachers conducted selective dissemination of knowledge regarding the condom. Most of the teachers preferred to teach the abstinence strategy because of personal and religious biases.

Table 4.23: Reasons the condom was not used in the last sexual encounter

Gender	Why condom was not used in the last encounter					
	Did not know about condoms	Condom not available	Partner did not corporate	Trusted partner	Religion	Other
Females	7 3.4%	185 89.8	1 .5%	8 3.9%	4 1.9%	208 100%
Males	14 7.7%	144 79.1%	1 .5%	17 9.3%	1 .5%	182 100%
Total	21 (5.5%)	329 (84.8%)	2 (.5%)	25 (6.4%)	5 (1.3%)	388 100%

4.2.3.5 Improving uptake of condoms among school-going adolescents

Understanding adolescents’ suggestions on improving the uptake of condoms is a necessary step that will contribute to the overall HIV prevention. Following the findings that the main reason condoms were not used was their unavailability, 67% of the respondents indicated that condoms should be made available. Some of the suggestions from the FGDs of improving availability of condoms were facilitating young people to sell them and at the same time making them affordable. This will be noted as earlier discussed that the adolescents prefer privacy in accessing condoms. Similarly, 26% of adolescents suggested that teaching skills on condom use would increase their uptake. Again 21% indicated that teaching negotiation and communication skills would facilitate the uptake of condoms. Currently, condom use as an HIV and AIDS preventive method for the sexually active adolescents is not covered in the school-based HIV and AIDS curriculum. The teachers applied selective teaching on this concept. Therefore adolescents who use condoms may lack the skills for their correct use. One adolescent in the FGD echoed this challenge clearly by calling for a use of *“the media to promote and*

create awareness so that condoms are not seen as bad but as an alternative to curb HIV and AIDS'

The results of the Chi-Square test of significance ($X^2 = 28.009$; $p = 0.000$) indicated that there was a significant relationship between gender and suggestions of ways of improving condoms use among adolescents. Table 4.24 presents these findings which revealed that the main method suggested for improving uptake of condoms among adolescents was to make them more accessible. According to this result more female adolescents compared to males cited this method. The higher percentage among female adolescents may imply that condoms were more available to males than females. This difference may be motivated by the fact that male condoms were usually more available compared to female condoms which were expensive. More males (36.3%) considered the teaching of the skills on condom use important compared to females (16.5%).

Table 4.24 Ways of improving use of condoms among adolescents

Gender	Teach On Skills Of Using Condom	Avail Condoms	Teach On Negotiation Skills And Communication.	Other	Total
Females	(34) 16.5%	(162) 78.6%	(7) 3.4%	(3) 1.5%	206 100.0%
Males	(66) 36.3%	(97) 53.3%	(14) 7.7%	(5) 2.7%	182 100.0%
Total	(100) 25.8%	(259) 66.8%	(21) 5.4%	(8) 2.1%	388 100

$C = 0.259$; $X^2 = 28.009$; $df = 3$; $p = 0.000$

4.3. Risky sexual behaviour and sexual behaviour change

According to Green et al (2006), internalizing the perception that one may be vulnerable to HIV is often seen as central to motivating less risky sexual behaviour. However, Jessor (1998) found out that adolescents are subject to a strong optimistic bias, whereby few are willing to see themselves vulnerable to any negative health outcomes. Subsequently, there is a high likelihood that school going-adolescents might perceive themselves as less vulnerable to HIV and are hence less likely to engage in safe sex practices. This section explores the perception of adolescents on risky sexual behaviour, factors motivating the risky sexual behaviours as well as verification of risky sexual behaviour.

4.3.1 Perception on risky sexual behaviour of adolescents

It was important to establish what the adolescents thought about the sexual behaviour of young people their age. Table 4.25 gives the key findings which indicate that a total of 42% of respondents think adolescents engage in risky behaviour. That is 43% of female adolescents and 44% of male adolescents. This means that there is no significant difference between the different genders in the proportions of those who believe that most of their agetates engage in risky sexual behaviour. However, cross-tabulation analysis of the risk perception of adolescents and type of school reveals very interesting results. Five percent of adolescents from girls' boarding schools think that most of their agetates engage in risky sexual behaviour. This proportion is very low compared to those in boys' boarding schools (43.4%) and the mixed day schools (48.7%). Similarly, 56% of adolescents in mixed day schools think that all adolescents engage in risky sexual behaviour. These results are a pointer to low risk perception which is an indicator of higher HIV vulnerability. The school-based HIV and AIDS education, if it is designed based on the Health Belief Theory by Rosenstock et al (1994), should increase the risk perception of adolescents while teaching the benefits of safer behaviours to prevent the transmission of HIV infection.

Table 4.25 Perception on sexual behaviour of peers of school-going adolescents

Perception	Gender	Frequency	Percent	Combined %
All age-mates engage in risky sexual behaviour	Females	4	2%	3.4%
	Males	9	5.2%	
Most of my age-mates engage in risky behaviour	Females	86	42.6%	41.8%
	Males	76	44.2%	
Some of my age-mates engage in risky sexual behaviour	Females	68	33.7%	29.6%
	Males	47	27.3%	
A few of my age-mates engage in risky behaviour	Females	31	15.3%	16.5%
	Males	33	19.2%	
None engage in risky sexual behaviour	Females	13	6.4%	5.2%
	Males	7	4.1%	
Missing		14	3.6%	3.6%
Total		388	100%	100%

4.3.2 Risky sexual practices among school-going adolescents

This section highlights selected practices in this study which serve as evidence of risky sexual practices. A study conducted using 1998 Kenya Demographic Health Survey data reports that odds of having risky sexual behaviour have more than tripled among men and women who perceived their risk of HIV and AIDS as high. It also found no association between knowledge of HIV transmission and sexual behaviour. Therefore the practices explored in this section confirm the above writers' conclusion that the association between knowledge of HIV and AIDS and practice of safer behaviours is nominal. Some of the practices explored include number of sexual practices, adolescent pregnancies, abortions and HIV testing.

4.3.2.1 Sexual Contact 12 Months Prior to the Study by Number of sexual partners

The study sought to find out how many different sexual partners the respondents had in the past 12 months. The results in Table 4.26 indicate that 74% of female respondents and 32% of male respondents had one sexual partner in the past 12 months. Further analysis showed that 10% of female respondents and 17% of male respondents had had two sexual partners in the past 12 months.

Table 4.26: Number of sexual partners in 12 months prior to the study by gender

Gender	Number of Partners					
	One	Two	Three	Four	Five or More	Total
Female	14 (82.4%)	2 (11.8%)	0 (0.0%)	1 (5.9%)	0 (0.0%)	17 (100.0%)
Male	24 (46.2%)	12 (23.1%)	6 (11.5%)	2 (3.8%)	8 (15.4%)	52 (100.0%)
Total	38 (55.1%)	14 (20.3%)	6 (8.7%)	3 (4.3%)	8 (11.5%)	69 (100.0%)

Accordingly, fewer males than females have had a single sexual partner 12 months prior to the time of study. Thus male adolescents tend to have more than one sexual partner. This is a point of concern given the low level of condom use plus the fact that males often determine when and how to have sex.

4.3.2.3 Number of Sexual Partners 12 Months Prior to the Study

The results in Table 4.27 show that more males than females tend to have multiple partners among school-going adolescents. This could be attributed to the fact that many males have been socialised as the major decision-makers in virtually everything. And as indicated elsewhere parental involvement with males is also relatively limited as compared to the females.

Table 4.27: Experience of sexual contact in last 12 months by gender

Gender	Yes	No	Total
Female	10 (13.9%)	62 (86.1%)	72 (100.0%)
Male	37 (34.6%)	70 (65.4%)	107 (100.0%)
Total	47 (26.3%)	132 (73.7%)	179 (100.0%)

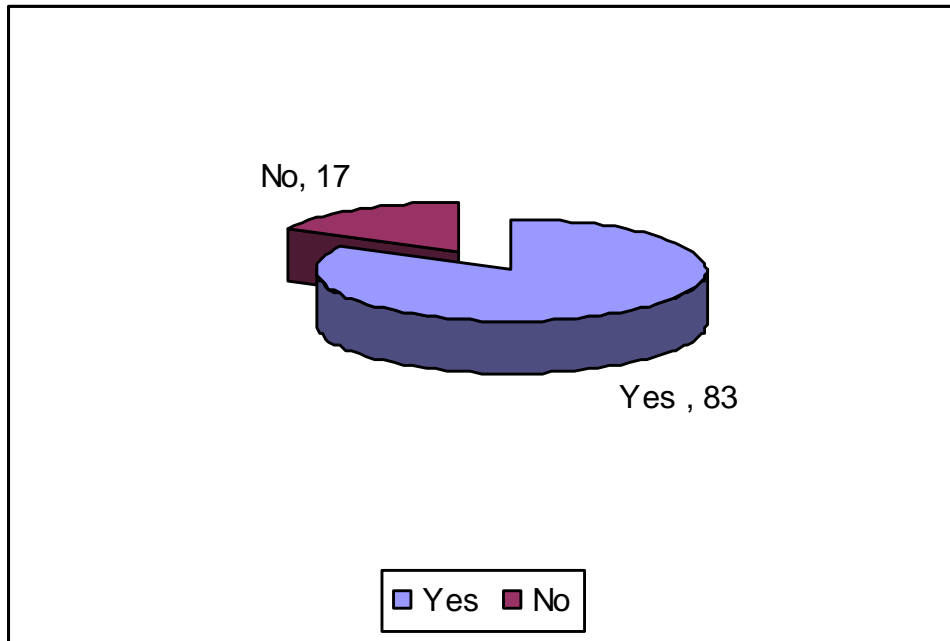
4.3.3 Effects of risky sexual behaviour

Risky sexual behaviour among adolescents often leads to a number of reproductive health problems. This study explored the level of occurrence of these problems among the peers of the school-going adolescents. The effects explored in this study included teenage pregnancy and abortions.

4.3.3.1 Adolescent pregnancy

This study further examined the perception of adolescents on pregnancy and abortion. The pregnancy and abortion rate confirms the existence of risky sexual practices among the adolescents that expose them not only to pregnancies but also to HIV infection. Figure 4.3 presents results of the adolescents who know their counterparts who have had a pregnancy. It clearly points out that teenage pregnancy is rampant, which is a pointer to the extent of adolescent vulnerability to HIV infections because it confirms that majority of adolescents do not use condoms.

Figure 4.3: Knowledge of age-mates who had a pregnancy



The knowledge of pregnancy among age-mates compared with the different genders reveals more female adolescents at 87% compared to 78% male adolescents are aware of their age-mates who have had a pregnancy. Table 4.28 presents the detailed information.

Table 4.28: Knowledge of female age-mates who had had a pregnancy by gender

Knowledge of female age-mates who have had a pregnancy	Gender	Frequency	Percent
Yes	Females	179	86.9
	Males	142	78
No	Females	27	13.1
	Males	40	22
TOTAL		388	100%

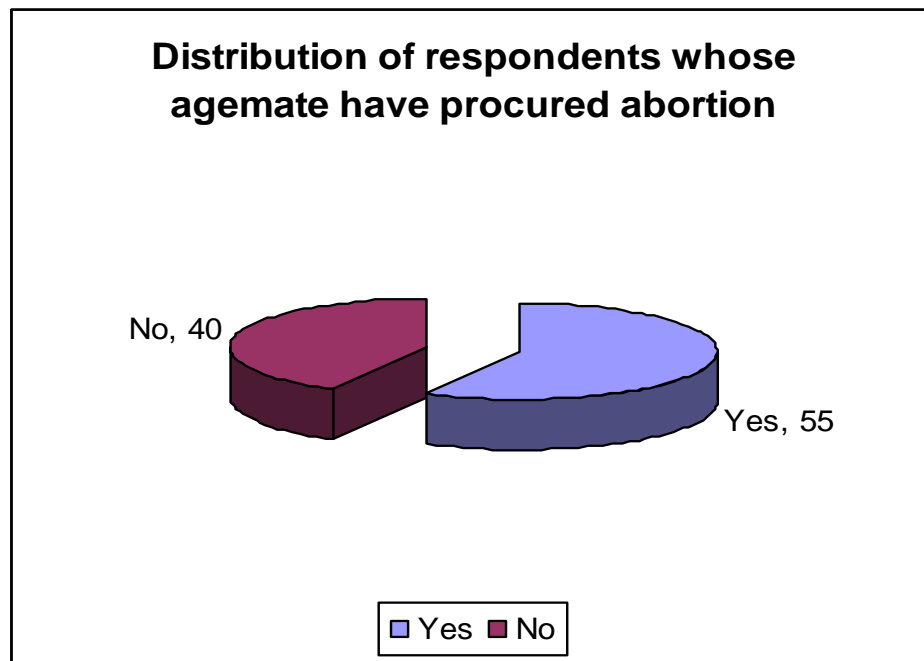
Further cross tabulation analysis was conducted between the adolescents who knew their age-mates who have had a pregnancy and their level of education. This tabulation illuminates some characteristics of behaviour and it helps to identify the interventions suited for the different levels. The results of the Chi-Square tests of significance ($C = 0137$; $X^2 = 7.378$; $df = 4$; $p = 0.117$) indicates that there is no significant relationship

between level of education and knowledge on pregnancy among the adolescents. It emerged that pregnancy was common among adolescents in all classes. These pregnancies confirmed that the adolescents did not use condoms every time they had sex and so exposed themselves to the risk of not only contracting HIV and AIDS but also pregnancy. This information compares well with the data on use of condoms which indicates that only 26% of the respondents used condoms always in all the sexual encounters. And 74% of adolescents did not use condoms during their first sexual contact. It further confirms the data on low uptake of condoms among the sexually-active girls.

4.3.3.2 Adolescent abortions

Abortions are a good predictor of unwanted pregnancies and lack of knowledge of the consequences of risky sexual behaviour. Figure 4.4 points out that majority (58%) of respondents are aware of age-mates who have procured an abortion.

Figure 4.4: Distribution of respondents whose age-mates have procured an abortion



The results of the study show that 61% of female adolescents and 54% of male adolescents were aware of this practice. This finding confirms results by PSI 2006, which stipulated that early sex debut put youth at higher risk of HIV, increased life-long number of sex partners and exposed them to unwanted pregnancies. It further related to results in a report by FHI, 2004 which indicated that young people were highly vulnerable to HIV because of lack of knowledge about risks associated with sexual practice. From this finding, there seemed to be a clear link between early sex, HIV prevalence and abortions. Similar conclusions were made by scholars like Clark (2004), who indicated that early sex practice included high incidence of HIV and about 4 million illegal abortions by adolescents' worldwide annually.

4.3.4 Factors motivating risky sexual behaviour

Identifying factors that motivate adolescents to engage in risky sexual behaviour can help devise strategies for bridging the gap between HIV and AIDS knowledge and practice. Therefore, it was important to determine the main reasons why adolescents engaged in risky sexual behaviour. Table 4.29 presents results which indicate that peer pressure was the main reason both males (77%) and female (82%) respondents engaged in risky sexual behaviour. Among the female respondents, want for money (54%) was the second main reason. This finding confirms UNFPA (2005), which stated that up to 38% of unmarried adolescents aged 15 to 19 years had engaged in sex for money or goods in some sub-Saharan African country. This means that the female adolescents are predisposed to HIV and AIDS because of this phenomenon. Results from the FGDs conducted in this study revealed that the 'sugar mummy' and 'sugar daddy' phenomenon was said to account for the high HIV infection rate among adolescents. This finding confirmed what other writers like Panos (2003) had found out: there were strong indications that focusing on risky behaviours of individuals is insufficient to achieve behaviour change when the social determinants and deep-seated inequalities driving the epidemic were not taken into account. However among the male adolescents, after peer pressure came curiosity (50%) as the second main motivation. This also confirmed reports by UNAIDS 2004, which indicated that among the factors that placed young people at the centre of high

vulnerability were lack of HIV information, education and services and the experimentation and curiosity that accompany the state of adolescence.

Table: 4.29. Reasons adolescents engaged in risky sexual behaviour

Reasons adolescents engage in risky sexual behaviour.	Gender					Total
		Yes		No		
		Freq	Percent	Freq	Percent	
Inadequate knowledge on HIV and AIDS	Females	34	17%	172	83%	100%
	Males	42	25%	137	75%	100%
Peer pressure	Females	168	82%	38	18%	100%
	Males	140	77%	42	23%	100%
Curiosity	Females	84	41%	122	59%	100%
	Males	91	50%	91	50%	100%
Want for money	Females	111	54%	95	46%	100%
	Males	57	31%	125	69%	100%
Forced by partners	Females	36	18%	170	82%	100%
	Males	20	11%	162	89%	100%
It is normal	Females	11	5%	195	95%	100%
	Males	20	11%	162	89%	100%

4.3.5 Behaviour change among adolescents

This study sought to determine the extent to which school-based HIV and AIDS education relates to translation of knowledge into safer behaviours among adolescents. It sought to provide a linkage between the school-based HIV and AIDS education and the expected outcome of behaviour change which includes increased students' knowledge about HIV and AIDS, changed attitudes towards risky sexual behaviours, delayed onset of sexual intercourse and increased condom use among sexually-active students (Knut-Inge Klepp et al. 1997). Behaviour change in this study is described as a process that motivates and influences people to adopt and sustain healthy behaviours. Before individuals can reduce their level of risk or change their behaviours, they first must understand basic facts about specific health issues, accurately perceive the level of their own risk, adopt key attitudes, learn a set of skills and be given access to appropriate

products and services. They must also perceive the environment to be supportive of their seeking preventive behaviour. This section attempts to present a few indicators that demonstrate behaviour change among school-going adolescents as a result of exposure to school-based HIV and AIDS education. The indicators used to gauge behaviour change are abstinence and post-poning sexual contact as well as condom use. These indicators are derived from the Abstinence, Faithfulness, Condom use (ABC) National strategy on HIV and AIDS prevention.

4.3.5.1 Adolescent HIV testing

HIV testing has been globally adopted as a prevention strategy in the reduction of new infections. The KAIS 2007 reveals that up to 85% of Kenyans do not know their status. Sixty one percent of those who did not know their HIV status were reported to have low risk perception. Therefore HIV testing and getting results is an important predictor of the risk perception of individuals. To determine the extent to which this concept had been embraced by adolescents, the respondents were asked if they had ever taken the HIV test. It was therefore important to assess the risk perception of school-going adolescents by establishing the proportion of those who have gone for the HIV test. The results indicate that 40% of Form Fours, 28% of Form Threes, 18% of Form Ones and 15% of Form Twos had taken the HIV test. The study further sought to find out the relationship between HIV testing and class (level of education). The Chi-Square test of significance ($C = .207$; $X^2 = 17.283$; $df = 4$; $p = 0.002$.) indicated that there was a significant relationship between class and the HIV testing behaviour. More Form Fours have had the test compared to Form Ones and Twos. Table 4.30 shows higher uptake of the HIV test among Form Threes and Form Fours across both genders. Therefore, it can be implied that the low uptake of the HIV test is due to the low perception of risk among the school-going adolescents. Therefore it can be concluded that the school-based education does not effectively increase the perception of risk across all classes among the adolescents.

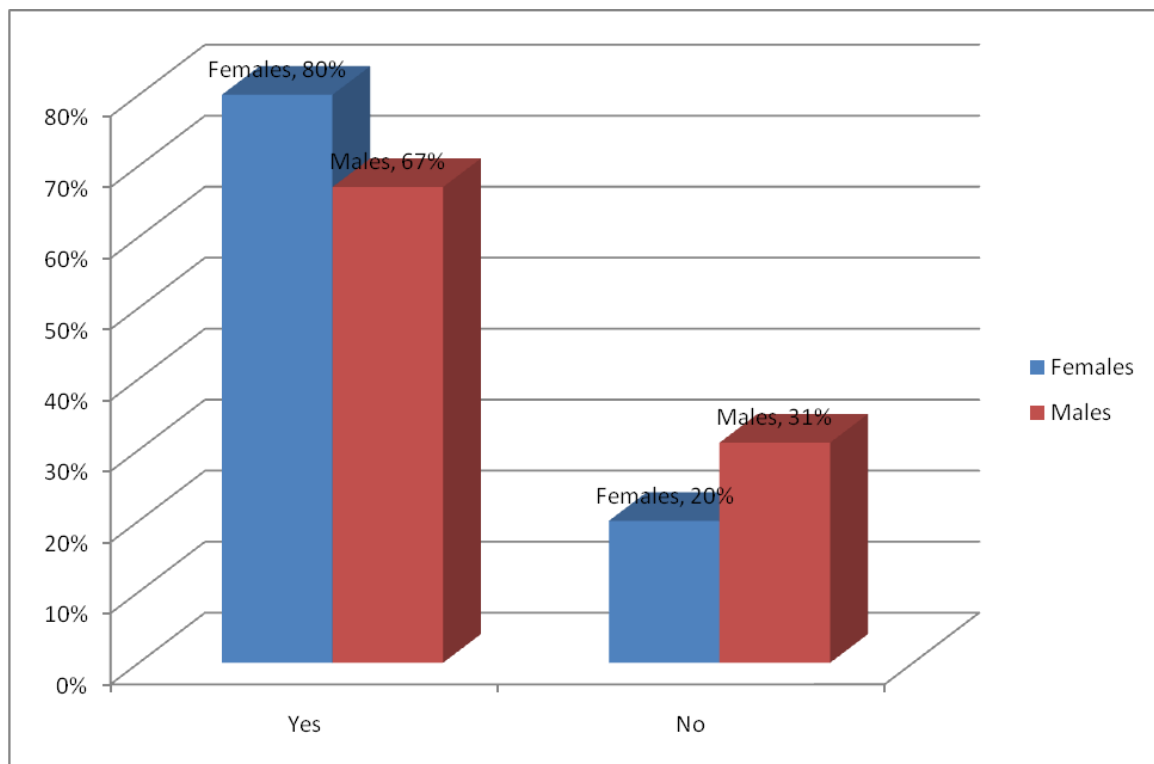
Table 4.30: Uptake of HIV testing by level of education and gender

Status of uptake	Gender	Level of education				
		Form 1	Form 2	Form 3	Form 4	Total
Taken test	Females	(19) 18%	(8) 16%	(15) 30%	(15) 30%	(50) 100%
	Males	(8) 16.7%	(5) 10.4%	(16) 33.3%	(17) 35.4%	(48) 100%
Not taken test	Females	(50) 32%	(39) 25%	(42) 26.9%	(23) 14.7%	(156) 100%
	Males	(28) 20.9%	(34) 25.5%	(39) 29.1%	(26) 19.4%	(134) 100%
Total	Females	(59) 28.6%	(47) 22.8%	(57) 27.7%	(38) 18.4%	(206) 100%
	Males	(36) 19.8%	(39) 21.4%	(55) 30.2%	(43) 23.6%	(182) 100%

4.3.5.2 Adolescents' ability to resist sex

Ability to resist sex is a good indicator for high HIV and AIDS knowledge and behaviour change. It demonstrates that an individual possibly understands the benefits of abstinence from sex. Therefore in this study it was important to further explore if the adolescents are able to resist sex. The findings reveal that 69% of females and 51% of males have expressed that they are completely confident of their ability to resist sexual intercourse. The variable was also compared by the type of school, and the results show that 57% of respondents from the girls-only schools expressed confidence in resisting sex compared to the 38% of respondents in boys-only schools. The Chi-Square test of significance ($C = 0.277$; $X^2=32.202$; $df= 16$; $p = 0.009$) indicated a significant relationship between type of school and resisting sexual intercourse. This result means that adolescents in girls-only schools are likely to be successful in resisting sex as compared to those in boys-only schools. The Contingency Coefficient Measure of association indicated that type of school accounted for 27% of the variations in the resistance of sex among the school-going adolescents. The respondents were further asked if they ever successfully resisted sex. This was to determine if the confidence they expressed in resisting sex translated into action. The results presented in Figure 4.5 indicate that 80% of adolescent female respondents have successfully resisted sex compared to 67% of the adolescent males. This result particularly compare well with trends noted earlier that male respondents are more sexually-active compared to females.

Figure 4.5: Distribution of respondents who have resisted sex



4.3.5.3 Adolescents who have postponed sexual contact

The ability to delay or postpone sexual intercourse is one of the behaviour outcomes intended to prevent the transmission of HIV and AIDS. The proportion of adolescents who have been able to achieve this objective following the HIV and AIDS education provided in schools is 26%. Further analysis was conducted to determine the relationship between gender and postponing sexual intercourse in the context of application of HIV and AIDS knowledge. Table 4.31 indicates that 23.8% females and 28.6% males have postponed sex. The results of the Chi-Square test of significance ($X^2 = 1.149$; $df = 1$; $p = 0.284$) indicated that there is no significant relationship between gender and postponed sexual intercourse among school-going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 1% of the variations in postponed sexual intercourse among the school going adolescents. Although the variation is insignificant it can be a pointer to some inconsistency between knowledge and practice

among the female respondents. This is because in earlier results, more male adolescents were found to be more sexually active and to believe less in abstinence. Therefore there is inconsistency because more are postponing sex compared to girls.

Table 4.31: Relationship between gender and ability to postponed sexual intercourse

Gender	Postponed	Not Postponed	Total
Females	49 (23.8%)	157 (76.2%)	206 (100.0%)
Males	52 (28.6%)	130 (71.4%)	182 (100.0%)
Total	101 (26.0%)	287 (74.0%)	388 (100.0%)

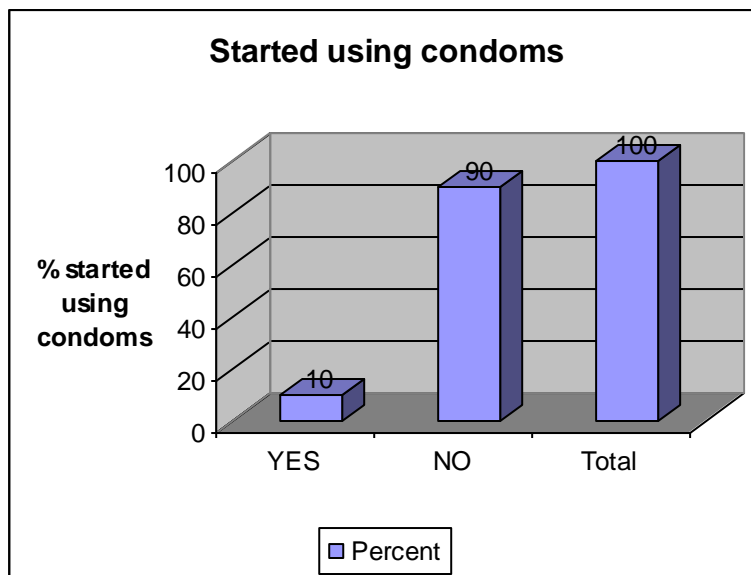
C = 0.054; $X^2 = 1.149$; df= 1; p = 0.284

Cross-tabulation analysis between class (level of education) and postponing sex was conducted with results indicating the slight variation in the different levels, 30% of form 3, 27% of form 4, 26% of form 2 and 20% of form 1 have been able to postpone sexual intercourse. It appears fewer form 1 have been successful in this practice. However, results of the Chi-Square test of significance ($X^2 = 3.225$; df= 4; p = 0.521) indicated that there is no significant relationship between class and postponement of sexual intercourse among school-going adolescents. The Contingency Coefficient Measure of association indicated that class accounted for 1% of the variations in postponing sex among the school going adolescents

4.3.5.5 Adolescents who started using condoms

Condom use is one of the HIV and AIDS prevention strategies promoted among the general population. It is however expected that the adolescents who are sexually-active use condoms. Figure 4.6 shows that only 10% of the adolescents have started using condoms. This finding is consistent with the earlier findings which give evidence of low uptake of condoms among adolescents. It broadly means that there is incongruence in knowledge and practice of condom use.

Figure. 4.6 Use of condoms as a result of the school based HIV and AIDS education



Further analysis was conducted to establish the variation of condom uptake among the different sexes. Table 4.32 shows that more males (17%) compared to females (4.4%) have started using condoms.

Table 4.32 Relationship between gender and those who started using condoms

Gender	Started using condoms				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Females	9	4.4	197	95.6	206	100
Males	31	17	151	83	182	100
Total	40	10.3	348	89.7	388	100

$C = 0.203$; $X^2 = 16.760$; $df = 1$; $p = 0.000$

This may imply that more female adolescents engage in risky sexual behaviour as regards to engaging in sex without condoms. The results of the Chi-Square test of significance ($X^2 = 16.760$; $df = 1$; $p = 0.000$) indicated that there is a significant relationship between gender and those who have started using condoms among school-going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 20% of the variations in those who have started using condoms among the school-going adolescents. This means the HIV and AIDS education strategy has not been effective in changing behaviour regarding use of condoms.

A comparison between the adolescents who have started using condoms and the level of education reveals that more Form Threes (17.9%) and Form Fours (16%) compared to Form Ones (3.2%) and Twos (3.5%) started using condoms. The results of the Chi-Square test of significance ($X^2 = 19.520$; $df = 4$; $p = 0.001$) indicated that there is a significant relationship between level of education and those who have started using condoms among school going adolescents. The Contingency Coefficient Measure of association indicated that class accounted for 22% of the variations in those who have started using condoms among the school-going adolescents. This finding means that Form Ones and Twos who are sexually-active are more exposed to higher risks of HIV and AIDS infection because fewer of them tend to use condoms.

Similarly, cross-tabulation analysis was conducted to establish variation in those who have started using condoms and type of schools they are attending. Table 4.33 demonstrates that majority of adolescents from mixed schools (14.8%) and boys' schools (11.2%) have started using condoms compared to girls' schools (1.9%).

Table 4.33: Type of school and use of condoms as a result of school based HIV/AIDS education

Type of school	Started using condoms				Total	
	Yes		No		Frequency	Percent
	Frequency	Percent	Frequency	Percent		
Girls boarding	2	1.9	106	98.1	108	100
Boys boarding	10	11.2	79	88.8	89	100
Mixed day school	27	14.8	155	85.2	182	100
NS	1	14.3	6	85.7	7	
Total	159	41	229	59	388	100

$C = 0.179$; $X^2 = 12.819$; $df = 4$; $p = 0.012$

The results of the Chi-Square test of significance ($X^2 = 12.819$; $df = 4$; $p = 0.012$) indicated that there is a significant relationship between type of school and those who started using

condoms among school-going adolescents. The Contingency Coefficient Measure of association indicated that type of school accounted for 18% of the variations in those who have started using condoms among the school going adolescents. These findings are congruent with earlier observations that indicate very low uptake of condoms especially among the female adolescents. In the FGDs conducted in this study, respondents cited a few challenges facing uptake of condoms. These include: lack of privacy from adult condom sellers, little trust in the efficacy and quality of condoms, insufficient knowledge on use, high cost and inaccessibility to them.

4.4. School-based HIV and AIDS education

To determine the effectiveness of the school-based HIV and AIDS education in achieving behaviour change, the study explored the teacher and pupils' perceptions on: content of school-based HIV and AIDS education, teaching methodologies, and teacher needs. And based on this analysis and a desk review of the school-based HIV and AIDS education program the study developed a contextual model for strengthening it.

4.4.1 Students' and teachers' perceptions on school-based HIV and AIDS education

The Education sector AIDS policy (GOK, 2006) stipulates that the Education For All (EFA) goals and the Millennium Development Goals (MDG) for education cannot be achieved without urgent attention to HIV and AIDS. The policy is guided by the principles of access to information, equality, and access to care, treatment and support of all infected and affected. It further provides for privacy and confidentiality, Safety in workplace and learning institutions, gender responsiveness, involvement of PLWHIV, and effective partnerships to enhance the success of its implementation.

The curriculum content for secondary schools should be guided by the AIDS policy. The content of HIV and AIDS education has been a subject of discussion for many scholars. The HIV and AIDS education syllabus in Kenya provides a leeway to teach HIV and AIDS within most of the subjects in the curriculum or as a separate stand-alone subject. The AIDS education syllabus for Secondary Schools (KIE, 1999) provides the following key topics to be taught: Basic facts about HIV and AIDS and STDs; Youth and sexuality; responsible behaviour; Time management; Factors which make people vulnerable to HIV and AIDS infection; Internal body defence; Religious and cultural rites; Effects of HIV and AIDS, Communication skills, and Care and support for PLWHIV.

In light of the AIDS policy and the curriculum content, this study explored the adolescents' perception on the HIV and AIDS education and the effectiveness of the approach in the prevention of the spread of new infections. The results indicate that

35.3% of the respondents found the content to be very good, while only 21.1% considered it to be good. This means that a big proportion of students, 43.5%, consider the HIV and AIDS content to be inadequate. These findings were corroborated by the FGDs sessions where a majority argued that the HIV and AIDS education program was not effective. This study further investigated the reasons why the content is considered inadequate. These reasons are important because they can help the policy makers and implementers identify ways of improving the content to make it more effective. Results indicated 37% of the respondents consider lack of practical skills with which to build self-efficacy as a gap. These skills include communication and negotiation. Thirty-three percent (33%) cited lack of skills on abstinence issues, 12% lack of skills on condom use, and 13% reported that HIV and AIDS was not taught in their respective schools.

Other factors that emanated from the FGDs that make the HIV and AIDS education ineffective include the fact that the sessions are only oral, with no practical sessions provided for. This is what they had to say:

“HIV and AIDS subject when it is taught, lacks openness. The teacher just passes over it orally with no detailed explanations. I guess workload makes teachers pay lip service to HIV and AIDS.”

This finding confirms the above-given reasons regarding lack of skills. It was further stated that due to the workload, teachers paid little attention to HIV and AIDS education. The average number of students per class was 50, making it greatly difficult for any one teacher to provide close attention to each student or use student-centred approaches. Similarly, not all teachers were involved in disseminating HIV and AIDS education. Further, silence and stigma surrounded the subject and the teachers were not open about it. Also, the relationship between the teachers and students was one of unease rather than open and warm to encourage learning. It was also established that students could not relate to the reality of the problem because they had never seen PLWA. They therefore failed to gain any practical life experiences. In the FGD sessions there were concerns that the authorities never invite young professionals to give talks on HIV and AIDS.

These findings are similar to what various scholars (Malambo, 2000; Agleton, 2000; Siecus, 1999) have documented on the reasons for lack of effectiveness of the HIV and AIDS education in schools. Moreover, 87% of teachers stated that the subject content was not good. Indeed 47% of the teachers indicated having difficulties teaching the subject. Like the students the teachers also cited that over-emphasis on exams as one reasons for the difficulty besides lack of ample training and teaching materials on the subject.

Indeed these findings on school-based HIV and AIDS content concur with scholars like Malambo (2000), who argue that much of HIV-related education takes place within curriculum subjects and spreads so thinly that it appears as a topic in passing. He further notes that the teachers mentioned lack of knowledge, skills, training opportunities and teaching and learning as a barrier to effective implementation. It was important to seek views of adolescents on how the school-based HIV and AIDS education could be improved. This would help identify the missing link between theory and practice. The study sought to know from the respondents view what could be done differently to enable the adolescents apply the HIV and AIDS knowledge practically. Thirty-six per cent suggested teaching of more practical skills, 26% reported encouraging peer education and 18% suggested establishing linkage with youth-friendly services in the community.

4.4.2. Content and policy analysis

There is a general dissonance between the education sector's AIDS policy, the curriculum content and actual implementation in schools. To highlight the dissonance a few gaps have been discussed. These relate to insufficient content which lacks in-depth, real life experiences, lack of practical skills and teachers who are not adequately prepared disseminate HIV and AIDS knowledge.

The policy guidelines recommend that life skills be mainstreamed into existing curricular. In the curriculum two issues are discussed under the communication skills; the

communication process and methods of communication. This topic is theoretical, based on the syllabus content and responses from adolescents but is not sufficiently comprehensive to teach the skills required by an adolescent for the prevention of HIV and AIDS.

The other different practice and gap in the school-based HIV and AIDS education was the absolute absence of partnerships and linkages with communities. The policy highlighted that communities, religious groups, parents and care-givers be mobilized as part of the prevention efforts against HIV and AIDS. Yet the curriculum did not reflect this in the content. Consequently, no effort was put to achieve the objective, according to responses from teachers, adolescents and observations.

The policy states that the teacher education curriculum (pre-service) must prepare educators to respond to HIV and AIDS and build preventive behaviour among learners. The Pre-service HIV and AIDS curriculum contains basic facts on HIV and AIDS.

The gap that clearly stands out from the data is that teachers have difficulty teaching because they are ill-prepared. This has a direct impact on the delivery and outcome of the subject.

4.4.3 Teaching and learning materials

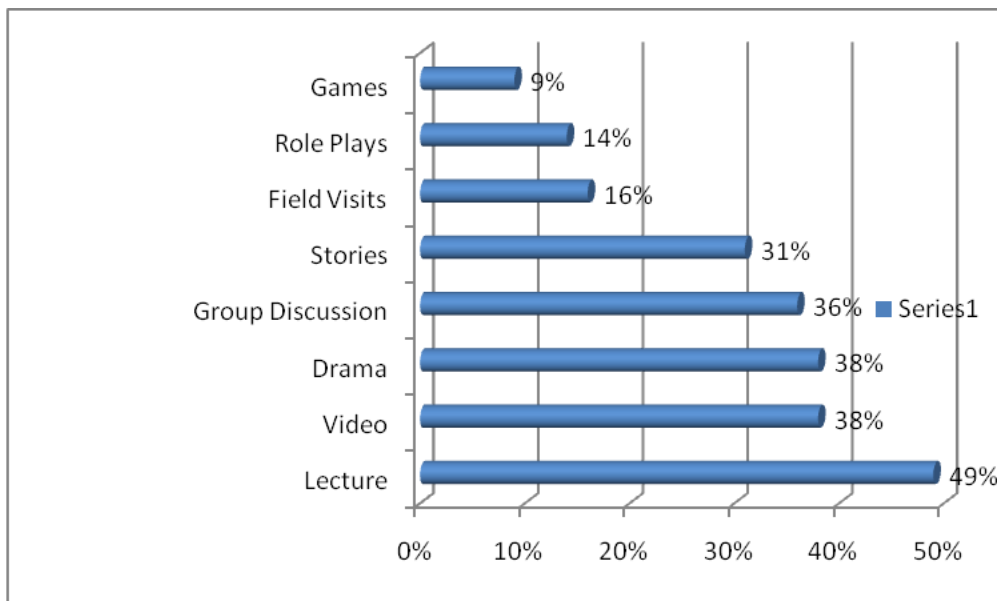
The teachers' view on teaching materials was confirmed through observations to determine if they had the materials. The materials observed included: HIV and AIDS teaching guide, HIV and AIDS reference books and the HIV and AIDS education policy and information, education and communication materials (IEC) e.g. posters. The results indicate that 6 out of 8 schools, that is 75%, did not have these materials. At the same time, only one school had teaching aids that included HIV and AIDS IEC materials e.g. posters and videos. Lack of these materials coupled with lack of systematic HIV and AIDS teacher training affected the delivery of the subject and its acceptability by adolescents. The teachers' interviews clearly stated that they were not adequately prepared to handle the HIV and AIDS subject.

Despite the fact that the syllabus recommended a wide range of learning/teaching resources including posters, reference books, resource persons and pamphlets from a wide range of stakeholders, most schools did not have access to the resources. Lack of these materials jeopardized the learning process and outcome. Likewise the policy recommended access by all to information which includes appropriate information, education and communication materials.

4.4.4 School-based HIV and AIDS Education teaching methodologies

The mode of delivery of the HIV and AIDS education is important because it may have implications on the expected outcomes. Figure 5.1 presents the methods commonly used in schools in teaching the HIV and AIDS subject.

Figure: 5. 1. Methods of teaching HIV and AIDS subject in school



The results indicate that the most commonly used method of teaching is lecturing (49%), then drama and video presentations at 38% each. The concern here is whether HIV and AIDS education teaching methods facilitate the teaching of a set of facts or skills. The prevalent use of lecture method implies that learning is teacher-centred, raising the

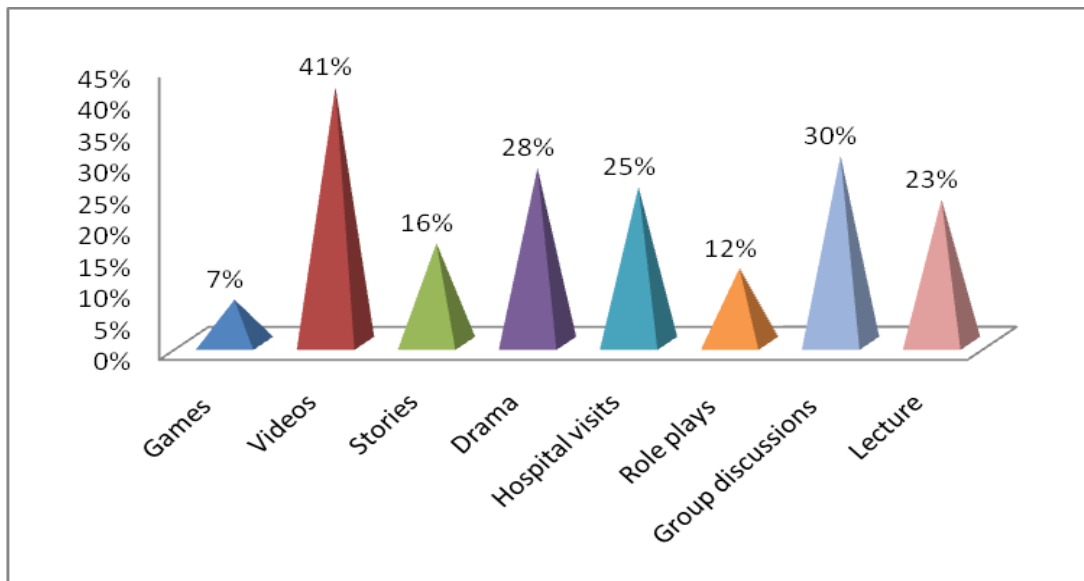
possibility of an overemphasis on facts over learning of skills. The learning of both facts and skills enables young people to adopt right attitudes and safe behaviours.

There is minimal use of other non-conventional teaching methods like the use of role plays, games, field visits, and group discussions. Interviews with teachers also showed that a majority (67%) use lecture method. This finding is consistent with Kirky et al (1994), who argued that for HIV and AIDS education to successfully transfer knowledge into practice, utilization of non-conventional teaching methods was called for. Other scholars like Kirky, (1995) & Schencker & Greenblatt, (1993) argued that teachers needed to learn additional skills and models and possibly change teaching ways. This would require a dynamic approach in which teaching methods evolve and cause a shift from lecturership to more participatory and interactive methods with students at the centre of the process. The inclination to a change in the approach was further evidenced by a drop in the number of students approving the teaching method to 13% compared to 37% who approved of the school-based HIV and AIDS program. This implied that though the school-based education was not so popular, teaching methods were even less so.

a) Perceptions on methods of teaching school-based HIV and AIDS education

The study further assessed the perception of adolescents on the most effective method for helping them understand and apply the HIV and AIDS lessons. The methods considered in this section included use of lectures, group discussions, role plays, field visits to hospitals, drama, stories, video presentation and use of games. According to Figure 5.2, 23% of the respondents cited lecture method as the least effective. This result was worrying, given that lecture was the most common mode of delivery of HIV and AIDS subject. According to 41% of adolescents, video presentation was the most effective. It was noted that this method is more widespread among the girls' schools.

Figure 5.2: Most effective methods of teaching HIV and AIDS



Consequently, the mode of delivery of HIV and AIDS subject may be a contributor to the positive behaviour outcome among the girls' schools. The results confirm the views by scholars regarding the need to shift from the traditional style of classroom lectures to non-conventional methods that are more effective. Kirby et al (1994) argues that interactive strategies used in health promotion programs like games, role playing, group discussions are successful in achieving the objectives of personalizing information, exploring attitudes and values, and practising skills. This study however disconfirms this finding because the adolescents said some of these methods were the least effective. These least effective methods of teaching HIV and AIDS education in schools are role plays (12%), use of stories (16%) and games (7%)

The reasons the respondents gave for describing certain methods as most effective were the method's capacity to relate (with) real life issues (40%) and assist the adolescents to express their beliefs, fears and thoughts (32%).

4.4.5. Analysis of the different methods of teaching

Cross-tabulation analysis was conducted to establish variation in the use of lecture and video presentations across the different types of schools and classes. The two were selected because they had the highest percentages.

Use of video presentations was helpful in educating school-going adolescents because it was entertaining and real life experiences could be shared through it. Results indicate that majority of schools do not use this non-conventional method. However, compared to other classes, Form Fours (28.4%) preferred this mode of teaching the least, followed by Form Threes with 35%, Form Ones 38% and Form Twos 41%. The results of the Chi-Square test of significance ($X^2= 3.356$; $df= 4$; $p = 0.093$) indicated that there is no significant relationship between class and use of video presentations among school-going adolescents. Compared with the school type, it emerged that 43.5% of respondents from girls-only schools preferred use of video while 16.9% of boys in boys-only schools did. The results of the Chi-Square test of significance ($X^2= 18.225$ $df= 4$; $p = 0.001$) indicated that there is a significant relationship between school type and use of video. The Contingency Coefficient Measure of association indicated that school type accounted for 21% of the variations in use of video presentations. This result means that girls' schools were more flexible in the methods used for teaching HIV and AIDS compared to boys' schools followed by mixed schools.

Earlier results in this study indicated interesting results regarding girls' schools' behaviour and attitudes towards sex. A greater percentage of female adolescents from girls' schools were abstaining from sex compared with the percentage of males in boys' school. Moreover, majority of those who are sexually-active are males (44%) from boys' schools compared to 11% from girls' schools. There could be a number of explanations for this but it may be implied that some relationship exists between the method of teaching HIV and AIDS and the behaviour outcome of adolescents from different types of schools.

Since lecture is the main mode of teaching HIV and AIDS in schools. It may be important to conduct further analysis to establish factors that may affect its effectiveness

among the school-going adolescents. Cross-tabulation analysis between school-type and lecture method was conducted which revealed that majority (52.8%) of respondents from boys' school cited lecture method as a main method of learning HIV and AIDS in school followed by girls school (47.2%) and mixed schools at 39.6%. This result indicates that lecture method is least used in mixed schools. However, the results of the Chi-Square test of significance ($X^2 = 4.617$; $df = 4$; $p = 0.329$) indicated that there is no significant relationship between school type and lecture method.

4.4.6. HIV and AIDS Teaching methods and policy analysis

This section analyses the difference in the teaching methods practised as established by this study, curriculum provision and policy guidelines. The curriculum guidelines provided a wide range of methods and activities to facilitate learning in the different topics. They included: case studies, discussions, debates, drama, poems, story telling, simulation games, role plays, video presentations and observation among other non-conventional methods. The policy reinforced curriculum provisions of the learning activities. One of the policy guidelines was that co-curricular events such as clubs, drama groups and sports be used to enhance HIV and AIDS learning. An attempt was being made to use the different methods like drama (38%), games (9%), stories (31%), role plays (14%) and field visits (16%). However, these were yet to be fully utilized to achieve the intended objectives. Both the curriculum and policy required that peer education be used in schools at all levels. This study established that this method was not in use. The curriculum mentioned peer education as an activity but give neither details of its importance nor ways to implement it.

The other important activity in the policy was the provision of care and support for infected or affected. This was the making of health services accessible to them. The curriculum content of Form One to Form dwelt on the needs of the PLWHIV and the management of HIV and AIDS infected people and included counselling. The missing link in this activity was the lack of partnerships with institutions that deal with care, treatment and support of PLWHIV and that could ensure access to health for adolescents

through referral systems. This study established that most teachers were not able to support the establishment of any of the following partnerships and linkages between the school and community: youth groups, youth-friendly services, religious groups, parents, peer-based support, community-based organizations and NGOs. These would have provided comprehensive prevention, care, treatment and support for the adolescent.

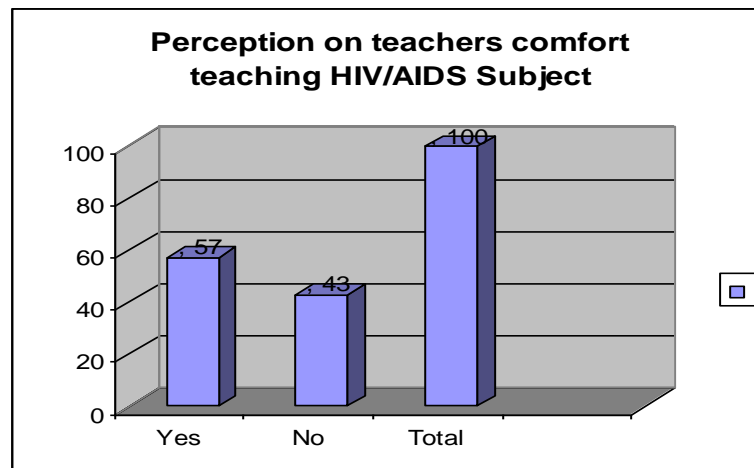
4.5 School-based HIV and AIDS education teacher/educator needs

This section presents the teachers' and students' perceptions on the teacher/educator needs.

4.5.1 School-going adolescents' perceptions on HIV and AIDS Teacher Needs

Concerns related to the needs of HIV educator/teachers are important in the success of the HIV and AIDS education. These concerns range from inadequate HIV knowledge and skills through lack of teaching materials to inappropriate teaching methodologies. The study sought the respondents' perception on whether teachers were comfortable teaching the HIV and AIDS subject. Figure 5.3 indicates that 43% of the adolescents thought teachers were not comfortable while 57% believed they were. Those who thought teachers were not comfortable attributed the discomfort to lack of training on HIV and AIDS (12%) and to the subject's sensitivity (13%). Similar findings were reported by Action Aid (2003) which indicated that many teachers of HIV and AIDS in Kenya and India reported difficulties in discussing the subject with their students and opted for selective teaching and a focus on messages about abstinence.

Figure 5.3: Students Perception on teachers comfort in teaching HIV and AIDS subject



4.5.2 Teachers' perception on needs of teacher/educator of HIV and AIDS

Equipping teachers of the HIV and AIDS subject with knowledge, skills and materials is an important step in ensuring the success of the program. In view of this majority (10/15), the teachers stated that the trainings they received did boost their sense of preparedness to handle the subject. Most (8/15) attended short-duration HIV and AIDS teacher preparation training sessions. The durations ranged between 2 weeks and 1 month. Most were workshops within the district. Majority (10/15) stated that the trainings did not prepare them adequately to handle the subject. Most (12/15) indicated they do not regularly attend HIV and AIDS teaching updates. Apart from 3, the rest reported not having access to any teacher-centered programs providing HIV and AIDS-related services. This result confirmed other scholars' view (Malambo, 2000) that lack of knowledge and skills, training opportunities and teaching and learning materials were a barrier to effective implementation of the school-based HIV and AIDS education

To establish the effectiveness of program indicators, monitoring and evaluation is important. Despite this, majority of teachers indicated they were not able to monitor any of the expected behavioural outcomes of the HIV and AIDS education among the adolescent learners. These indicators of behaviour change include postponed first sexual intercourse, secondary abstinence and condom use. The teachers were not able to monitor

correct and consistent condom use for the sexually-active students. They were also not able to monitor behaviour and attitude change regarding the learners' ability to communicate with teachers and parents about HIV and sexuality. They were further unable to state if there were behaviour changes regarding either the students' ability to resist sexual advancement or subsequent abstinence. On monitoring translation of knowledge into behaviour change among students, the teachers/schools had no established methods to conduct it. Therefore each teacher devised his/her own method. Majority relied on behaviour observations and feedback from peers.

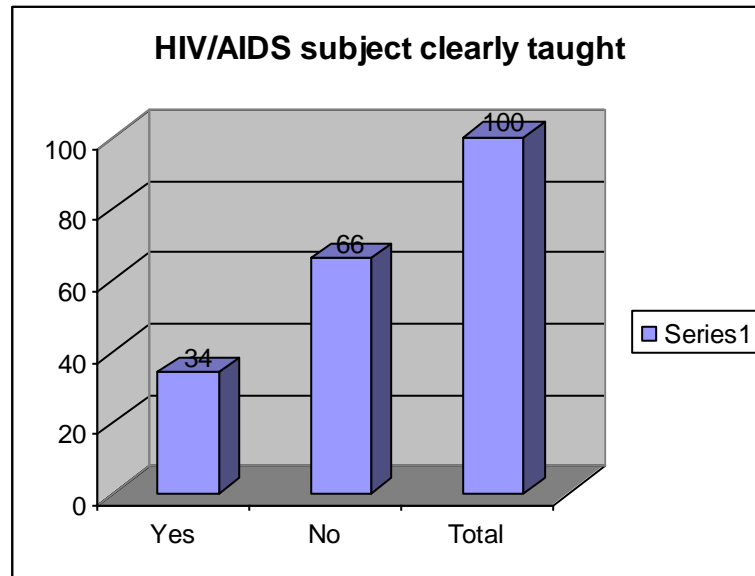
4.6. Factors facilitating application of the HIV and AIDS knowledge

Despite the dissonance in policy, curriculum content and curriculum implementation, it was important to establish a possible link between the HIV and AIDS knowledge acquired and behaviour outcomes, and factors that facilitate the result. The following section presents the role of subject clarity and socio-economic factors that facilitate the application of HIV and AIDS knowledge.

4.6.1 Clarity of subject

The results in Figure 5.4 present findings that reveal that 34% of adolescents cited the teaching of HIV and AIDS subject in schools as a significant factor in the application of HIV and AIDS knowledge. A gender comparison indicates a very slight variation in the proportions between females (35%) and males (32%) who considered the clarity of the subject taught as key in influencing behaviour change. The results of the Chi-Square test of significance ($X^2 = 0.392$; $df = 1$; $p = 0.531$) indicated that there is no significant relationship between gender and influence from teaching of the HIV and AIDS subject among school-going adolescents. The relationship between class and teaching of HIV and AIDS as a factor in application of knowledge learned was additionally explored. The results of the Chi-Square test of significance ($X^2 = 8.064$; $df = 4$; $p = 0.089$) indicated that there is no significant relationship between class and influence from teaching of the HIV and AIDS subject.

Figure 5.4: Clarity of subject and application of HIV and AIDS knowledge



In comparing HIV and AIDS subject to other factors like religion, parental involvement and personal effort, this result signifies that HIV and AIDS education in schools plays a lesser role in influencing application of HIV and AIDS knowledge. The FGDs explored possible reasons for the failure of the school-based HIV and AIDS education to significantly influence positive sexual behaviour. The respondents cited both lack of adequate information on HIV and AIDS, possibly attributable to “shallow” school books, and little attention given by the respective subject teachers to HIV education. This finding confirmed documented evidence by scholars like Malambo (2000) that since HIV and AIDS education took place within curriculum subjects, the HIV components in the integrated curriculum spread thinly and often got less emphasis because it appeared as a topic in passing. Furthermore, as noted earlier, HIV and AIDS is not a subject area in its own right with dedicated trained teachers and educators.

The study further analyzed the students’ and teachers’ confidence in applying HIV and AIDS knowledge. It was established that majority of teachers interviewed were not confident of their students’ ability to apply the knowledge. Only 3 out of the 15 expressed such confidence. The teachers mentioned a number of reasons for their lack of

confidence. All stated that they are not well-trained to handle the HIV and AIDS subject, besides lacking HIV and AIDS' instructional materials.

Other reasons they gave were that their respective schools were de-linked from the community in addressing the issues of HIV and AIDS. No partnerships existed with the community to implement harmonized HIV and AIDS prevention efforts. Majority also stated that students were not receptive and open to HIV and AIDS education (12/15).

According to the FGDs results conducted in this study, social distance between the students, teachers and parents plus negative role-modelling are barriers to behaviour change among adolescents. Shaeffer (1994) reveals in a study conducted in Kenya that 24% of students and 17% of parents reported that teachers did not set good examples of sexual behaviour. Action Aid (2003) concurs with this finding because in a study conducted of primary schools in Uganda, 11% of the girls said they had been forced to have sex with a teacher.

4.6.2. Socio-economic factors and the application of HIV and AIDS knowledge

Building individual adolescent competencies is not sufficient to bring about the desired targeted behaviour outcomes. Therefore this study also sought to establish the extent to which socio-economic factors impacted the behaviour of school-going adolescents. The factors examined in this section and which affect the application of HIV and AIDS knowledge broadly include: school-based factors, family environment and personal and environmental factors. The factors will be discussed more specifically under the following indicators: parental involvement, peer support, media influence, and religion and youth-friendly services.

The study additionally assessed the factors that support the individuals in applying the HIV and AIDS information learnt in school. Table 8.8 provides a summary of the responses, which indicate that religious support (52%), parental involvement (49%) and personal effort (49%) play a big role in the sexual behaviour of adolescents. They are the leading factors in the facilitation of behaviour application among school-going

adolescents. Only 34% of the adolescents considered school-based HIV and AIDS education as a facilitating factor in application of knowledge on HIV and AIDS. This is worrying because it is assumed that school-going adolescents depend on the HIV and AIDS education taught in schools. The school-based HIV and AIDS education approach ignores important social factors that influence the behaviour of adolescents, like religion and parental involvement. The implication here is that for positive behaviour change to be achieved, the approach should consider other out-of-school factors that influence behaviour.

Table 5.1: Socio-economic factors and application of knowledge on HIV and AIDS

Socio-economic variables	Yes		No		Total	
	Freq	Percent	Freq	Percent	Freq	Percent
Religious support	202	52%	186	48%	388	100%
Parents involvement	189	49%	199	51%	388	100%
Peer support	116	30%	272	70%	388	100%
Availability of youth friendly services	110	29%	278	72%	388	100%
Personal effort	190	49%	198	51%	388	100%
HIV subject clearly taught	132	34%	256	66%	388	100%
Partner support	71	18%	317	82%	388	100%
Positive media exposure	90	23%	298	77%	388	100%

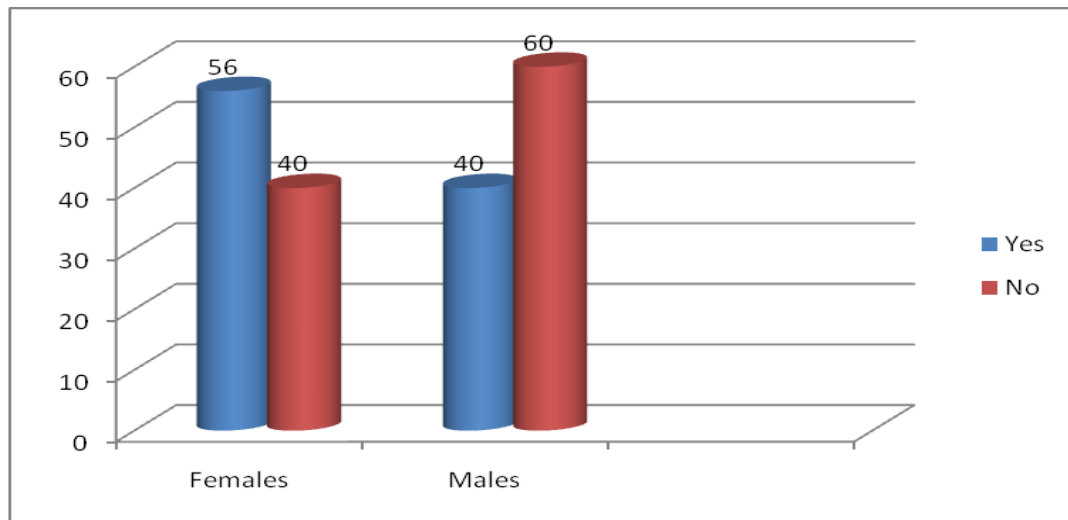
This section has further examined the socio-economic determinants of adolescent behaviour to provide insights on the broader issues that create an enabling environment aimed at facilitating change in an individual's behaviour. Several factors will be analyzed which relate to parental involvement, peer support, religion, media influence and personal effort

4.6.3. Parental involvement and application of HIV and AIDS knowledge

Many scholars have elucidated the important role of parents in shaping the behaviour of children and adolescents. In this study parental support was examined as a factor facilitating the application of HIV and AIDS knowledge among adolescents. Earlier results in this study indicated that majority of female adolescents get HIV and AIDS information from parents compared to males. Parents are a significant source of HIV and AIDS information among school-going adolescents. It was also revealed that parents were the most reliable channel of this information. Therefore this section further examines if parental involvement is a facilitating factor in the application of HIV and AIDS knowledge. Findings indicate that 40.7% of adolescents cited parental support as a main determinant in the application of HIV and AIDS knowledge. This means that parents have a central role in shaping the behaviour of school-going adolescents and should hence not be ignored in the school-based HIV and AIDS education approaches.

The relationship between parental involvement and gender was further analyzed. Figure 5.5 points towards a higher proportion of females (56.3%) than males (40.1%) citing parental involvement as a main determinant of their application of HIV and AIDS knowledge.

Figure 5.5 Parental involvement and application of HIV and AIDS knowledge



The results of the Chi-Square test of significance ($X^2= 10.151$; $df= 1$; $p = 0.001$) indicated that there was a significant relationship between gender and parental involvement among school-going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 16% of the variations in parental involvement among the school going adolescents. This result is in tandem with earlier results which point out a significant relationship between parental involvement, adolescents and positive behaviour.

It was important to further assess the relationship between class and parental involvement. This is to establish the level of parental involvement across the different classes. The highest is Form One with 53.7% and lowest proportion is Form Four with 45.7%. Although this percentages bring out a small variation tending towards more parental support for Form One students, the results of the Chi-Square test of significance ($X^2= 2.197$; $df= 4$; $p = 0.700$) indicated that there is no significant relationship between class and parental involvement among school-going adolescents..

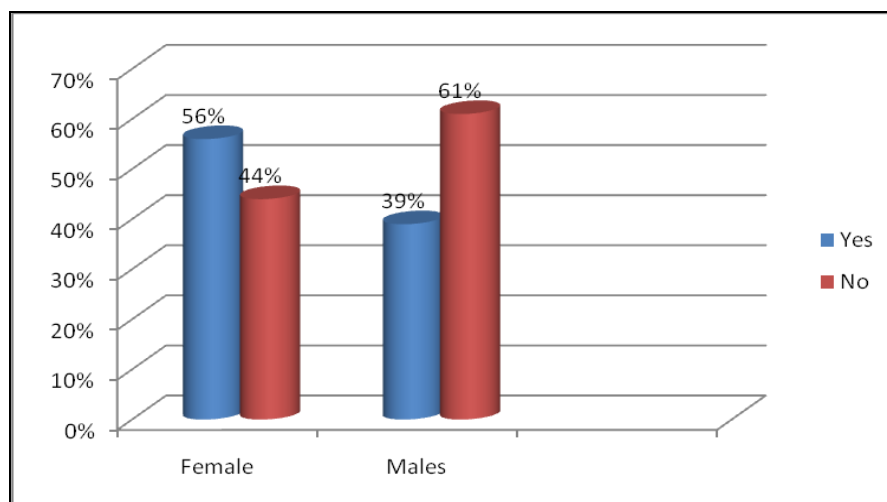
A comparison of parental involvement across the different school types revealed that 66.7% of adolescents from girls' schools cited parental involvement compared to 37.9% from mixed day schools. The proportion in the boys boarding schools who cited parental involvement was 51.7% The results of the Chi-Square test of significance ($X^2= 25.784$;

df= 4; p = 0.000) indicated a significant relationship between school type and parental involvement. The Contingency Coefficient Measure of association indicated that type of schools accounted for 25% of the variations. This meant that boys' schools and mixed schools rely less on parental support compared to girls' schools. It therefore implied that the school type could be a predictor to parental involvement in application of HIV and AIDS knowledge. It was surprising that school-going adolescents in day schools who were expected to interact with their parents more, stated they least depended on parental involvement in application of HIV knowledge.

Communication with parents

Parent-child communication is very important in influencing behaviour of adolescents. Earlier results in this study highlighted the central role of the parents in providing HIV and AIDS information. Since change of attitude towards HIV and AIDS issues was one of the important expected outcomes of school-based HIV and AIDS education, it was important in this study to determine if a change in nature of communication occurred between adolescents and parents when matters of HIV and AIDS and sexuality arose. Figure 5.6 indicates that more female respondents (56%) were able to communicate comfortably with parents on HIV and AIDS and sexuality issues than male respondents (39%).

Figure 5.6: Communication with parents on HIV and AIDS



The results of the Chi-Square test of significance ($C = 0.166$; $X^2 = 10.946$; $df = 1$; $p = 0.001$) indicated that there was a significant gender factor in communication with parents among school-going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 16% of the variations. This finding reinforces the important role of parents in the sexual behaviour of adolescents, especially female. It reinforces earlier results which indicated that female adolescents get HIV and AIDS information from parents and that parental support is a significant factor in the application of HIV and AIDS knowledge.

Further analysis showed that both Form Ones (56%) and Form Twos (56%) had the highest proportion of adolescents able to communicate comfortably with parents regarding HIV and AIDS and sexuality. Form Threes 45% and Form Fours 37% had the lowest proportion of adolescents citing ease of communication with parents. The results of the Chi-Square test of significance ($X^2 = 9.666$; $df = 4$; $p = 0.046$) indicated a significant relationship between class and communication with parents. It is worrying to note that the practice of communication drops as the adolescents approach Form Three and Form Four. Further analysis revealed that majority (50%) of female adolescents compared to males (27.5%) get HIV and AIDS information from parents. The results of the Chi-Square test of significance ($X^2 = 20.532$; $df = 1$; $p = 0.000$) indicated that there is a significant relationship between gender and HIV and AIDS information from parents among school going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for 22% of the variations. Similarly, more female adolescents from girls' schools (54.6%) compared to males from boys schools (21.3%) get HIV and AIDS information from parents. The results of the Chi-Square test of significance ($X^2 = 22.772$; $df = 4$; $p = 0.000$) indicated that there is a significant relationship between type of school and HIV and AIDS information from parents among school going adolescents.

This means that parents are not active participants in the sexual behaviour of the male adolescent. From a cultural perspective the chastity of girls is stressed but the same is not expected of boys. Furthermore due to the active participation of parents in girls' lives,

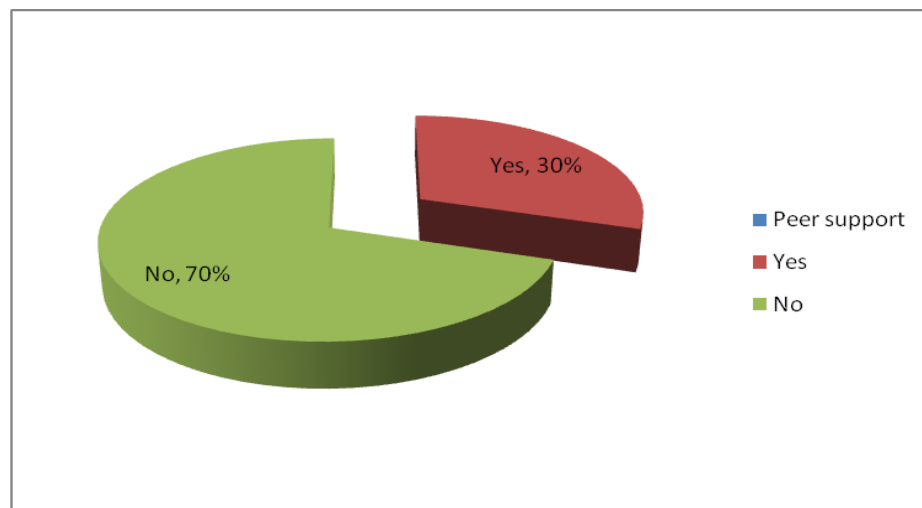
girls possibly experienced less exposure to HIV and AIDS risk. They were also likely to get accurate HIV and AIDS information if the parents were well informed, which would help them practice safer sexual behaviour. Furthermore, 62% of female adolescents considered HIV and AIDS information from parents to be very reliable compared to a paltry 19% of male adolescents. These findings generally point to the importance of improving communication between adolescents, parents and teachers to break the social barriers and enhance HIV and AIDS learning.

4.6.4. Peer support and application of HIV and AIDS knowledge

This section highlights the role of peer influence in shaping the sexual behaviour of adolescents. Peer influence has been considered by other scholars as one of the main determinants of behaviour among adolescents. The study sought to establish the role of peers in influencing the application of HIV and AIDS knowledge and the extent to which adolescent peers served as a source of HIV and AIDS information.

Figure 5.7 gives results of the relationship between peer support and application of HIV and AIDS knowledge.

Figure. 5.7: Peer support and application of HIV and AIDS knowledge



The result points out that only 29.9% of adolescents are influenced by peers in the application of HIV and AIDS knowledge to behaviour change. This finding is consistent with the data that shows peers are the least reliable source of HIV and AIDS knowledge. Eighty eight percent of female adolescents and 84% of male adolescents find peers to be an unreliable source of HIV and AIDS information. The results of the Chi-Square test of significance ($X^2= 0.331$; $df= 1$; $p = 0.565$) indicated that there is no significant relationship between gender and peer support among school going adolescents. According the results there is no significant difference among females and males in the way peer support affects their behaviour. However the interesting thing to note in earlier results in this study is that peers are cited as the main influencers for risky sexual behaviour. This result means that peer influence is more prevalent on issues of negative behaviour, compared to positive behaviour. Therefore it is important that this trend be reversed for the benefit of the school-going adolescents.

The relationship between level of education and peer support in application of HIV and AIDS knowledge was examined. The results showed that there were variations in the perceived role of peer support in the application of HIV and AIDS knowledge across classes, 31.4% of Form Two cited peer support compared to 30.5% Form One, and 27.7% Form Threes. The results of the Chi-Square test of significance ($X^2= 0.602$; $df= 4$; $p = 0.963$) indicated that there was no significant relationship between class and peer support among school-going adolescents.

The study further examined the relationship between school type and peer influence. Different school types may have different sources of HIV and AIDS information to compliment the HIV and AIDS education provided in schools. Results in Table 5.2 show that majority of females from girls' schools (33.3%) compared to males from boys-only schools (19.1%) access HIV and AIDS information from peers.

Table 5.2 Relationship between school type and information from peers

Type of school	HIV and AIDS Information from peers				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Girls boarding	36	33.3	72	66.7	108	100
Boys boarding	17	19.1	72	80.9	89	100
Mixed school	31	17	151	83	182	100
NS	2	28.3	5	71.4	108	100
Total	86	22.2	302	77.8	388	100

$C = 0.172$; $X^2 = 11.807$; $df = 4$; $p = 0.019$

The Chi-Square test of significance ($X^2 = 11.807$; $df = 4$; $p = 0.019$) indicated that there is a significant relationship between school type and HIV and AIDS information from peers among school-going adolescents. The Contingency Coefficient Measure of association indicated that school type accounted for 17% of the variations. According to this finding, girls' schools rely more on HIV and AIDS information from peers compared to boys schools and mixed schools.

4.6.5. Religious support and application of HIV and AIDS knowledge

According to the results of the study majority of the adolescents were Christians, that is 54% Protestant Christians, 40% Roman Catholic Christians and only 3% Muslims. This is an important variable to the study because religious values can influence the behaviour of the adolescents. Leighton et al (1993) indicates that religious guidance is one of the factors seemingly important in the development of a child's behaviour. This section examined the role of religion in influencing the application of HIV and AIDS education among school-going adolescents. Religious support plays a significant role in the fight against HIV and AIDS. The results showed that 52.1% of adolescents consider religious support as important in applying HIV and AIDS knowledge. This result is surprising because findings have revealed that churches and mosques are considered to be the least reliable source of HIV and AIDS information with only 9% of adolescents considering

the channel reliable. Despite this finding, majority of adolescents are affiliated to religious settings and therefore it is an important channel to explore in impacting the behaviour outcomes of adolescents.

The relationship between religious support and gender was further examined. Results in Table 5.3 indicate that a higher proportion of females (55.8%) compared to males (47.8%) consider religious support to be important in the application of HIV and AIDS knowledge. However results of the Chi-Square test of significance ($X^2= 2.492$; $df= 1$; $p = 0.080$) indicated that there is no significant relationship between gender and religious support among school-going adolescents. The Contingency Coefficient Measure of association indicated that gender accounted for merely 1 % of the variations.

Table. 5.3 Gender and religious support in application of HIV and AIDS knowledge

Gender	Religious support				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Females	115	55.8	91	44.2	206	100
Males	87	47.8	95	52.2	182	100
Total	202	52.1	186	47.9	388	100

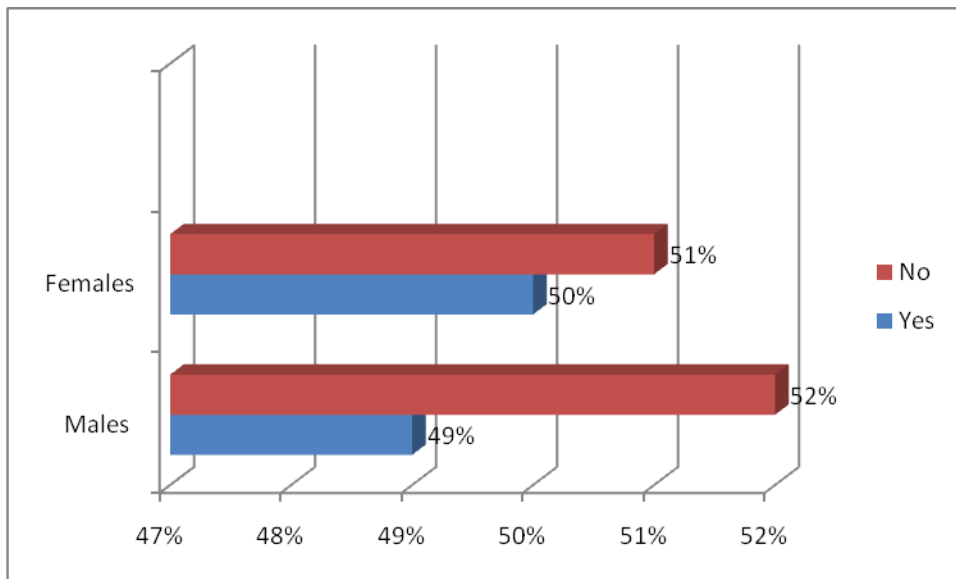
$C = 0.080$; $X^2 = 2.492$; $df = 1$; $p = 0.080$

The relationship between class and religious support was also assessed and the results of the Chi-Square test of significance ($X^2 = 7.900$; $df = 4$; $p = 0.095$) indicated that there is no significant relationship between class and religious support among school-going adolescents. Slightly more Form Threes at 63% cited religious support in application of HIV and AIDS information compared to 51% Form Twos, 43% Form Fours and 40% Form Ones. This result shows that the difference in the level of education of the adolescents does not play a big role in the utilization of religious support in influencing behaviour change.

4.6.6. Personal effort and sexual behaviour of adolescents

The relationship between personal effort and application of HIV and AIDS education was an important indicator in this study. Personal effort refers to the ability of the individual to gather relevant HIV information and seek to build their own capacity to handle the challenges of HIV and AIDS. This includes effort to increase HIV and AIDS knowledge, develop skills and change attitudes towards HIV and AIDS. Results show that 49% of the adolescents rely on personal effort in practicing safer sexual behaviour. This implies that if the adolescents cannot access adequate information on HIV and AIDS from schools, they can apply personal initiative to get informed. Figure 5.8 presents results disaggregated by gender which shows very little variation between males (48.9%) and females (49.5%) on personal effort regarding application of HIV and AIDS knowledge. The results of the Chi-Square test of significance ($X^2= 0.052$; $df= 1$; $p = 0.819$) indicated that there is no significant gender distinction in the perceived role of personal effort in the application of HIV and AIDS knowledge among school-going adolescents.

Figure 5.8: Role of personal effort in application of HIV and AIDS knowledge



Further cross-tabulation analysis was conducted between level of education and personal effort in the application of knowledge. Majority of those who apply personal effort in

application of HIV and AIDS knowledge are Form Fours (53%), followed by Form Threes (52%), Form Two (50%) and Form 1 (42%). The results of the Chi-Square test of significance ($X^2= 2.942$; $df= 4$; $p = 0.568$) indicated that there is no significant relationship between class and personal effort among school-going adolescents. Nonetheless, there is a general trend of gradual self-trust as the school-going adolescents approach their fourth year of study.

4.6.7. Media Influence and Application of HIV and AIDS Knowledge

Media is considered to be a powerful tool for communication among the general population and especially the young people. Results on the sources of HIV and AIDS information for adolescents indicate that radio is the most popular source (44%) of HIV and AIDS information for the adolescents. Surprisingly, it is viewed as contributing negatively to the transfer or application of the HIV and AIDS knowledge. The findings indicate that 76.8% of the schools-going adolescents do not view media as having positive influence in the application of HIV and AIDS knowledge. In the FGDs conducted in this study, negative media was stated as a hindrance to achieving desired behaviour. This is because of the prevalence of pornographic content in the media and internet which the adolescents described as an ‘uncontrolled media’.

The results presented in Table 5.4 reveal that 76.2% of females and 77.5 % of males expressed that media influence has not been supportive of their attempts to apply HIV and AIDS knowledge. The results of the Chi-Square test of significance ($X^2= 0.086$; $df= 1$; $p = 0.769$) indicated that there is no significant relationship between gender and media influence among school-going adolescents. This broadly means that majority of adolescents across all the sexes think that media has a negative influence in application of HIV and AIDS knowledge and therefore the adolescents do not rely on this channel for relevant information.

Table 5.4 Gender and media influence in application of knowledge

Gender	Media influence				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Females	49	23.8	157	76.2	206	100
Males	41	22.5	141	77.5	182	100
Total	90	23.2	298	76.8	388	100

$C = 0.015$; $X^2 = 0.086$; $df = 1$; $p = 0.769$

Further cross-tabulation analysis was conducted to determine the variation in the different of school types. Table 5.5 presents information regarding type of school and proportion of those who get HIV and AIDS information from radio.

Table 5.5: Type of school and HIV and AIDS information from radio

Type of school	HIV and AIDS information from radio				Total	
	Yes		No			
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Girls boarding	45	41.7	63	58.3	108	100
Boys boarding	22	24.7	67	75.3	89	100
Mixed school	88	48.4	94	51.6	182	100
NS	4	57.1	3	42.9	7	
Total	159	41	229	59	388	100

$C = 0.199$; $X^2 = 15.985$; $df = 4$; $p = 0.003$

The boys-only schools have the least (24.7%) proportion of those who receive HIV and AIDS information from radio while mixed day schools (48.4%) and girls' schools (41.7%) report highest proportions. The results of the Chi-Square test of significance ($X^2 = 15.985$; $df = 4$; $p = 0.003$) indicated that there is a significant relationship between school type and HIV and AIDS information from radio among school-going adolescents. This means that girls' schools and mixed schools are more exposed to HIV and AIDS messages from radio, helping to reinforce safer sexual behaviour. The Contingency

Coefficient Measure of association indicated that school type accounted for 19% of the variations in HIV and AIDS Information from radio among the school-going adolescents.

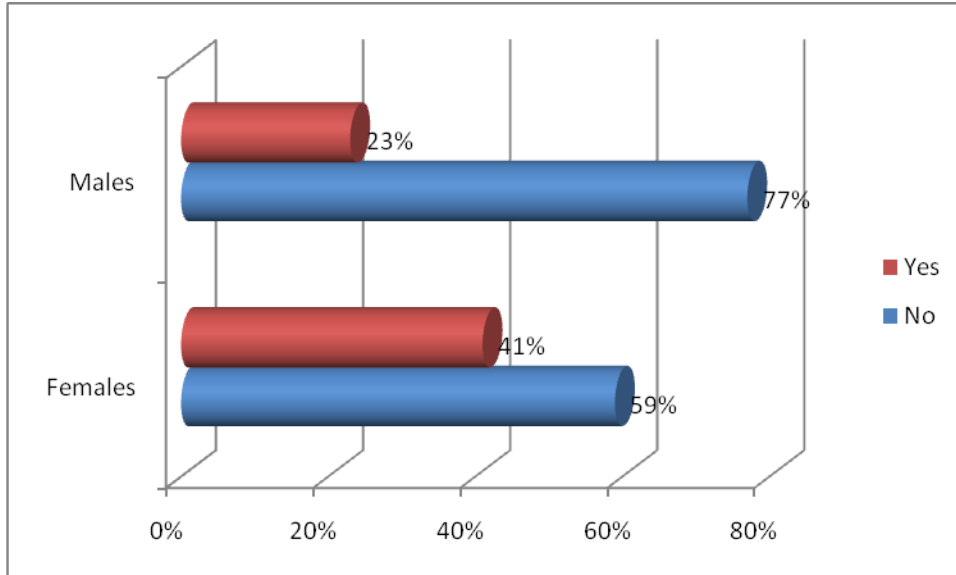
Comparing these results in across-tabulation analysis of the different levels of education, majority of Form Fours (48%) and Form Twos (43%) get HIV information from radio, compared to Form Threes (37%) and Form Ones (39%). However the results of the Chi-Square test of significance ($X^2= 3.078$; $df= 4$; $p = 0.545$) indicated that there is no significant relationship between class and HIV and AIDS information from radio among school going adolescents

4.6.8. Youth-friendly services and application of HIV and AIDS knowledge

Availability of youth-friendly services is important in supporting the prevention of HIV and AIDS among the adolescents. These centres provide awareness on HIV and AIDS, prevention, care and treatment. These services are usually not offered in schools but a good referral system would ensure that the adolescents access them. The findings indicate that 29% of adolescents consider availability of youth-friendly services as a facilitative factor in application of HIV and AIDS knowledge. Disaggregated by gender, more female adolescents (31%) compared to male (25.3%) adolescents consider youth-friendly services as a significant factor in application of knowledge.

In relation to the youth-friendly services, the health providers also serve as a source of HIV and AIDS information for the adolescents. Figure 5.9 shows that more female adolescents (41%) receive HIV and AIDS information from health providers compared to male adolescents at 23%.

Figure 5.9: Perceived role of health providers as a source of HIV and AIDS information



The study sought to find out if adolescents perceived the HIV and AIDS information received from health providers as reliable. Majority of females' adolescents (30%) considered the information reliable compared to 15% males. This finding implies that the female adolescents are more likely to consider seeking support and HIV and AIDS health services from the health facilities compared to males.

In the FGDs in this study, adolescents suggested that interacting with PLWAs will crystallize the urgency of HIV and AIDS prevention. This need is well described by the following statement: *'The adolescents need to visit the hospital to see the people living with HIV and AIDS to get the real picture and hear personal testimonies. Seeing is believing.'* The health providers and youth-friendly services can provide the linkage to meet this need. .

4.7. Perception on reliability of HIV and AIDS information channels for adolescents

The study further assessed which channel of HIV and AIDS information was considered most reliable among the school going adolescents. The results indicated that parents were ranked highest (25%), followed by teachers with 24%.. An interesting entrant in his category is the health provider (23%), who has great potential in impacting the

reproductive and sexual health of adolescents. The least reliable source of information is the church and mosque at 9% then peers at 14%. This broadly means that any effective strategies designed to disseminate information to the adolescents should not ignore media, parents, health providers and the teachers.

Table 5.6 presents detailed information on the different channels of information disaggregated by gender. The most striking result is the fact that only 5% of male adolescents find the church/mosque to be reliable sources of HIV and AIDS information as compared to 11% of the females.

Table 5.6: Perception of Most reliable channels of HIV and AIDS information

Religion	Gender	Most reliable channel of HIV and AIDS for adolescents		
		Yes	No	Total
Peers	Females	(25) 12%	(181) 88%	(206) 100%
	Males	(29) 16%	(153) 84.1%	(182) 100%
Parents	Females	(62) 30%	(144) 70%	(206) 100%
	Males	(35) 19%	(147) 80.8%	(182) 100%
Radio	Females	(33) 16%	(173) 84%	(206) 100%
	Males	(29) 16%	(153) 84%	(182) 100%
Church/mosque	Females	(23) 11%	(183) 89%	(206) 100%
	Males	(10) 5.5%	(172) 94.5%	(182) 100%
Friends	Female	(34) 16.5%	(172) 83.5%	(206) 100%
	Males	(26) 14.3%	(156) 85.7%	(182) 100%
Health providers	Female	(62) 30.1%	(144) 70%	(206) 100%
	Males	(27) 14.8%	(155) 85.2%	(182) 100%
TV	Female	(59) 28.6	(147) 71.4%	(206) 100%
	Males	(34) 18.7%	(148) 81.3%	(182) 100%
Teachers	Females	(48) 23.3%	(158) 77%	(206) 100%
	Males	(45) 24.7%	(37) 75.3%	(182) 100%

4.8. Gaps in the current model of the school-based HIV and AIDS education

This section will highlight gaps that the study has identified in the current school-based HIV and AIDS education model. The gaps will form a basis for an alternative model. The identified gaps range from HIV and AIDS education content, through teaching methodologies to the behaviour outcomes.

The school-based HIV and AIDS education has been found to be lacking in skills. It is taught as a subject in passing because of the integrated nature of the curriculum. The situation is worsened by the exam-driven and overloaded 8-4-4 curriculum. Burdened with a heavy workload and lack HIV and AIDS instructional materials, the teachers are further encumbered by not being well-trained to handle the subject. The HIV and AIDS teaching in schools is de-linked from community contribution like services offered by the community for adolescents, interaction with PLWHIV and acknowledgement of parental, religious and media contribution. The teachers' competency in handling the HIV and AIDS subject in this current model is not well planned and executed. Therefore the main teaching method (lecture) used in this model does not facilitate the learning of skills and change of attitudes among the adolescents.

The current model does not subject the HIV and AIDS education behaviour indicators among the adolescents to monitoring and evaluation. It does not have room for collection and use of data to inform the program. Similarly the current model, while aiming to change individual behaviours and especially increase the knowledge of adolescents, fails to take into account significant contextual and environmental factors that influence their behaviour.

4.9. Proposed contextual school-based HIV and AIDS model

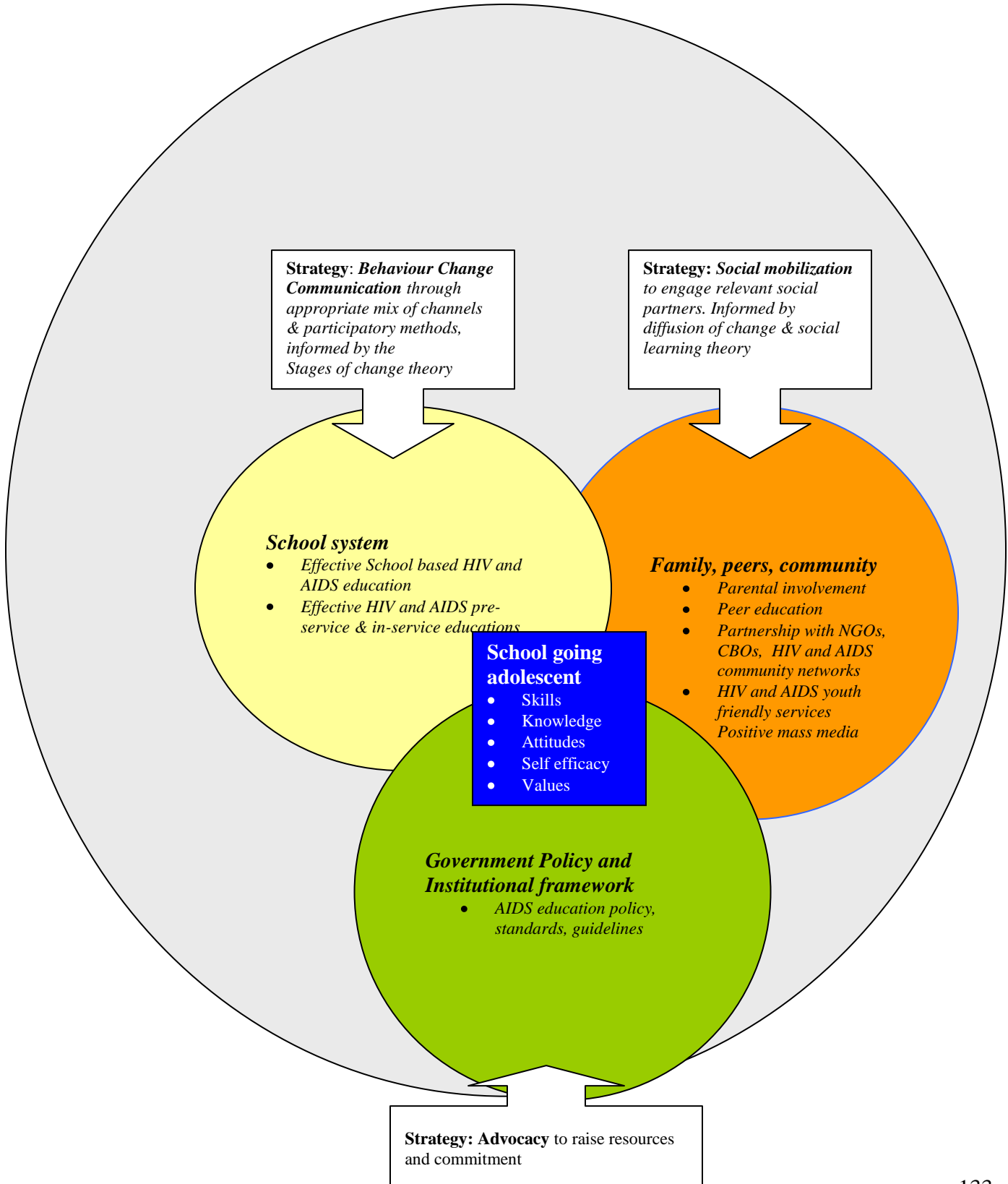
The study has attempted to propose a contextual model that can be used to re-design the school-based HIV/AIDS education to make it more effective in achieving its objectives especially adolescents' behavioural outcomes. To recap, the expected behavioural outcomes of the HIV and AIDS education are: increased students' knowledge about HIV and AIDS, changed attitudes towards risky sexual behaviours, delayed onset of sexual intercourse and increased condom use among sexually active students (Knut-Inge Klepp et al. 1997).

Figure 5.10 is a proposed model by this study that seeks to provide linkage between the school-based HIV and AIDS intervention strategy and the expected outcome of behaviour change. The model takes into account factors that have emerged from the study as influencing the behaviour of adolescents. The theme of this model is a shift from focusing on individual level phenomenon to embracing contextual and environmental factors that are part of the adolescent's life. The study has established a few factors as key elements in the model. It has also identified other important ones that influence the behaviour of the adolescent. At the individual level, there is need to address the skills, knowledge, and attitude of the adolescents. Teacher competency is also key in capacity building, quality assurance and role modelling. Building competencies on monitoring and evaluating school-based behavioural indicators is important. It includes the ability to use data for decision-making and planning. Partnership and a participatory approach are required from peers, family and community. To support and sustain the adoption of adolescent behaviour, an enabling environment is paramount. This includes supportive media, policies, and political will, religion and youth-friendly health services. The study has proposed a school-based HIV and AIDS contextual model which is based on the Social-ecological Theory and Model (McKee et al 2000). This theory views individual behaviour as a product of multiple, overlapping social and environmental influences. It shows how an individual (self) is influenced by family, peers, and community. It is a program conceptual model which shows that there are other "rings of influence" on the individual, all of which can influence change. The proposed school-based HIV and AIDS model uses this theory as a base because it is important for program planners to

understand the underlying reasons why people do or do not change behaviours. This then gives an idea how a desired change can be realized. The model points to the fact that adolescent behaviour needs to be recognized as a component of a set of domains. This means that seeking to influence the adolescent's behaviour alone is insufficient if the underlying social factors that shape the behaviour remain unchallenged. It further implies that minimum social change should be incurred if the positive adolescent behaviour is to be sustainable. These interrelated domains form the basis of a framework that could be used as a flexible guide in modifying school based HIV and AIDS education.

School based HIV and AIDS Education contextual model

Figure 5.10: Proposed School Based HIV and AIDS Contextual Model
An adaptation of Socio ecological model, McKee, et al (2000)



4.9.1. Operationalization of the proposed school-based HIV and AIDS contextual model

The design of the school-based HIV and AIDS model has been motivated by the Socio-ecological Theory whose aim is to address both individual and social change. To support the operationalization of the proposed school-based HIV and AIDS contextual model, the study will further discuss the elements of the model and interpret its key components. This it will do in the context of three behavioural theories to explain why and how people adapt new behaviours. It will also demonstrate the mechanisms involved in the process of change.

The process of facilitating change in both individual behaviours and social conditions through the school-based HIV and AIDS education should be interactive, researched and well-planned. The model has three core segments namely: the school-going adolescents, family/peers/community and the enabling environment. Each of the core segments can be unpacked through different theory-based strategies

At the core of this model is the school-going adolescent who requires the HIV and AIDS preventive education to curb the spread of new HIV infections and hence lower the HIV prevalence among the adolescents. The individual requires HIV and AIDS knowledge, skills, right attitude and values. The immediate focus of the school-going adolescent, therefore, is an effective school-based HIV and AIDS program supported by competent HIV and AIDS teachers/educators. The strategy that can effectively influence the adolescent is behaviour change communication approach. This research-based approach will address his/her needs through identifying, analyzing and segmenting them in the school-based HIV and AIDS education program. Relevant information will be given to the adolescent through an appropriate mix of channels that include classroom-based HIV and AIDS lessons, mass media, group and mass media channels as well as through participatory approaches.

Using the Stages of Change Theory (UNAIDS 1999), which is conceptualised as a five stage process, the education planners can identify where the adolescents are in respect to

knowledge, skills and attitudes. This situation analysis will help the planners design the HIV and AIDS curriculum content which is relevant, timely, accessible and applicable to the different levels of school-going adolescents. The stages of change theory will also help in designing relevant segmented HIV and AIDS curriculum content for the pre-service and in-service teachers. This will build their competence in respect to content and use of non-conventional methods using the behaviour change communication approach. Currently the HIV and AIDS curriculum content is similar for all secondary school classes as well as pre-service training. The behaviour change communication approach through mass media and other participatory approaches will motivate change in adolescents and provide interaction through interpersonal communication.

The next level of the proposed school-based HIV and AIDS model addresses family, peers and community. These have been found by the study to influence the behaviour of the school-going adolescent and are therefore instrumental to both the achievement of the HIV and AIDS behaviour outcomes and the maintenance of them. These groups have therefore to be targeted. The strategy that can be used to influence change and sustain it is the social mobilization approach. This is a process of bringing together all practical inter-related social partners to determine the felt needs of the school-going adolescents, raise awareness and demand for social change in support of the preventive HIV and AIDS education program for adolescents. The social partners that the study identified are peers, parents, people living with HIV and AIDS, institutions and community. The approach calls for wider participation of social partners. The education planners can use two theories to understand the operationalisation of this strategy. The first theory is the Diffusion of Innovations Theory (UNAIDS 1999), which describes how new ideas and practices are spread through social networks over time. The study identified peer influence as a factor that can be exploited to influence behaviour change in adolescents. Therefore education planners can research on how peer education, parental involvement and other community functions or 'rings of influence' can be operationalised to influence and sustain the HIV and AIDS preventive behaviour of adolescents. The education sector HIV and AIDS policy clearly states the importance of partnerships and linkages with the community, but in practice does not enhance them. The second key theory that will

illuminate the critical role of social partners is the Social Learning Theory (UNAIDS 1999). This theory posits that people learn how to behave by observing the actions of others, observing their apparent consequences, checking those consequences for their own lives and rehearsing, then trying those actions themselves. The school-based HIV and AIDS education planners need to collaborate with social/community networks and groups so that key individuals in the community can actively model desired behaviours and participate in school programs. Through sustained effective HIV and AIDS communication and collaborations, social change can occur which will be excellent for the school-going adolescents. It is important that modelling also happens in schools by the teachers and school community.

The third level of the model is the enabling environment which consists of the following social determinants of behaviour: the education sector policies, availability of youth-friendly health services, political support, religion and culture. A supportive environment is important for the initiation and maintenance of HIV and AIDS behavioural outcomes in the adolescents' lives. The strategy that education planners can use to create an enabling environment is advocacy to elicit political and social support for effective school-based HIV/AIDS education. The approach will help in raising resources and commitment for the HIV and AIDS school-based education.

In conclusion, to be able to curb the spread of new HIV infections among adolescents it is important to move beyond the individual level phenomenon to contextual issues through behaviour change communication, social mobilization and advocacy.

Having presented the proposed school-based HIV and AIDS education contextual model, we proceed, in the following chapter, to give a summary of findings, conclusions and recommendations.

Chapter Five: Summary, Conclusions and Recommendations

5.0 Introduction

In this chapter the empirical findings presented in the previous chapter are synthesized and interpreted for purposes of illuminating the main factors on the efficacy of school-based HIV and AIDS education in achieving behaviour change. The empirical findings are also synchronized with past ones to arrive at a fuller understanding of the critical factors of behaviour change among adolescents. The main findings of the research are presented and recommendations for improvement of the HIV and AIDS school-based education given. Policy implications, recommendations and areas of further research will be provided. The summary section is discussed in the following sub-topics:

- Knowledge on HIV and AIDS, sexual behaviour and socio-economic factors affecting adolescents sexual conduct
- School-based HIV and AIDS education content, teaching methods and teacher needs

5.1 Knowledge on HIV and AIDS, socio-economic factors, and sexual behaviour

This section has explored the knowledge level of the secondary school adolescents on HIV and AIDS and their sexual behaviour. The findings on the HIV and AIDS knowledge of adolescents point towards the revelation that they are highly knowledgeable on HIV and AIDS information. These results particularly compare well with the findings of KDHS (2003), BSS (2003), and KAIS (2007), which indicate that the level of HIV and AIDS awareness among Kenyans has been consistently high since the year 2000.

However, This impressive fact does not compare with the evidence that this knowledge has not translated into safer sexual behaviour. A few indicators show that knowledge on its own is not enough to change sexual practices of adolescents. The substantiation will touch on the HIV and AIDS education outcome indicators regarding sex, condom use and abstinence. In this study the mean age at sexual debut among the school going

adolescents is 15 years, it is lower among the males at 14 years. The results of the study showed that sexual contact among the school-going adolescents' occurred between peers.

A gender analysis of the sexual experience showed that males were more sexually-active than females. It further indicated that these males were having more than one sexual partner at a time and were less likely to resist sex. Moreover, the female adolescents mean age of sexual debut was 19 years. Similarly, fewer females engaged in sexual activity and they had relatively fewer sexual partners. On the reverse, they had a lower uptake of condoms compared to their male counterparts. The comparatively low uptake of condoms perhaps explains the high prevalence of HIV and AIDS among Kenyan females of this age group, which is 6.1%, compared to 1.5% among their male counterparts (KAIS 2007). This means that the female adolescents' high knowledge and seemingly safer sexual practices does not contribute to positive outcomes especially at the national level. At the micro-level the discord in knowledge and practice is evident in the low uptake of condoms, high proportion of pregnancies, low risk perception seen through low uptake of HIV test and engagement in risky sexual behaviour. The gender differences in the levels of vulnerability is attributable to the biological setup of women and more so the traditional values and beliefs on sexuality.

Another discord is the high knowledge level on HIV and AIDS and the fact that majority of adolescents engage in risky sexual behaviour. This behaviour is particularly worrying because of the high pregnancy rate which confirms the low uptake of condoms and vulnerability of the adolescents to HIV and AIDS. The low uptake of condoms is attributed to low knowledge on condoms and condom use, uncertainty over their efficacy plus their unavailability. Majority of female adolescents cited unavailability of condoms as a primary reason for their not using them. There is a possible correlation between low condom uptake among the female adolescents and their high uptake among males. Male condoms are more readily available and so bestow the power of decision to use or not to use on males. Female condoms on the other hand are scarce and expensive. Thus the socio-economic and cultural set-ups play a significant role in the gender use of condom as is the case with many other safe sex practices.

It has been observed that female adolescents have seemingly safer sexual practices compared to male adolescents. This may be attributed to the significant parents' role in the school going-females' sexual behaviour. The study has brought out clearly that more females than males rely on parental support in facilitating application of HIV and AIDS' knowledge. Similarly, parents are thus perceived by female school-going adolescents as the most reliable source of HIV and AIDS information. Likewise, there is relatively good communication between parents and their female adolescents on both HIV and AIDS and sexuality issues when the same is compared with male adolescents.

According to the findings, school-going male adolescents are at greater risk and vulnerability to HIV because of their risky sexual behaviours. These risky sexual behaviours among male adolescents include: early sexual debut, high sexual activity, more sexual partners and poor condom use. These risky behaviours in contrast to the females may be attributed to the apparent inactive role of the parent in the male adolescent's sexual life. Therefore to some extent parental involvement seems to bear fruit in the female adolescent's life while lack of it in the male adolescent's life appears generate negative sexual behaviour. Furthermore, there is poor communication on HIV and AIDS and sexuality issues between parents and their male adolescents.

Nonetheless, there are other practices that female adolescents engage in that put them at greater risk of getting HIV and AIDS. The practice of cross-generational relationships between adolescents and people 10 years older commonly refereed to as 'sugar mummy and 'sugar daddy' phenomenon. These relationships driven by want for money are considered by majority of adolescents as the main reason for engaging in risky sexual behaviour. The adolescents attribute their high infection rates to these forms of relationships. It is important to note that the adolescents engage in these relationships primarily for purposes of economic gain.

Another astounding finding is that peer pressure is the main reason adolescents engage in risky sexual behaviour. Additionally, peers are the least source of HIV and AIDS

information. Correspondingly, they are the least-trusted and least-reliable. Yet peers can play a significant role in influencing the behaviour of adolescents. This role can therefore be exploited to provide positive, not negative, influence.

Religious affiliation does not have a significant relationship with sex, abstinence and condom use, and yet 95% of the adolescents are Christians. Therefore religious influence does not affect adolescent's decisions on sex and sexuality. This statistical analysis contradicts the observations made elsewhere in the study that religious support is ranked by the adolescents as the second main facilitating factor in the application of HIV and AIDS knowledge, parental involvement being first. Equally churches have been cited as the least source of HIV and AIDS information. This means that if majority of adolescents are citing religious support as a facilitating factor in behaviour change, the potential of this channel needs to be exploited so that it can have a significant effect in the sexual behaviour of adolescents. The prospect of reaching out to the parents through religious institutions can also be exploited so they can be equipped with HIV and AIDS information for greater impact in the lives of the adolescents.

The following is a summary of key findings in this section;

- The adolescents have high HIV and AIDS knowledge level
- Most (69%) of the adolescents are abstaining from sex and 80% believe they can abstain from sex until marriage. Most of those who have sexual contact have had it with peers. During this first sexual intercourse majority did not use condoms. More Form Fours (52%) have engaged in sex compared to Form Ones (9%)
- More male adolescents are sexually active (48%) compared to females (15%). Most male adolescents have more than one sexual partner
- There is a significant relationship between school type and sex. Forty-four (44) per cent of adolescents from mixed schools and boys' schools have had sex compared to 11% from girls' schools.
- There is no significant relationship between adolescents who live in rural or urban areas regarding abstinence and sex. Adolescents living with fathers only are likely to engage in early sex compared to those who live with mothers only and both parents.

- There is a generally low uptake of HIV and AIDS test. However more Form Fours have taken the HIV test compared to other classes.
- There is a perception that majority of adolescents engage in risky sexual behaviour.
- Pregnancy among the adolescents is very high. This trend confirms low uptake of condoms and the perception on risky sexual practices. Low uptake of condoms is attributed to its unavailability.
- Peer pressure is the main reason given for engaging in risky sexual behaviour. The female adolescents consider want for money as the main reason and male adolescents curiosity as the second main reason.

5.2 Content, Teaching Methodologies and Teacher Needs of School based HIV and AIDS Education

From the main findings presented, adolescents and teachers have indicated that the teaching of HIV and AIDS in school does not play a big role in facilitating the application of that knowledge. They consider the HIV and AIDS education's content to be ineffective in changing behaviour. HIV and AIDS education is expected to increase knowledge which leads to behaviour change, and which is expected to translate into prevention of new HIV infections. The main reasons the adolescents give for the ineffectiveness of the program are lack of skills, teaching of it as a subject in passing and the dissociation of the education from community. The other reason is related to teacher needs: the teachers have insufficient training to handle this subject, have a high workload and lack HIV and AIDS instructional materials. Therefore it emerges that the key finding concerning teachers is that they lack the competence to successfully deliver the HIV and AIDS knowledge to enable students practice what they have learnt. Other scholars like Malambo (2000) argue that much of HIV and AIDS-related education takes place within curriculum subjects and so thinly-spreading and de-emphasising the HIV and AIDS components in the integrated curriculum. He further states that the teachers noted that lack of knowledge and skills, training opportunities, teaching and learning materials have been a barrier to effective implementations. Nzioka, (2005) argues that educators may lack the competence and commitment to teach about HIV and AIDS in already crowded and exam-driven curricula.

To determine the extent to which the school-based HIV and AIDS education relate to translation of knowledge into safer behaviours, the study considered the relationship between different parameters of the HIV and AIDS education and parameters on sexual practices. Some of these practices are abstinence, use of condoms for the sexually-active, having one sexual partner and adopting new attitudes against risky sexual practices. It emerged that the main factors that facilitate the application of HIV and AIDS' knowledge into positive sexual behaviour outcomes are parental involvement, religious support and personal effort. It is not HIV and AIDS education taught in schools. Additionally,

parents, media and health providers are the main trusted sources of HIV and AIDS information. This finding means that the school-based HIV and AIDS' education has not fulfilled its role as the main source of information on HIV and AIDS and an agent for behaviour change among school-going adolescents. In essence, school-based HIV and AIDS' education on its own is not effective in developing and changing behaviour of adolescents. What is noticeable in this finding is that other social determinants beyond the school-based ones play a role in shaping the sexual behaviour of the adolescents. This means that multi-faceted channels need to be utilized to compliment the information provided in schools. It emerges that HIV and AIDS education conforms to the following two theories; Health Belief Model (Rosenstock, Strecher and Becker, 1994), and the Theory of Reasoned Action (Fishbein, Middlestadt and Hitchcock, 1994). The theories denote behaviour change as an individual phenomenon, and therefore focus the design of school-based HIV education on an individual level intervention. Based on the findings that parental involvement, religious support and media are key elements in adolescents' behaviour, focus on situating adolescents' behaviour change in a broader contextual domain to cater for these environmental factors.

The results also point towards teaching methodologies as an aspect contributing to the ineffectiveness of the HIV and AIDS education. Lecture method is the commonly used mode of teaching HIV and AIDS in schools. However, adolescents find it the least effective. Correspondingly, lack of skills which include life skills, practical skills, and cognitive skills were found to be contributing to the ineffectiveness of the HIV and AIDS education. Of interest to note is that video presentations are considered the most effective methods of passing information on HIV and AIDS. This method was found to be prevalent in girls' schools. There could also be a possible relationship between this method of learning HIV and AIDS and the relative positive sexual behaviour of female adolescents. These safer sexual practices among the female adolescents include: majority are able to abstain from sex, fewer are sexually-active and they have a higher sexual debut age (19 years). Therefore the method used in teaching HIV and AIDS maybe a predictor of positive sexual behaviour. The links between methods of teaching and behaviour change have been noted by other scholars like Kirky (1994) who advocate for

utilization of non-conventional methods of teaching HIV and AIDS to improve effectiveness of learning. The challenge with this current method of teaching HIV and AIDS education in school is that it does not support skills-building, and does not receive serious attention from teachers who, the study found out, are overworked and not competent to address it. The Social Cognitive Theory by Bandura, (1986) & (1989) clearly states that the benefits of performing behaviour should outweigh the costs or negative outcomes. Additionally; the learners must have a sense of self-efficacy with respect to performing the HIV and AIDS preventive behaviour. The HIV and AIDS school based education can be re-designed with lessons from the Social Cognitive Theory, on benefits and costs of negative outcomes as well as self-efficacy issues.

The key findings in this section are as follows:

- Majority of adolescents consider the HIV and AIDS education content to be inadequate and ineffective in the prevention of new HIV infections.
- The HIV and AIDS education lacks teaching of skills since it is facts-based. The integrated nature of the subject makes it appear shallow, and is taught with the appearance of a subject in passing.
- The teachers have inadequate training on HIV and AIDS and lack instructional materials. Additionally, majority of them find the HIV and AIDS content inadequate and ineffective in helping them influence positive sexual behaviour of the adolescents.
- Lecture is the most commonly used HIV and AIDS teaching method but is the least effective according to the adolescents. Use of video presentations and drama are, on the other hand, most effective.
- The other main sources of information for school-going adolescents are radio, parents, and television in that order. The least source of HIV and AIDS information are the peers, friends and church. This means that majority of this age group do not get HIV and AIDS information from peers.
- More females compared to males get HIV and AIDS information from parents. Similarly, more female adolescents from girls' schools get HIV and AIDS information from parents compared to males in boys' schools

- Parents are considered the most reliable source of HIV and AIDS information, while peers and church are the least.
- The school-based HIV and AIDS education is de-linked from the community and no inter-dependent partnerships exist to address the issues on school-going adolescents and HIV and AIDS
- There is a significant role of parental involvement in the facilitation of application of HIV and AIDS knowledge. This involvement is significant among the female adolescents compared to males.
- Religious support is the second most important factor in the facilitation of application of HIV and AIDS knowledge.

5.3 Conclusion

In the foregoing discussions, several factors on school-based HIV and AIDS education and adolescents have been explored, most of them pointing to the existing knowledge and practice gaps manifested in the risky sexual practices. There is emerging evidence that the high HIV and AIDS knowledge level among adolescents has not been translated into safer sexual practice. This gap is worrying because despite high levels of awareness about HIV and AIDS and the adoption of school-based HIV and AIDS education, knowledge and practice gaps still persist among adolescents.

The perception of teachers on the school-based HIV and AIDS education clarifies the important link between HIV and AIDS teacher training and adolescents HIV and AIDS knowledge and ability to practice the safer behaviours. It should be noted that apart from emphasis on the individual adolescent and the curriculum, teachers have a bigger role to play in the adoption and maintenance of safer sexual practices among the adolescents.

In- and out-of-school factors that have clearly drawn attention to the need to address not only individual level phenomenon as is the case with the existing school-based HIV and AIDS education, but also the wider influences that promote, reinforce and maintain adolescents' protective behaviour. Important factors discussed here include: parental involvement, positive mass media exposure, religion, peer education, government policy, and health providers. The conclusion here is that there is a missing link between the schools-based HIV and AIDS education and the other broader influential factors in the community that influence the behaviour of individuals. Drawing from the examined indicators, it is possible to conclude that knowledge is not a sufficient condition to change the behaviour of adolescents.

Success in rolling back the HIV and AIDS epidemic among this age-group along with its impact is heavily dependent on full involvement of other contextual factors and social determinants that affect an individual's behaviour. While aspects of the school-based HIV education are desirable and should be maintained, a broader focus is needed to

overcome its limitations. According to CDC 1998, a multifaceted approach to HIV and AIDS prevention, which includes individual, peer, familial, school, and church and community programs is necessary. On the other hand, Di Clemente (2003) argues that emerging evidence indicates that a spectrum of contextual factors and exposures are prominent and interact with each other in promoting or preventing adolescents' HIV-associated sexual behaviour. These include psychological, social, relational, familial, elemental, structural, environmental and cultural factors.

In conclusion to this chapter, there are many other factors external to the adolescent that impinge on his/her HIV and AIDS outcome indicators. It has been revealed that to a large extent the domain of context are practically universal in school-based HIV and AIDS education preventive health behaviour. They are both individual level and contextual phenomenon. This conclusion calls for the re-engineering of the existing HIV and AIDS education based on the proposed model. These spheres of influence include: the school-going adolescent, school-based HIV and AIDS education, HIV and AIDS pre-service and in-service training, family, peers, community and enabling environment. These are to be operationalized through the following three approaches: interactive research-based and planned advocacy; socio mobilization and behaviour change communication.

5.4 Recommendations

The study provides two sets of recommendations. The first relates to practices that can improve the sexual behaviour change of the school-going adolescents through practical actions or policy interventions. The second provides information on the areas that may require further investigation.

5.4.1 Recommendations for Practice

The following recommendations can help improve the transition of HIV and AIDS knowledge to the desired sexual behaviour change.

1. Revise the HIV and AIDS curriculum based on the proposed school-based HIV and AIDS contextual model to embrace both individual and social change in influencing and sustaining positive behaviour outcomes. The model incorporates the skills, knowledge, attitudes, values and effective school-based HIV and AIDS education. It further incorporates effective HIV and AIDS pre-service and in-service training, involvement of family, peers, community and creation of an enabling environment. Some of the specific recommendations are as follows:
 - Revise the pre-service curriculum to embrace the relevant non-conventional pedagogical approaches
 - Develop a capacity-building program for in-service teachers;
 - Introduce teaching of life skills and peer education
 - Develop strategies within the curriculum to engage parents, community and partnerships.
2. To operationalise the contextual model, the study proposes three approaches to influence the individual and the social context within which the individual operates. The operationalization can be done both within the school-based system as well as in partnership with the community and civil society. These approaches are behaviour change communication to influence individual change, social mobilization for community involvement and partnerships and finally advocacy for political and social commitment.

3. Develop a system to monitor and evaluate the effectiveness of school-based HIV and AIDS education and both its technical and behavioural outcomes and impact.

5.4.2 Recommendations for Policy

The following policy recommendations can help to provide an enabling environment for effective implementation of the school-based HIV and AIDS contextual education.

1. Strengthen HIV and AIDS education policy implementation to bridge the gap between policy, curriculum provisions and practice;
2. Develop a school-based HIV and AIDS implementation strategy that will embrace the proposed approaches to link the school-based interventions, out-of-school strategies and the AIDS sector policy.

5.4.3. Recommendation for Further Research

The following areas may require further studies to shed more light into the sexual practices and behaviour change dynamics among school-going adolescents.

1. The effectiveness of pre-service/college HIV and AIDS education in preparing teachers to deliver the HIV and AIDS' content that leads to behavioural outcomes.
2. Bridging the dissonance in AIDS policy, curriculum provisions and curriculum implementation.
3. Cost benefits analysis of the HIV and AIDS' stand-alone v/s HIV and AIDS integrated approach.

REFERENCES

- Action Aid. (2003).** *The Sound of Silence: Difficulties in Communicating on HIV and AIDS in Schools, Experiences from India and Kenya.* London:
- Aggleton Peter & Boler Tania/ ACTION AIDS (2004).** *Life skills based education for HIV prevention: a critical analysis.* Policy and research: ISSUE 3
- Aggleton, P. J. & Rivers, K. (1999)** *Behavioral Interventions for Adolescents,* in: L. GIBNEY, R.
- Ajen, I., Fishbein, M. (1980).** *Understanding attitudes and predicting social behaviour.* New Jersey: Prentice-Hall, Inc.
- Amuyunzu-Nyamongo, M.; L. Tendo-Wambua, B. Babishangire, J. Nyagero, N. Yitbarek, M. Matasha and T. Omurwa. (1999).** *Resistances to Behavioural change to reduce HIV and AIDS infection.* AMREF.
- Ashworth, C.S., et al. (1992).** *An evaluation of a school-based AIDS/HIV education programme for high school students.* Journal of adolescent health (Palo Alto, CA), vol. 13, no. 7, p. 582–88.
- Ballard, D. J., White, D. M., & Glascoff, M. A. (1990).** *AIDS/HIV education for pre-service elementary teachers.* Journal of School Health
- Bandura, A. (1989).** *Perceived self-efficacy in the exercise of control over AIDS infection.* (pp. 128-141). London: Sage Publications.
- Barthes-Hoffman, A. (2001).** *AIDS and FRESH. Presentation at the Experts Meeting on HIV and AIDS and Education.* Elmina, Ghana, March 2001.)
- Best J. and Khan J. (1992)** *Research in Education,* Prentice Hall, New Delhi
- Black, J. L., & Jones, L. H. (1988).** *HIV infection: Educational programs and policies for school personnel.* Journal of School Health, 58(8)
- Blanc, A. K. (2000).** *The Relationship between Sexual Behaviour and Level of Education in Developing Countries.* Geneva, Switzerland, UNAIDS.
- Boler, T. and P. Aggleton (2005).** *Life skills education for HIV prevention: a critical analysis.* London, Save the Children and ActionAid International.
- Bundy D. (2002).** *Education and HIV and AIDS: A Window of Hope.* Washington DC, The World Bank

- Caldwell, J.C., I.O.Orubuloye and P. Caldwell. (1992).** *Underreaction to AIDS in Sub-Saharan Africa.* *Social Science and Medicine* 34, 11: 1169-1182
- Catania, J.A., Kegeles, S.M., and Coates T.J. (1990).** *Towards an understanding of risk behavior: An AIDS risk reduction model (ARRM).* *Health Education Quarterly*, 17(1), 53-72.
- Centers for Disease Control. (1998).** *Guidelines for effective school education to prevent the spread of AIDS.* *Morbidity and Mortality weekly report*
- Cohen, D. (2002).** *Human capital and the HIV epidemic in Sub-Saharan Africa,* working paper 2. Geneva: ILO program on AIDS and World Bank.
- Colleta, J. N., Balachander, J. & Liang, X (1996).** *The condition of young children in Sub Saharan Africa- The Convergence of Health, Nutrition and early education.* Washington, DC: The World Bank.
- Coombe, C. (2000a).** “*Keeping the Education System Healthy: Managing the Impact of HIV and AIDS on Education in South Africa.*” *Current Issues in Comparative Education* 3(1). Available at: www.tc.columbia.edu/cice/vol03nr1/ccart1.htm.
- Coombe, C., and M. Kelly. (2001).** “*Education as a Vehicle for Combating HIV and AIDS.*” *UNESCO Prospects* XXXI(3): 435–45.
- Crosby, R. (1996).** *Combating the illusion of adolescent invincibility to HIV and AIDS.* *Journal of school health* (Kent, OH), vol. 66, no. 5, p. 186–90.
- Denson, D.R., et al. (1993).** *Factors that influence HIV and AIDS instruction in schools.* *Adolescence* (San Diego, CA), vol. 28, no. 110, p. 309-14.
- Diclemente & S. Vermund (2003).** (Eds) *Preventing HIV Infection in Developing Countries* (New York, Kluwer/Plenum Press).
- Donenberg G, Wilson H, Emerson E, and Bryant F (2005)** “*Holding the line with a watchful eye: the impact of perceived parental permissiveness and parental monitoring on risky sexual behavior among adolescents in psychiatric care*”
- Family Health International (2004)** “Africa regional forum on youth reproductive health and HIV” Youth Net www.fhi.org/en/youth/youthnet
- Fassin D, and Schneider H (2003)** “*The politics of AIDS in South Africa: beyond the controversies*” *British Medical Journal*_vol.326: 495- 497
- FHI/ USAID (2005).** *Evaluation of SHAPE 1; Strengthening HIV and AIDS partnerships in Education School based peer education program.*

- Fishbein, M., Middlestadt, S.E., and Hitchcock, P.J. (1994).** *Using information to change sexually transmitted disease related behaviors.* (pp. 61-78). New York: Plenum Press.
- Fraenkel W and Wallen K (1993)** *Determining reliability of research instrument.* Oxford: Pergamon Press
- Gachuhi, D. (1999).** “*The Impact of HIV and AIDS on Education Systems in the Eastern and Southern Africa Region and the Response of Education Systems to HIV and AIDS: Life Skills Programs.*” Paper prepared for UNICEF presentation at the Sub Saharan Africa Conference on EFA 2000, December 6–10, 1999, Johannesburg, South Africa.
- Global campaign for education, (2004).** *Learning to survive. How education for all would save millions of young people from HIV and AIDS.*
- Government of Kenya MoEST (2001).** *National HIV and AIDS Preventive Education in Primary schools, secondary schools and teacher training colleges.*
- Government of Kenya; UNICEF Country Office, (2000).** *The Impact of HIV/AIDS on education in Kenya, and the Potential for using education in the widest sense of the prevention and the control of HIV and AIDS*
- Green, B.; Edward C. and Kim Witte. (2006) Can Fear Arousal in Public Health Campaigns Contribute to the Decline of HIV Prevalence? *Journal of Health Communication.* 11: 245-259.
- IBE-UNESCO (2005).** *The quality imperative; assessment of curricular response in 35 countries for EFA monitoring report 2005*
- Inon Schencker (2001).** *New challenges for school AIDS education.* Prospects, vol. XXXI, no. 3, September 2001
- James, S.; SP Reddy ; M. Taylor ; CC Jinabhai. (2004).** Young people, HIV and AIDS/STIs and sexuality in South Africa: the gap between awareness and behaviour *Acta Paediatrica*, Volume 93
- James, S.; SP Reddy; M. Taylor ; CC Jinabhai: February (2004).** *Young people, HIV and AIDS/STIs and sexuality in South Africa: the gap between awareness and behaviour Acta Paediatrica*, Volume 93, Issue 2, pages 264 - 269
- Jessor, Richard. (1998). *New perspectives on adolescent risk behavior.* Cambridge, UK: Cambridge University Press.
- Kane, E. (1995).** *Seeing for yourself: Research Handbook for girls in Africa.*

- KDHS, MOH, KEMRI (2003).** *Kenya demographic and health survey 2003: key findings.* CBS, MoH, KEMRI, Nairobi.
- Kelly, M. J. (1999).** “The Impact of HIV and AIDS on Schooling in Zambia.” Paper presented at the XIth International Conference on AIDS and STDs in Africa, Lusaka, Zambia.
- Kelly, M. J. (2000).** *The Encounter between HIV and AIDS and Education.* Harare, UNESCO Sub-Regional Office for Southern Africa
- Kelly, M. J. (2003).** *AIDS in Africa: three scenerios to 2025.* Commonwealth Youth development
- Kelly, M.J. (1999).** What *HIV and AIDS can do to education and what education can do to HIV and AIDS.* Paper presented to the All African conference on education for all by the year 2000, held at Johannesburg, South Africa
- Kelly, M.J. (2002).** *Defeating HIV and AIDS through Education.* Paper for Presentation to the National Conference on HIV and AIDS and the Education Sector – An Education Coalition Against HIV and AIDS, Midrand, South Africa, 31 May 2002
- Kerlinger, F. N. (1973)** *Foundations of Behavioural research.* Holt-Rinehalt and Winston Inc. New York
- Kiargu, K., M. Kimani, C. Manathoko, and C. Mackenzie. (2006).** “*Teachers matter: Baseline findings on HIV-related needs of Kenyan teachers,*” Horizons Research update. Washigton, DC: Population Council.
- KIE (1999).** *AIDS Education Facilitators Handbook. An AIDS education project for youth in and out of School*
- KIE (1999).** AIDS education syllabus for schools and colleges. MoE Republic of Kenya. Undated. *Education sector policy on HIV and AIDS.*
- KIE (2002).** *Life skills for behaviour change; Facilitators handbook.*
- Kilian, A., Gregson S., Ndyabangi B., Walusaga K., Kipp W., Sahlmuller G., Garnett G.P., Asimwe-Okiror G., Kabagambe G., Weis P. & von Sonnenburg, F. (1999).** *Reductions in Risk Behaviour Provide the Most Consistent Explanation for Declining HIV-1 Prevalence in Uganda.* *AIDS*, 13: 391-398.
- Kirby, D., (1995).** *Sexual and HIV and AIDS education in Schools.* British Medical Journal (London), no. 311, p. 403

- Kirby, D., Barth, R. P., Leland, N., & Fetro, J. V. (1991).** Reducing the risk: Impact of a new curriculum on sexual risk-taking. *Family Planning Perspectives*
- Kirby, D., Short, L., Collins, J., Rugg, D. et al. (1994).** *School-based Programs to Reduce Sexual Risk Behaviours: A review of effectiveness. Public Health Reports*, 109(3): 339-361.
- Malambo R. (2000)** *Teach them while they are young, they will live to remember: the views of teachers and pupils on the teaching of HIV and AIDS in basic education: A case study of Zambia's Lusaka and Southern Provinces.* *Current Issues in Comparative Education* 3.
- Malambo, Rosah Moongo (2000).** *Teach them while they are young, they will live to remember; a case study of Zamia's Lusaka and Southern Provinces.* Teachers college, Columbia education
- McKenzie, G. et al. (1997)** Understanding Social Research perspectives on methodology and practice. London, he Falmer Press.
- McKee, N., E. Manoncourt, Chin S. Y. and R. Carnegie (Eds.) (2000)** *Involving People, Evolving Behavior*, New York: UNICEF, Penang, Malaysia: Southbound
- Ministry of Health Kenya (2005).** **AIDS** Kenya, Trends and Interventions 7th edition. Nairobi. National AIDS and STIs Control Program (NAS COP)
- Moser I and Kalton N. (1977)** *Educational Statistics*, NY Publishers, New York
- NAS COP/CDC (2005).** *Sentinel Surveillance of HIV and STDs in Kenya report*
- National AIDS Control Council (2005).** *Kenya National HIV and AIDS Strategic Plan 2005/6 – 2009/10.* A Call to action.
- National AIDS Control Council (2005).** *National HIV/ADS Monitoring and Evaluation Framework.* Republic of Kenya
- National AIDS Control Council. (2007).** National HIV prevalence in Kenya. Nairobi
- National Cancer Institute. (UNAIDS 1999) *Theory at a Glance. A guide for Health Promotion Practice Global HIV Prevention Working Group Behavior Change and HIV Prevention: (Re) Considerations for the 21st Century;: Sexual Behavioural Change for HIV: Where have theories taken us?*
- Nyirenda M. Jenny/ Schenker I. Inon (2002).** *Preventing HIV and AIDS In Schools. Best practices series -9.* International Academy of Education
- Nzioka, C. (2005).** *Contextualizing HIV and AID in educational planning and management: Training needs assessments for educational planners and managers*

in Ethiopia, Ghana, Kenya and Rwanda. Report presented at the ADEA partner Workshop on HIV and AIDS and Education, 11-14 may 2005,Entebbe, Uganda.

- O’Flaherty, J. (1995).** *Intervention in the early years: An evaluation of the high scope curriculum.* London: National Children’s Bureau
- Odhiambo, Akoth. (2003).** *A study to compare HIV and AIDS curriculum implementation in selected Middle Tennessee schools and Kisumu District schools, Kenya.* Tennessee state University
- Ogletree, R., et al. (1995).** *An assessment of twenty-three selected school-based sexuality education curricula.* Journal of school health (Kent, OH)
- Olaronke L, Ankomah A, Anyanti J and Omoregie G (2003)** “*perceptions of gatekeepers about sexuality and HIV in Nigeria and implications for designing youth programs*” Havard center for population and development studies. Vol 13:9
- Panos Institute (2003).** *Missing the message? 20 years of learning from HIV and AIDS.* SIDA/NORAD
- Pinker, Steven (1997).** *How the Mind Works* , New York: W. W. Norton & Company.
- Population Service International (2006)** *Campaign tackles barriers to abstinence among African youth The Profile*
- Prochaska, J.O., DiClemente, C.C. and Norcross, J.C. (1992).** *In search of how people change—applications to addictive behaviours.* American Psychologist,
- Ragon, B., et al. (1995).** *The effect of a single affective HIV and AIDS educational programme on college students’ knowledge and attitudes.* *AIDS education and prevention*
- Republic of Kenya, Ministry of Education, Science and Technology, (2004).** *Education sector policy in AIDS May 2004.*
- Rosenstock I., Strecher, V.,and Becker, M. (1994).** *The Health Belief Model and HIV risk behavior change.* New York : Plenum Press.
- Rossett, Allison & Sheldon, Kendra (2001).** *Beyond the Podium: Delivering Training and Performance to Digitaal World.*
- Rosso, D. M. & Marek, T (1996).** *Class action – improving school performance in the developing world through better health and nutrition.* Washington, DC: The world bank

- Roy Carr-Hill, Kamugisha Joviter Katabaro, Anne Ruhweza Ktahoire, Dramane Oulai, (2002).** *Education in the context of HIV and AIDS. The impact of HIV and AIDS on education and institutionalizing preventive education.* International institute for educational planning
- Schenker, I.; Sabar-Friedman, G., Sy. F. (1996).** *AIDS education: interventions in multi-cultural societies.* New York, NY, Plenum.
- Shaeffer, S. (1994).** *The impact of HIV and AIDS on education: a review of literature and experience.* Paris, UNESCO
- Siegel, D., et al. (1996).** *Change in junior high school students' AIDS-related knowledge, misconceptions, attitudes, and HIV-preventive behaviours: effects of a school based Intervention.* Journal of community health (New York, NY)
- Smith G., Kippax S. and Aggleton P. (2000).** HIV and Sexual Health Education in Primary and Secondary Schools. Findings from selected Asia-Pacific Countries, University of New South Wales
- UNAIDS (1997a).** *Impact of HIV and Sexual Health Education on the Sexual Behavior of Young People: A review update.*
- UNAIDS (1999).** *Sexual Behavioural Change for HIV: Where have all the theories taken us?*
- UNAIDS (1999b)** *School health education to prevent AIDS and STD.* Geneva, Switzerland,
- UNAIDS (2004).** *HIV and young people; the threat for today's youth*
- UNAIDS (2006.)** *Report on the global AIDS epidemic.* Geneva
- UNAIDS IATT (2003).** *HIV and AIDS and Education: From Policy to practice- what works in the foral education sector?* Report on symposium hosted by Development Cooperation Ireland
- UNAIDS Inter Agency Task Team on Education (2006).** *Quality Education and HIV and AIDS*
- UNAIDS. (1997).** *Learning and teaching about AIDS at school.* Geneva, Switzerland,
- UNAIDS. (1999a).** *Sexual behavioural change for HIV where have theories taken us?*
- UNAIDS. (2000).** *Report on the Global HIV and AIDS Epidemic.* Geneva, Switzerland.

- UNAIDS. (2003).** *HIV and AIDS and Young People: Hope for tomorrow.* Geneva, Switzerland.
- UNAIDS. (2005).** *Report on the Global HIV and AIDS Epidemic.* Geneva, Switzerland.
- UNESCO, (2004).** *Education in the context of HIV and AIDS. The HIV challenge to education. a collection of essays.* International institute for educational planning
- UNESCO. (2001).** *School-based interventions and services: best practices in AIDS education.*
- UNFPA(2005)** “state of world population”
<http://www.unfpa.org/swp/2005/english/ch1/index.htm>
- Valerio, A.; D.A.P. Bundy; M. Beasley; The World Bank (2008).** *Education and HIV and AIDS: A Sourcebook of HIV and AIDS Prevention Programs - Volume 2: Education Sector-Wide Approaches*
- Walker, N (1985)** *Educational Research* , WC publishers, Washington DC
- WFP, (2006).** *Literature review on the impact of education levels on HIV and AIDS prevalence rates*
- World Health Organization (2006)** “*Pregnant adolescent: Delivering on global promises of Hope*”
- World Health Organization (2006).** *Preventing HIV and AIDS in young people: A systematic review of the evidence from developing countries.* WHO technical review series: No 938

APPENDIX 1: QUESTIONNAIRE FOR STUDENTS:

Self Administered Interviews For Students

DO NOT put your name on this survey. Your answers will be kept secret. No one will know how you answered these questions.

Section 1: Background characteristics

1.1 Name of school _____

1.2 Class _____

1.3 Which of the following describe the type of your school?

Girls Boarding School

Boys Boarding School

Mixed Day school

Girls Day school

Boys Day school

1.4 Which of the following describe the school you attended in primary school prior to joining this secondary school?

Mixed Public Day School

Mixed Public Boarding School

Mixed Private Day School

Mixed Private Boarding School

Boys only or girls only Boarding School

Other (*Specify*) _____

1.5 When were you born? Day_____Month_____Year_____

1.6 Indicate your sex Female Male

1.7 Which of the following describe your religion?

Catholic

Protestant

Muslim

Other (*Specify*) _____

1.8 (a) When out of school whom do you stay with?

Both Parents

My father only

My mother only

Guardian

Other (specify) _____

(b) If staying with guardian what is the relationship between you and the guardian?

Explain

1.9 (a) Are both of your parents alive? Yes No

(b) If NO to above which of the following describe the status?

Both parents are not alive

My mother is not alive

My father is not alive

1.10 If parents are alive where are they staying our rural home in an urban centre

1.11 Which of the following describe your family set-up?

Single parents

Monogamous family

Polygamous family

Other (*Specify*) _____

1.12 a) What is your guardians major occupation?

An employ with the government

An employee with a private sector

An employee with an NGO

Business person

Farmer

Other (Specify) _____

1.12b) If you stay with both parents what is the major occupation of:

1. Mother _____

2. Father _____

1.12c) If you stay with your mother what is her major occupation?

1. _____

1.13 What is your mother's (*or your guardians wife's-If mother not alive*) highest level of education?

None formal education

Primary

Secondary

University

1.14 What is your father's (*or guardian-if father not alive*) highest level of education?

None formal education

Primary

Secondary

University

1.15 How many brothers and sisters do you have? _____ Brothers _____
Sisters

SECTION 2: INDICATORS OF KNOWLEDGE AND BEHAVIOUR

2.1 The following are some statements about HIV and AIDS. Read each question carefully and ***Tick one*** answer that best fits the statement

- | | I am sure
it's true. | I think it's
true | I don't
know | I think
it's
false. | I am
sure it's
false |
|---|--|----------------------|-----------------|---------------------------|----------------------------|
| 1 | Can the HIV infection be avoided by having sexual contacts with only one faithful uninfected partner who has no other partner? | | | | |
| 2 | Can a person get HIV from mosquito bites? | | | | |
| 3 | Can a person get HIV by using a toilet together with a person who is HIV positive? | | | | |
| 4 | Can a person get HIV by sharing food with someone who is infected? | | | | |
| 5 | Can a person reduce the risk of getting HIV by using a condom every time they have sex | | | | |
| 6 | Can a healthy looking person have HIV? | | | | |
| 7 | At this time, there is no cure for AIDS | | | | |
| 8 | You can't get AIDS if you have sex only once or twice without a condom | | | | |
| 9 | One can get HIV by sharing sharp objects like Razor blades | | | | |

- 10 A teacher who has the HIV and AIDS virus should he/she be allowed to continue teaching in school
- 11 A student who has the HIV and AIDS virus should he/she be allowed to continue studying in this school
- 12 The virus that causes AIDS is found in the blood.

3.0 INDICATORS ON SEXUAL BEHAVIOUR

3.1 (a) Have you ever had sexual intercourse?

[] Yes [] No

If your answer to question 3.1 is NO please skip to Qs 3.10

(b) If you have ever had sexual intercourse, which year was this?

(c) How old were you when you had this first sexual intercourse?

(d) Which of the following describe the age of your first sexual partner?

[] An adult older than me

[] Age mate (*Person aged 5 years less or more than you at that time*)

[] A person younger than me (*5 Years or more less than your age*)
Other

(specify) _____

(e) During this first sexual intercourse did you and your partner use a condom?

[] Yes [] No

(f) During this first sexual encounter did you visit a Voluntary Counselling and Testing (VCT) centre before sexual intercourse?

[] Yes [] No

(g) Can this encounter during your first sexual intercourse be described as forced sex

[] Yes [] No

Explain your answer

-
-
- (h) What was the relationship between you and your partner at first sexual intercourse?
- My class mate or school mate
 - My teacher
 - My relative
 - Family friend
 - Other (*Specify*) _____
- 3.2 If you have ever had sexual intercourse have you ever used a condom?
- Yes No
- 3.3 If you have ever had sexual intercourse which of the following best describe your pattern of use of condom?
- I use condom always in all my sexual encounters
 - I use condom most of the times but not all the times I have sexual intercourse
 - I use condom some of the times I have sexual intercourse
 - I rarely use condom every time I have sexual intercourse
 - I don't use condom at all when I have sexual intercourse
- 3.4 In the past 12 months have you had any sexual intercourse?
- Yes No
- 3.5 If your answer to question 3.4 is **Yes** how many different sexual partners have you had in the past 12 months?
- One
 - Two
 - Three
 - Four
 - More than four
 - Other -----
- 3.6 Did you use a condom in your most recent contact?
- Yes No
- 3.7 If you used a condom in this last sexual encounter what motivated or helped you to use it? *Tick all that apply*
- HIV and AIDS Knowledge
 - Condom availability
 - Partner cooperation
 - Peer support or education
 - Fear of pregnancy
 - Fear of HIV
 - Other (*Specify*) _____

3.8 If you did not use a condom in the last sexual encounter what made you not to use it?

-] Did not know about a condom
-] Condom not available
-] Condoms not effective
-] Partner did not cooperate
-] Trusted partner
-] Religion
-] Other (*Specify*) _____

3.9. In your opinion which of the following can help improve the use of condom?

-] Teach on skills of using a condom
-] Avail condoms
-] Teach on negotiation and communication skills
-] Other (*Specify*) _____

3.10. If you had a girlfriend or boy friend and you don't wish to have sexual intercourse with him or her how confident are you that you will succeed in not having sex with your friend?

-] Completely confident
-] Very confident
-] Somewhat confident
-] Not very confident
-] Not at all confident

3.11 Have you ever successfully resisted sex?

-] Yes.] No

If your answer is NO to question 3.11 please skip to 3.14

3.12 If you have ever **successfully** Resisted Sex what made it possible for you to succeed?

-] Knowledge of HIV and AIDS
-] Life skills taught in school
-] Advice from parents
-] Advice from church/ mosque
-] Peer influence
- Other (*specify*) _____

3.13 If you have **never** successfully resisted sex what made it difficult for you to succeed?

- Inadequate knowledge of HIV and AIDS
- In appropriate life skills taught in school
- Lack of appropriate advice from parents
- lack of adequate advice from church/ mosque
- Peer influence

Other (*specify*) _____

3.14 In your opinion, is it possible to abstain from sex until marriage?

- Yes No

3.15 Have you ever taken an HIV test?

- Yes No

If your answer to question 3.15 is NO skip to Qs 3.18

3.16 If **YES** to 3.15 when was the last time you took the HIV test?

Month _____ Year _____

3.17 During this last test did you go alone or with a partner?

- I went alone
- I went with my partner
- I went with my other friends

3.18 At this moment do you know your HIV status?

- Yes No

3.19 (a) Have you ever had a Sexually Transmitted Infection (STI)?

- Yes No

If your answer to question 3.19 is NO please skip to Qs 4.0

(b) If **YES** how long ago was this time when you had a sexually transmitted infection (STI) ?

(c) If you had An STI where did you seek treatment?

- Public hospital
- Private hospital
- Traditional healer
- Did not seek medical attention
- Other (*Specify*) _____

(d) If you sought treatment did you go with your sexual partner?

- Yes No

4.0 PERCEPTION ON FACTORS INFLUENCING SEXUAL BEHAVIOUR

4.1 Which of the following describe sexual behaviour of young people of your age? (Tick one)

- All my age-mates engage in risky sexual behaviour
- Most of my age-mates engage in risky sexual behaviours
- Some of my age-mates engage in risky sexual behaviour
- A few of my age-mates engage in risky sexual behaviour
- None of my age-mates engage in risky sexual behaviour

4.2 Do you know of any of your female age-mates who have had a pregnancy?

- Yes No

4.3 Have any of your age-mates procured an abortion?

- Yes No

4.4 What do you think are the major reasons why people of your age engage in risky sexual behaviour? (*More than one answer allowed*)

- Inadequate knowledge on HIV
 - Peer pressure
 - Curiosity
 - Want for money
 - Being forced by their partners
 - It is normal
 - Other (*Specify*) -
-

5.0 PERCEPTION ON HIV and AIDS PROGRAM CONTENT, TEACHING METHODOLOGIES AND TEACHER NEEDS

5.1 What is your opinion about the content of the HIV and AIDS education in this school?

- Very good
- Good
- Adequate
- Not adequate
- Too much
- Too little

5.2 What do you like best about the teaching of HIV and AIDS in this school?

- The HIV and AIDS information

-] The methods used in teaching
-] The skills taught
-] The teacher interaction

Other

(specify) _____

5.3 Are you confident that the HIV and AIDS information taught prepares you well to apply what you have learnt?

-] Completely confident
-] Very confident
-] Somewhat confident
-] Not very confident
-] Not at all confident

5.4 What have you been able to apply from what you learn about HIV in school? ***Tick all that apply***

-] Postponed sexual intercourse
-] Practiced secondary abstinence
-] Started using condoms
-] Started using condoms consistently
-] Able to communicate comfortably with parents about HIV and sexuality
-] Able to communicate comfortably with teachers about HIV and sexuality
-] Able to confidently resist sexual advancement
-] Other (***Specify***) _____

5.5 What do you think helps you most in this process of applying the knowledge on HIV and AIDS. ***Tick all that apply***

-] Peer support
-] Parent's involvement
-] Religious support
-] The HIV subject was clearly taught
-] Personal effort
-] Availability of HIV youth friendly services in the community
-] Positive Media exposure
-] Partner support
-] Other (***Specify***) _____

5.6 What was not adequately covered in the HIV and AIDS subject that made you not able to apply the lessons?

-] Lack skills on abstinence issues
-] Lack skills on condom use
-] Lacked skills such as communication and negotiation
-] Did not understand the subject
-] It was not taught to us

Other (*specify*)

5.7 What do you think can be done differently to help you apply the HIV and AIDS knowledge into practice?

-] Change the teaching methods
-] Change the style of teaching
-] Teach more practical skills
-] Encourage peer education
-] Establish linkage with parents'
-] Establish linkage with the youth friendly services in the community
-] Other (*Specify*) _____

5.8 Which methods of teaching HIV subject are used in the school? *Tick all that apply*

-] Lecture
-] Group discussions
-] Role plays
-] Drama
-] Field visits eg hospital
-] Games
-] Stories
-] Video presentation

5.9 a) In your opinion which one(s) is most effective in helping you understand and apply the knowledge acquired?

-] Class room lecture
-] Group discussions
-] Role plays
-] Drama
-] Field visits eg Hospital
-] Games
-] Stories
-] Video presentation

b) Why do you think it is most effective?

-] It is learner centred
-] I can express my beliefs, fears and thoughts
-] It is fun and entertaining
-] It is practical
-] I can relate with real life

Other _____

5.10 How else do you get HIV information

-] Peers

-] Parents
-] Radio
-] Church/mosque
-] Friends
-] Television
-] Health providers'

Other _____

5.11 Which channel of HIV information would be more reliable to you?

-] Peers
-] Parents
-] Radio
-] Church/mosque
-] Friends
-] Television
-] Health providers'
-] Teacher

5.12 In your opinion, do you find the teachers comfortable teaching the HIV and AIDS subject?

-] Yes] No

If **No**, why do you think they are uncomfortable?

-] Not trained on HIV and AIDS
-] Subject is sensitive
-] They also need HIV services
-] Poor role models
-] Other (*Specify*) _____

5.13 In your opinion, why is the infection rate very high among young people aged 15-24 years. *Tick all that apply*

-] Method of teaching HIV subject in schools is not good
-] Teachers are not prepared to teach HIV and AIDS in schools
-] Life skills such as negotiation, assertiveness, and communication skills) are not taught
-] We are not taught skills such as problem solving, critical thinking and decision making skills) are not taught
-] Practical skills such as using a condom
-] Abstinence being promoted is not a solution
-] Condoms are not available to the students
-] The schools are working in isolation without involving the community
-] Relationships with sugar mummies and sugar daddies
-] Other

specify _____

APPENDIX 2: QUESTIONNAIRE FOR HIV AND AIDS SUBJECT TEACHERS

Section 1: Background Characteristics

1.1 Name of school _____

1.2 Classes taught _____

1.3 Which of the following describe the type of your school?

-] Girls Boarding School
-] Boys Boarding School
-] Mixed Day school
-] Girls Day school
-] Boys Day school

1.4 Indicate your sex Female Male

1.5 Which of the following describe your religion?

-] Catholic
-] Protestant
-] Muslim
-] Other (*Specify*) _____

SECTION 2: INDICATOR ON STUDENTS KNOWLEDGE AND BEHAVIOUR CHANGE

2.1 Are you confident that students are able to apply the HIV and AIDS knowledge learnt in schools?

-] Completely confident
-] Very confident
-] Somewhat confident
-] Not very confident
-] Not at all confident

If very confident and completely confident, go to Q 2.2. If not very confident or not at all confident, skip to Q 2.3

2.2 What makes you confident that the students can apply the HIV and AIDS knowledge learnt in schools? *Tick all that apply*

-] Teaching methods are good
-] The content is very good
-] HIV and AIDS Instructional materials are available
-] We are well trained to handle the subject
-] We are good role models
-] We establish partnerships with the community
-] The students are receptive/ open to the subject

Other (*specify*)

2.3 What makes you not confident that the students can apply the HIV and AIDS knowledge learnt in schools? *Tick all that apply*

- Teaching methods are not appropriate
- The classes are congested to allow participatory methods
- Lack additional instructional materials
- The curriculum is overloaded
- It is theory based
- It is too scientific
- Teachers are not well trained to handle the subject
- Some teachers are not good role models
- Partnerships and linkage with the community not established
- The students are not receptive/ open to the subject
- Other (*specify*)_____

2.4 In your opinion what changes in behaviour have you noted in the students as a result of HIV and AIDS knowledge acquired in school.

- Postponed first sexual intercourse
- Practiced secondary abstinence
- Started using condoms
- Started using condoms consistently
- Able to communicate comfortably with parents about HIV and sexuality
- Able to communicate comfortably with teachers about HIV and sexuality
- Able to confidently resist sexual advancement
- Other
(*specify*)_____

2.5 How does the school/teacher monitor the translation of knowledge and behaviour change among the students?

- Behaviour observations
- Verbal Reports
- Feedback from parents
- Feedback from peers
- Administer questionnaires
- Do not monitor
- Other

(*specify*)_____

2.6 In your opinion, why is the infection rate very high among young people aged 15-24 years. *Tick all that apply*

- Method of teaching HIV subject in schools is not good
- Teachers are not prepared to teach HIV and AIDS in schools
- Life skills (e.g. negotiation, assertiveness, and communication skills) are not taught
- Cognitive skills (eg problem solving, critical thinking and decision making skills) are not taught
- Practical skills are not taught e.g using a condom

-] Abstinence being promoted is not a solution
 -] Condoms are not available to the students
 -] The schools are working in isolation without involving the community
 -] Cross generational infections (Relationships with sugar mummies and sugar daddies)
 -] Other
-

Section 3: HIV teaching methods and teacher needs

3.1 Do you experience difficulties teaching the HIV and AIDS subject?

-] Yes
-] No
-] Other (*specify*)
-] If yes go to Qs 3.2

3.2 Which difficulties do you experience? *Tick all that apply*

-] The subject is too sensitive
-] I have my own biases on some issues like safe sex and condom use
-] I have not had sufficient training on HIV and AIDS
-] I am not skilled in other classroom non conventional methods
-] The classrooms are too crowded
-] The syllabus is overloaded
-] Over emphasis on exams
-] other (*specify*) _____

3.4 Which of the following instructional methods do you use in teaching the subject?

-] Class room lecture
-] Group discussions
-] Role plays
-] Drama
-] Field visits eg to hospital or youth centres
-] Game
-] Stories
-] Video presentation
-] Other (*specify*) _____

3.4 Do you teach any of the following skills in the HIV and AIDS subject?

-] Life skills (Negotiation, assertiveness, communication etc)
-] Cognitive skills (problem solving, critical thinking, decision making)
-] Practical skills like using condoms
-] Other (*specify*) _____

3.5 a) Have you been able to support the establishment of any of the following partnerships and linkages between the school and community organizations? YES ---

---- NO -----

If yes which ones, tick all that apply

- Youth groups
- Youth friendly services
- Religious groups
- Parent's involvement
- Peer based support
- Community based organizations
- Non-Governmental organizations
- Others (*specify*) _____

3.5 b). How can the school and community organizations engage constructively in supporting behaviour change for students?

3.6 Have you attended any HIV and AIDS teacher preparation training?

- Yes
- No
- Other (*specify*) _____

3.7 What was the duration of the training

3.8 Where did you attend the training

3.9 Did you feel adequately prepared to handle the HIV and AIDS subject

- Yes
- No
- Other (*Specify*) _____

3.10 Do you attend any regular HIV and AIDS updates

- Yes
- No
- Other (*specify*) _____

3.11 Are you able to access any teacher centred programs providing services related to HIV and AIDS. *Tick all that apply*

YES----- NO-----

If yes which are the programs?

- Prevention services e.g. Prevention of Mother to Child transmission, Voluntary Counselling and Testing etc

Care and support services e.g. Home based care services, counselling and nutrition

Treatment services e.g. Anti retroviral treatment, treatment of opportunity infections

HIV and AIDS Workplace programs

Other

How else can the prevention of new HIV infections among young people be done?

Appendix 3: Participant Observation Checklist

Checklist

Teacher's checklist

Yes

No

Comments

Do the teachers have HIV and AIDS teaching materials?

Teaching guide

HIV and AIDS Reference books

HIV and AIDS education policy

Others (specify)

Are there teaching aids that reinforce the HIV and AIDS learning?

HIV Posters

Information and communication materials

HIV videos

others (specify)

Does the teacher/school have the Ministry of Education HIV policy

Are there any existing linkages created between the schools and the community?

Peer educators

Peer counsellors

youth groups

Church groups

Youth friendly services

Youth resource centres

Other (*specify*)

What is the class size

Observations on the teaching method

State the methods used

Teaching approach

APPENDIX 3: FOCUS GROUP DISCUSSIONS GUIDE

1. What do you think about the HIV infection rate among the young people aged 15-24 years?

2. In your opinion what makes the infection rate among this age group higher than the general population

3. The following are the desired outcomes of HIV and AIDS education among the young people?

a) Outcome: Increased students knowledge about HIV and AIDS and changed attitudes towards risky sexual behaviours,

What SUGGESTIONS can you give on increasing the knowledge about HIV and AIDS among students?

What CHALLENGES do students face in acquiring increased knowledge on HIV and AIDS

b) OUTCOME 2: Delayed onset of sexual intercourse

What SUGGESTIONS can you give on helping young people to delay sexual intercourse

What CHALLENGES do young people face in trying to delay sexual intercourse

c) Outcome 3: Increased condom use among sexually active students

What **SUGGESTIONS** can you give on helping young people who are sexually active increase condom use?

What **CHALLENGES** do young people who are sexually active experience in increasing condom use?

4. In your opinion is the school HIV and AIDS subject effective in preventing/stopping the spread of HIV and AIDS new infections among the young people?

- If yes, why is it effective

- If No, Why is it not effective

5. How can it be made effective to meet the needs of the young people?

APPENDIX 4: PUBLIC SECONDARY SCHOOLS IN THIKA DISTRICT

3 Divisions, 9 Zones

Source: District Education Office, Thika District, May 2007

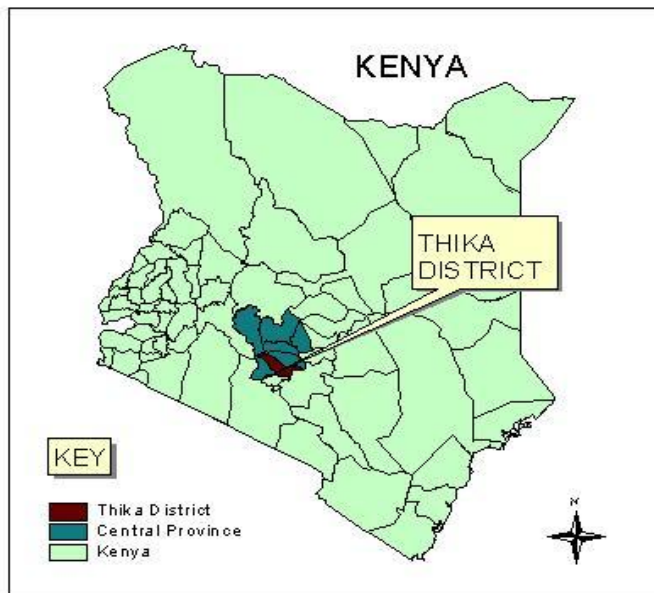
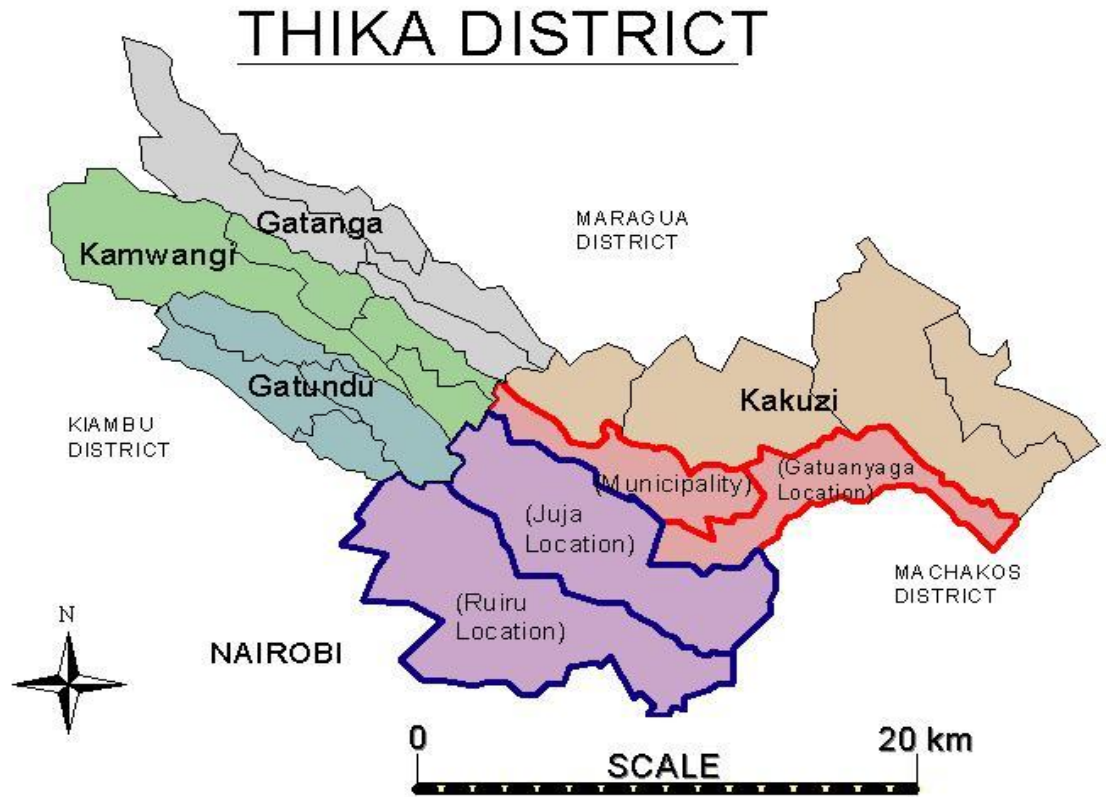
Appendix 5

Division: Gatanga	Division: Thika Ruiru	Division: Kakuzi
Zone: Gatanga	Zone: Juja	Zone: Kakuzi
<ol style="list-style-type: none"> 1. Gatanga CCM sec school PCEA Gakio 2. Ithangarari Sec school 3. Chomo sec school 4. Gakurari sec school 5. Rwegetha sec school 6. Kirwarwa boys school 	<ol style="list-style-type: none"> 1. Juja farm sec sch 2. Mangu high sch 3. Murera sec sch 4. Kitamaiyu sec sch 5. Juja sec 6. Gachororo sec sch 	<ol style="list-style-type: none"> 1. Gititu sec sch 2. Kirimiri sec sch 3. Matunda sec sch 4. Muti sec sch 5. Mithini sec sch
Zone: Kariara	Zone: Gatuanyaga	Zone: Mitubiri
<ol style="list-style-type: none"> 1. Kimandi Day Sec School 2. Mwagu Sec Sch 3. Ndaikaini Sec Sch 4. Ndunyu Chege Sec Sch 5. Kiarutara Sec Sch 6. St Paul Gatura 7. Kamunyaka Kiumu Sec 8. Kanunga Mixed Day Sec Sch 9. St Augustine Sec School 10. Gatunguru Kariara Sec 11. Giachuki Sec Sch 	<ol style="list-style-type: none"> 1. Munyu mixed sec sch 2. Joytown sec sch 3. Thika high sch for the blind 4. Kenyatta sec sch 5. Chania girls sec sch 6. Munyu girls 7. Komo mixed day sec 8. Kimuchu sec sch 9. Ngoliba sec sch 10. Chania boys high 11. Broadways sec sch 12. St pauls gatuanyaga sec 13. Maryhills girls sec 14. Thika high sch 	<ol style="list-style-type: none"> 1. Peter Kariuki sec sch 2. Mwana wikio sec sch

12. Gatura Girls Sec School	15. Magogoni sec	
13. Mbugiti Sec School		
Zone: Kihumbuini	Zone; Ruiru	Zone: Ithanga
1. Kiunyu sec school	1. Matopeni sec sch	1. Ithanga sec sch
2. Kihumbuini sec	2. Ruiru sec sch	2. Ngeleiya sec sch
3. Kiamwathi sec sch	3. Githinguri high sec	3. St. Teresas sec sch
4. Gatiiguru sec sch	4. Githurai mixed sec	
5. Gatanga girls	5. Ruiru girls	
6. Gituamba sec sch		
7. Githambia sec		
8. Nyaga sec sch		
9. Jogoo kimakia		
10. Gathanji sec		
Total schools:	65	
Total divisions	3	
Total zones	9	

Source: District Education Office, Thika District, May 2007

Appendix 5: Map of the Study Area



NB: Map boundaries are approximate
 Map design and layout by J. Karanja
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