

**FACTORS INFLUENCING BEHAVIOUR CHANGE FOR THE
PREVENTION OF THE SPREAD OF HIV/AIDS AMONG
STUDENTS IN GITHUNGURI DIVISION, KIAMBU EAST
DISTRICT, KENYA**

BY

**NDEGWA ISABEL NJERI
REG NO. I57/CE/12138/04**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF MASTERS DEGREE IN
PUBLIC HEALTH IN THE SCHOOL OF HEALTH SCIENCES OF
KENYATTA UNIVERSITY**

JANUARY 2011

DECLARATION

This thesis is my original work and has not been presented for a degree or any other qualifications in any other University.

Signature..... Date.....

Name: Ndegwa Isabel Njeri

Department of Public Health

SUPERVISORS APPROVAL

We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

Signature..... Date.....

Dr. Peter Wanderi

Department of Exercise, Recreation and Sport Science

Kenyatta University

Signature..... Date.....

Dr. Andanje Mwisukha

Department of Exercise, Recreation and Sport Science

Kenyatta University

DEDICATION

This work is dedicated to all my colleagues who are empowered to empower and to my son Timothy Brian Ndegwa, the source of my inspiration.

ACKNOWLEDGEMENTS

Writing this thesis has been a team effort and I would like to acknowledge members of that team work. First and foremost is to God who gave me the strength to carry on even when all looked bleak. Secondly, to my parents Mr. and Mrs. P Ndegwa for their financial and moral support. Special thanks also go to my supervisors Dr. Peter Wanderi and Dr. Andanje Mwisukha who acted as my banners and walked with me throughout the journey. I am also grateful to all the principals of the selected secondary schools for allowing me to use their students for my study. All those students who willingly participated in this work are appreciated. I too recognize Bernard who helped in data analysis and preparation. Many thanks to all of them.

TABLE OF CONTENTS

	Page
Declaration.....	i
Dedication	ii
Acknowledgements	iii
Table of Contents.....	iv
List of Tables.....	v
List of Figures.....	vi
Abbreviations and Acronyms	vii
Abstract	iv

CHAPTER ONE: INTRODUCTION

1.1 Background of the Problem.....	1
1.2 Problem Statement.....	2
1.3 Justification of the Study.....	3
1.4 Objectives.....	5
1.5 Research Questions.....	5
1.6 Null Hypotheses.....	6
1.7 Limitations of the study.....	6
1.8 Theoretical Framework.....	6
1.9 Definition of Operational Terms.....	9

CHAPTER TWO: LITERATURE REVIEW

2.1 Adolescents and Sex.....	10
2.2 The Inter-relationship between Knowledge, attitudes, Beliefs and Behavior Change.....	14
2.3 Socio-demographic Factors associated with Behavior Change.....	17
2.4 Prevention of HIV Transmission through Behavioral and Sexual means.....	19
2.5 Behavior Programs Targeted at Adolescents.....	21
2.6 Government Policy on HIV/AIDS and the Youth.....	26
2.7 National Policies for HIV Prevention.....	28
2.8 other related Studies that have been carried out on Adolescents And HIV/AIDS.....	29
2.9 Summary of the Literature review.....	30

CHAPTER THREE: MATERIALS AND METHODS

3.0 Introduction.....	35
3.1 Study Design.....	35
3.2 Study Area.....	35
3.3 Target Population.....	36
3.4 Sample Size and Sampling Procedure.....	36
3.5 Inclusion Criteria.....	38
3.6 Exclusion criteria.....	38
3.7 Data Collection Methods and Research Instruments.....	38
3.8 Pilot Study.....	38
3.8.1 Data Management and Quality Control.....	39
3.9 Ethical Considerations.....	39

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1	Introduction.....	35
4.2	Background Information of the Respondents.....	40
4.3	Gender and HIV and AIDS.....	42
4.4	Knowledge on HIV/AIDS.....	50
4.5	Behavior Programs Targeted at Adolescents.....	52
4.6	Discussion of the Results.....	66

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1	Summary of findings.....	77
5.2	Conclusions.....	78
5.3	Recommendations.....	80
5.4	Areas for Further Study.....	80
	References	82
	Appendices	85

LIST OF TABLES

		Page
Table 4.1:	Characteristics of the Respondents.....	27
Table 4.2:	Religion of the Respondents.....	28
Table 4.3:	Distribution of Respondents use of Leisure Time.....	28
Table 4.4:	Respondents Age at First Sexual Intercourse.....	31
Table 4.5:	Distribution of Respondents Number of Sexual Partners.....	33
Table 4.6:	Distribution of Respondents use of Condoms.....	34
Table 4.7:	Respondents Perception on Abstinence from Sex.....	37
Table 4.8:	Respondents View on Factors Predisposing Adolescents to HIV/AIDS.....	38
Table 4.9:	Respondents Knowledge about HIV/AIDS.....	39
Table 4.10:	Respondents View on Focus of HIV Prevention Efforts.....	40
Table 4.11:	Respondents View on Most Effective Behavioral Programs Targeted at the Youth.....	41
Table 4.12:	Respondents View on Activities Related to HIV Prevention Undertaken in School.....	47
Table 4.13:	Respondents Willingness to know their HIV Status (yes or no).....	49
Table 4.14:	Respondents Reasons for Wanting to Know Their HIV status.....	49
Table 4.15:	Respondents Favored Statement about Behavior Programs Targeted at the Youth.....	50

LIST OF FIGURES

		Page
Figure 4.1:	The Health Belief Model.....	7
Figure 4.2:	Distribution of Respondents Involvement in Sex.....	29
Figure 4.3:	Distribution of Respondents in Sex on the Basis of gender.....	30
Figure 4.4:	Distribution of Respondents Duration to Last Sexual Intercourse.....	32
Figure 4.5:	Respondents use of Condoms during their Last Sexual Intercourse.....	33
Figure 4.6:	Respondents View on Unprotected Sex as Evidence of love.....	35
Figure 4.7:	Respondents Perception on Persistent use of Condoms.....	36
Figure 4.8:	Respondents Knowledge about Voluntary Counseling and Testing (VCT).....	42
Figure 4.9:	Respondents view about Services Offered at VCT Centers.....	43
Figure 4.10:	Respondents Visit to a VCT Centre during the Last Twelve Months.....	44
Figure 4.11:	Respondents Knowledge about Youth Friendly Services.....	45
Figure 4.12:	Respondents source of Information about Youth Friendly Services.....	46
Figure 4.13:	Respondents Favored Statement about Behavior Programs Targeted at the Youth.....	50

ABBREVIATIONS AND ACRONYMS

AIDS:	Acquired Immunodeficiency Syndrome
BCC:	Behavior Change Communication
FHI:	Family Health International
HIV:	Human Immunodeficiency Virus
KAIS:	Kenya Aids Indicator Survey
KDHS:	Kenya Demographic Health Survey
KIE:	Kenya Institute of education
KSPA:	Kenya Service Provision Assessment
M.o.H:	Ministry of Health
NACC:	National Aids Control Council
NASCOP:	National Aids Control and STI Programme
STDs:	Sexually Transmitted Infections
UNAIDS:	Joint United Nations Programme for HIV and AIDS
VCT:	Voluntary Counseling and Testing
WHO:	World Health Organization
YFS:	Youth Friendly Services

ABSTRACT

The Human Immunodeficiency Virus (HIV) continues to spread in most countries of the world including Kenya. Since HIV/AIDS has no cure yet, behavior change has been fronted as the most likely scientific basis for the reduction in HIV prevalence. The virus is spread mainly by behaviors such as sexual behavior and drug taking that are generally private and sometimes difficult to discuss openly. This study looked at behavior change for the prevention of the spread of the Human Immunodeficiency virus (HIV) among students in Githunguri Division, Kiambu East District, Kenya. It was a descriptive survey. Out of the 28 public secondary schools in Githunguri Division, seven of them were randomly selected using the stratified sampling method, while one school was purposively selected as it was the only one of its kind, making a total population of 8 schools as the study population. Data was collected using a questionnaire. A pilot study was carried out to determine the feasibility of the research instrument. Descriptive and inferential statistics (chi-square at a significance level of 0.05) were utilized for analysis of data. Behavior change had occurred as 56% of the respondents had abstained from having sex as compared to 36% of the respondents who had not abstained. Out of the 36% of the respondents who had engaged in sex, 50.8% of them had used condoms as compared to 49.2% of the respondents who had not used condoms. Females reported an average of 1.48 sexual partners, while the male respondents reported an average of 2.03. Behavior change was influenced by religion, knowledge of HIV/AIDS, influence from HIV/AIDS prevention methods and gender. The study further revealed that there was a significant relationship between gender and HIV/AIDS, with more males engaging in risky sexual behavior placing them at risk of contracting HIV. HIV prevention efforts had a significant influence on behavior change for the spread of HIV/AIDS among students. The study recommends the need to have prevention efforts that focus more on males so as to enhance their behavior change as nationally, some 400,000 students graduate from secondary schools every year. These young people represent a key cohort for behavior change communication and character formation.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Problem

At the end of 2007, 33 million people were estimated to be living with the Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) globally (UNAIDS, 2008). The estimates indicate that the global HIV/AIDS prevalence rate (percentage of people living with the disease) has leveled off, although the number of people living with the disease continues to increase (UNAIDS, 2008). An estimated 2.7 million people became newly infected with the HIV in 2007 and 2 million people died of AIDS related causes (UNAIDS, 2008). Young people under the age of 25 years are estimated to account for more than half of all new HIV infections worldwide (UNAIDS, 2008).

Sub-Saharan Africa is home of two thirds (68%) of people living with HIV/AIDS or 22.5 million infected people (UNAIDS, 2008). Almost all the nations in the region have their national HIV prevalence rate being greater than 1 %. In several countries, more than 10% of the adults are already estimated to be HIV positive (UNAIDS, 2008).

In Kenya, the HIV prevalence rate increased to 7.8% in 2007 from the 6.7% prevalence recorded in the year 2006 (NASCO, 2008). The increase in the percentage of the population living with HIV is because of wider access to antiretroviral drugs. According to the Kenya AIDS Indicator Survey (NASCO, 2008), about 1.4 million Kenyan adults are living with HIV/AIDS. In addition, four out of every five HIV positive Kenyans are unaware of their status and about two thirds of the country's 37 million people have never been tested for the virus (NASCO, 2008). According to a report by NASCO (2008).

Central Province has HIV prevalence rate of 3.8%, while Kiambu District has a HIV prevalence rate of 4.6%.

The UNAIDS (2007) report indicates that Kenya is one of the countries in Africa where there has been a favorable trend in HIV incidence. This is related to changes in behavior and prevention programmes. However, these intervention programmes still reach only a minority of those in need and a number of prevention targets like the adolescents are not being reached adequately (NASCO, 2005). Young people are particularly vulnerable and are the key to the future course of the HIV pandemic. Data from Kenya and other countries in Africa show that young people are at the greatest risk for HIV infection, and yet they have the best chance of reversing trends in behavior that place them at risk (UNAIDS, 2006). They need to make responsible decisions about sexual behavior and protect themselves from unwanted pregnancies, HIV, and other sexually transmitted infections. It is against this background that this study was conducted to establish factors influencing behavior change for the prevention of HIV/AIDS among students in Githunguri Division. In this case, behavior change includes measures taken by individual persons to protect themselves from HIV infection such as abstinence from sex, use of condoms and reducing the number of sexual partners.

Statement of the Problem

Wider delivery of effective behavior change strategies is central to reversing the global HIV epidemic (Global HIV Prevention Group, 2008). The availability of new biomedical HIV prevention modalities such as vaccines and microbicides is still many years away. Even when these tools finally emerge, human behavior will remain critical as new prevention strategies are unlikely to be hundred percent effective in preventing HIV prevention (Global HIV Prevention Group, 2008). According to the KDHS (2003),

almost 99% of the youth in Kenya (students inclusive) are aware of the presence of HIV/AIDS pandemic but behavior change is slow as most of them still engage in risky sexual behavior as is evidenced by the high number of teenage pregnancies and school dropouts. The concern for youths in secondary schools is even overwhelming in that in Kenya (Githunguri Division inclusive), age at first sexual intercourse is low (14 years) and age at first marriage seems to have been declining (16 years) contributing to observed increase in school dropouts (NASCOP, 2005). Data is lacking on factors influencing behavior change for HIV/AIDS prevention among students in Kenya (NASCOP, 2007). Consequently, the factors that influence behavior change for HIV/AIDS prevention amongst students are not well understood. For instance, it is not known why high levels of awareness about risky sexual behavior do not translate to the desired behavior change.

Although the relative protection by schools remains difficult to measure and guarantee, the physical and psychological changes at adolescence implies that secondary school students are at an extra risk to HIV infection (NASCOP, 2007). Despite the current interventions through adolescent sexual and reproductive health (ASRH) programmes, behavior change among some sub-sections of Kenya's population such as secondary school students (Githunguri Division inclusive) has remained a challenge (UNAIDS, 2006). This could be a serious health problem and the results of this study could encourage students to initiate behavior change and sustain healthy sexual behavior to reduce HIV infection. Thus the need to determine factors influencing behavior change for HIV/AIDS prevention among secondary school students in Githunguri Division, Kiambu East District.

Justification for the Study

At the beginning of this decade, the global community embraced a set of ambitious development goals for the new millennium. Among them was the commitment to halt

and begin to reverse the global HIV epidemic by 2015. Behavior change remains the world's primary tool for achieving this goal, clarity is urgently required regarding the optimal means of producing needed behavior changes, hence this study.

Youths are a very potential population subset that needs to be understood and therefore studies should focus on promoting desired behavior among this age cohort because of the physiological changes that could drive them to engage in risk behavior for HIV. Available data provides limited information for devising effective HIV/AIDS prevention strategies targeted at the Kenyan adolescents. Youths also form the majority of the population (Government of Kenya, 2002) and, hence, the need for the focus of this study. Any studies that seek to understand factors behind the observed low change in behavior among the youth are sound from a political, economic and social and human rights points` of view. The study may provide guidelines on how to promote desired behavior among the youth to prevent HIV/AIDS especially in this era of no known and effective cure for AIDS.

Kenya has a mixed epidemic, thus activities are needed at a local level to understand, plan for, coordinate, implement, monitor and evaluate HIV responses. The HIV response in Kenya has been driven mainly from the national level with general and overarching programmes that have not focused on the unique needs of specific most at risk populations with specific messages and approaches. There is growing recognition that scaling up prevention strategies and interventions that have been proven to be most effective may be the most cost effective way to contain escalating treatment costs. Empirical evidence is lacking on behavior change by the youth and others to effectively adhere to abstinence.

The study findings will form an important platform for implementers and policy makers in using effective strategies for behavior change promotion among the youth in Githunguri Division and in Kenya as a whole. For instance, secondary school curriculum planners will use the research findings to enable them to incorporate and enforce teaching of reproductive health education in secondary schools. The study findings will contribute to the body of knowledge in the area of HIV/AIDS prevention and control, thus reducing the number of HIV/AIDS infections.

1.4 Objectives of the study

1.4.1 Broad Objective

- To determine factors influencing behavior change for HIV/AIDS prevention among secondary school students in Githunguri Division, Kiambu East District.

1.4.2 Specific Objectives

- To determine the influence of gender on behavior change for HIV/AIDS prevention among students in Githunguri Division.
- To determine the influence of HIV and AIDS prevention efforts targeted at adolescents on behavior change for HIV/AIDS prevention of HIV/AIDS among students in Githunguri Division.
- To determine the relationship between knowledge of HIV/AIDS prevention and behavior change for HIV/AIDS prevention of HIV/AIDS among students in Githunguri Division.

1.5 Research Questions

- How does gender influence behavior change for HIV/AIDS prevention among students in Githunguri Division?

- What is the influence of HIV and AIDS prevention efforts targeted at adolescents on behavior change for HIV/AIDS prevention among students in Githunguri Division?
- What is the relationship between knowledge of HIV/AIDS prevention and behavior change for HIV/AIDS prevention among students in Githunguri Division?

1.6 Null Hypotheses

- H₀₁:** Gender would not significantly influence behavior change for HIV and AIDS prevention among secondary school students in Githunguri Division.
- H₀₂:** HIV and AIDS prevention efforts targeted at adolescents would not significantly influence behavior change for HIV and AIDS prevention among secondary school students in Githunguri Division.
- H₀₃:** Knowledge of HIV and AIDS prevention would not significantly influence behavior change for HIV and AIDS prevention among secondary school students in Githunguri Division.

1.7 Limitations of the Study

The stigma attached to behaviors such as pre-marital sex and drug and substance abuse, may have influenced the participants' responses.

1.8 Theoretical Framework

Adolescents constitute the fastest growing population for new AIDS infections (Plessis, 2003). Yet, current prevention efforts are narrowly focused and do not adequately address the specific contextual need for adolescents (UNAIDS, 2006). In the field of adolescents AIDS

research, three basic models have been applied within mainstream psychology. They are; the Health Belief Model (Becker and John, 1984), the Theory of Reasoned Action (Ajzen and Fishbein, 1984) and the Self-efficacy Theory (Bandura, 1991).

For the purpose of this study, the Health Belief Model (Becker and John, 1984) will apply. According to Becker and John (1974), the Health Belief Model is based on a consideration of multiple consequences both that are health enhancing and those that are health- threatening. It comprises four elements, arguing that people's actions are based on a combination of the subjective sense of vulnerability or susceptibility to illness, perceived severity of the consequences of the illness, perceived benefits or sense of efficacy from engaging in the recommended behavior before deciding whether or not to trigger changes in health related behavior as illustrated in figure 1 below.

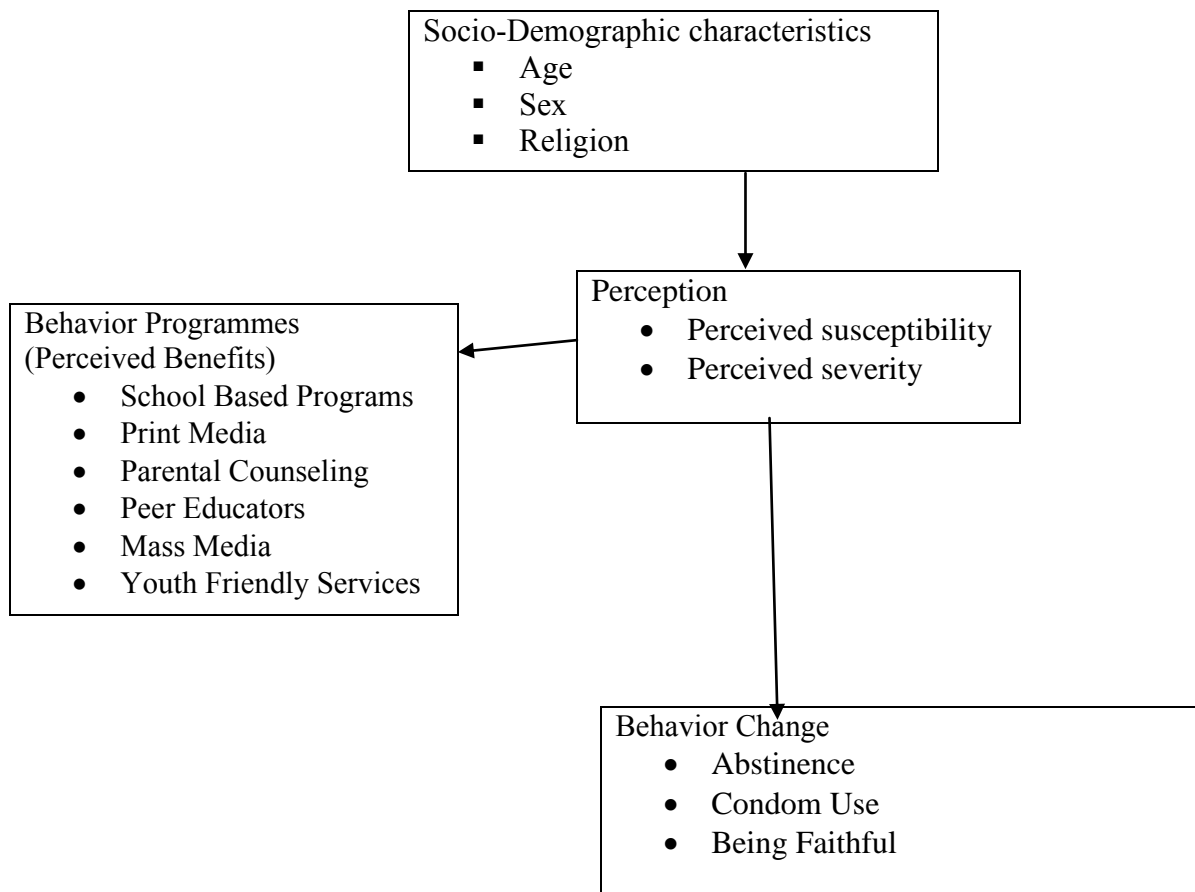


Figure 1: The Health Belief Model (Adopted from Becker and John, 1984)

It is evident from figure 1 that there is a relationship between socio-demographic characteristics, perception of vulnerability to HIV/AIDS, perceived benefits and behavior change. This model is helpful in acknowledging that information is not enough to bring about behavior change.

Adolescents need to have enough resources and available information support to be able to make the changes necessary to protect themselves. According to the Health Belief Model of behavior change, individuals must perceive themselves to be at risk of the health threat, before they take actions to reduce risky behaviors or to engage in healthy alternative behavior. Thus, adolescents who report high perceived risk for HIV/AIDS practice safer sexual behaviors, whereas those who perceive low risk for contracting HIV/AIDS report practicing unsafe sexual behaviors.

1.9 Operational Definition of Terms

- Abstinence:** This refers to postponing of sexual intercourse before marriage.
- Adolescents:** These are persons aged 15-24 years in secondary schools in Githunguri Division. The terms adolescents, youth and Young people have been used interchangeably in this study.
- AIDS:** Acquired Immuno-Deficiency Syndrome. This is the clinical end stage of HIV in an infected individual characterized by many clinical signs and symptoms.
- Behavior Change:** This refers to abstinence from sex, condom use and number of sexual partners.
- Behavior Change Programmes for HIV/AIDS:** These are programmes aimed at promoting Information, education and communication on HIV and AIDS to the general public. Key messages promoted include being sexually abstinent, delaying sexual debut, being faithful, using condoms consistently and engaging in safer sex .
- HIV:** This stands for Human Immunodeficiency virus: the virus that causes AIDS.
- Safer sex:** Includes every behavior that has the intention of preventing transmission of HIV, such as condom use, abstinence and number of sexual partners.
- Self-efficacy:** It refers to a person's belief that he or she can perform behaviors that are necessary to bring about a desired out come.
- Youth-Friendly Services:** Refers to services that are accessible, acceptable and appropriate for adolescents such as youth centers, youth- friendly VCTs and youth- friendly health -care providers.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In this section, the following sub-topics have been covered. Adolescents and Sex, the Inter-relationship between Knowledge, Attitude, Beliefs and Behavior Change, Socio-demographic Factors Associated with Behavior Change and Prevention of HIV Transmission through Behavioral and Sexual means. Others include Behavior Programmes Targeted at Adolescents, Government Policy on HIV/AIDS and the Youth, Related Studies that have been carried out on Adolescents and HIV/AIDS and a Summary of Literature Review.

Adolescents and Sex

About half of all new H.I.V infections occur among the youth aged between 15-24 years of age (UNAIDS, 2008). In some countries in Africa where AIDS is wide- spread, early and risky sexual activity increases young people's vulnerability to HIV (UNAIDS, 2007). HIV is concentrated in high risk groups which often includes significant number of young people (UNAIDS, 2007). The impact of HIV/AIDS among adolescents is felt by the society at-large. Students are dying or leaving schools, reducing both the quality and efficiency of the educational system (Tobijar, 2000). Yet ,the youth also present a window of opportunity for reversing HIV rates especially when effective prevention programmes can reach them before they engage in risky behavior (UNAIDS, 2007).

Adolescence can be a highly charged developmental period (Appelbaum, 2003). This is because this period is characterized by the psychological needs of young people to individuate from parental attachment and form their own firmer identities (Appelbaum, 2003). This period does however usually involve young people shifting to a collective

peer group identity, before moving on to shape their own sense of self. They become attracted to and made vulnerable by the normative social influences of their peers (Applebaum, 2003). The identity crisis of adolescence includes a crisis of sexuality. The emergence of sexual needs in the face of unsure social and sexual identities can be both confusing and difficult (Applebaum, 2003).

The development of depression, withdrawal, often including oppositional deviant and risky behaviors is common among adolescents (Kaupeni *et al.*, 2004). Teenagers often experiment with drugs, alcohol, casual sex and other risky behaviors (Kaupeni *et al.*, 2004). It is for this reason that Applebaum (2003) rightly points out that the behavior of adolescents often places them at increased risk of HIV infection.

According to Downing *et al.*, (1999), young people are difficult to categorize as a single group since they live within extremely variable contexts. Despite the collective ideal of providing health care, safe and happy environments for children to grow in, reality uncovers a series of physical, sexual, psychological, social and moral abuses (Downing *et al.*, 1999). Focus on adolescents is important because it is the age when sexual habits and decisions about risk behavior and safe practices are formed. Some of the highest infection rates of STIs are in adolescents. The HIV/AIDS pandemic alone is sufficient reason to look a new at health services that address the needs of adolescents (NAS COP, 2005).

Jackson (2002) identifies the following as among many factors for young people to engage in full sex;

- Alcohol or other drug consumption that reduce will- power judgment and inhibitions.
- Natural sexual desires and curiosity about sex, peer pressure on boys to be ‘real men’ or on either sex to do what everybody is doing.

- Pressure on girls and boys who refuse to believe ‘no’ means ‘no’ or who do not care anyway.
- Sugar daddies who may be teachers, relatives, friends of the family, outstanding members of the community or church or complete strangers.
- The urge to rebel against parental rules and to establish an independent identity.
- Promiscuous role models set by the older generations and by idols such as musicians and sports stars.
- The media images showing casual sex in glamorous wealthy contexts.
- Poverty and the pressure on girls to engage in sex to pay for school fees, food or other needs.

Jackson (2002), further says that although pressure on girls and boys to engage in sex overlap, they also differ in crucial aspects. Girls often have less say about the condition of sex. They have far greater exposure to sexual abuse, lower socio-economic status and lack of economic options. This drives them more readily than boys into transactional sex. The final injury is that girls are more easily infected than boys by unprotected sex that even if motivated, they may lack the negotiating skills and power to avoid (Jackson, 2002). Thus focus on adolescents is important because it is the age when sexual habits and decisions about risk behavior and safe practices are formed.

2.1.1 Gender and HIV and AIDS

According to a behavioral surveillance carried out in Malawi in 2004, the primary mode of HIV/AIDS transmission is sexual. Because gender norms shape attitudes towards and information sharing on sex, sexuality, sexual risk taking and fidelity, they play a clear role in determining the course of the epidemic. In some societies, gender norms require females to remain ignorant, passive, subordinate and faithful in sexual relations while simultaneously promoting the notion that men ought to be knowledgeable and experienced.

This may prevent both sexes from accessing preventative or curative information and services. A series of vulnerability factors (which vary by sex, age and context) influence the engagement in risky sexual behaviors. Determinants of female vulnerability include poverty, cultural and sexual norms, violence, legal issues that impede women's access to assets, information and services and physiological factors (G.o.K, 2005). Youths both male and female are particularly vulnerable and at risk due to risky behaviors such as unprotected sex, injecting drugs, commercial sex and a limited empowerment (particularly for girls).

Limited empowerment, restricted access to and control over resources, assets and opportunities, economic dependence of females on males, and associated power differences between sexes particularly in sexual relations are associated with women's limited control over their own health, the timing, context, and safety of intercourse and vulnerability to gender based violence.

In some contexts, female responsibility for care giving reduces girls and women's participation in productive and economic activities (including education) as the epidemic spreads. This in turn constricts women's social and economic opportunities further contributing to the cycle of poverty, lack of empowerment and vulnerability to infection. In some cases, laws and regulatory frame works discriminate against women and reinforce their subordinate status in such spheres as property and inheritance rights, marriage, employment, rape, and sexual harassment and reproductive rights. Physiologically, women are more susceptible to HIV infection than men are. Transmission during sexual intercourse is almost twice as likely to lead to female infection as to male infection. Gender based cultural practices such as female genital mutilation and widow inheritance may increase the spread of the HIV virus. Stigma and a culture of silence and denial exacerbates the epidemic by preventing diagnosis and care seeking and reducing communication between sexual partners.

The Inter-Relationship between Knowledge, Attitudes, Beliefs and Behavior Change

The impact of HIV/AIDS among adolescents is felt by the society at large. Students die or leave schools, reducing both the quality and efficiency of the educational system (Tobijor, 2000). The high mortality and morbidity among adolescents has also affected the health sector, manpower development and the economy at large (Tobijor, 2000). Previous studies carried out in Kenya indicate that despite adolescents having information and awareness of HIV/AIDS, many were still engaging in risky sexual behavior (Obiero *et al.*, 2000). According to Obiero *et al.* (2000), a large number of youth engage in sex at an age when they cannot fully realize the consequences of their actions resulting in unwanted pregnancies, abortions and STIs. Wambua (2000) conducted a study in Machakos District, among church going youth. He found that up to 80.7% of the youth were aware that pregnancy can be prevented by abstinence and 19.7% suggested the use of condoms to prevent pregnancy. Wambua (2000) also revealed that more than half of the youth in his study were sexually active, with only 30.5% abstaining from sex.

In Kenya, HIV/AIDS among adolescents is almost entirely a sexually transmitted infection. A report by the KDHS (2003) indicated that 90% of adolescents get infected with HIV through sexual contact and that teenage girls are more susceptible and vulnerable to the epidemic, with an infection rate of five times more than boys of the same age. The same report revealed that girls might be at a greater risk of HIV infection than boys because of physiological factors. They are more exposed to the virus during sex because of the large mucosal surface in the vagina (KDHS, 2003). Also, the semen which has a high concentration of the virus than the vaginal fluids stays in the vagina for a long time. Lastly, since infections in women are asymptomatic, women may have STIs for a long time before receiving treatment and this can facilitate HIV infection (KDHS, 2003).

Most teenagers in Kenya report very early sexual debut (experience of first sexual intercourse), which tends to be at a younger age than elsewhere in the sub-Saharan Africa (NASCO, 2005). This increases the number of sexually active people whereby 90% of adolescents are sexually active by the age of 20 years. More so, adolescents are less likely to be protected from the consequences of sexual intercourse and more likely to be ignorant of the ways in which accidental pregnancies or sexually transmitted infections can be prevented (NASCO, 2005).

Research has examined attitudes to HIV and the relationship between these attitudes and behavior (Ogden, 2000). Some researchers have looked at how teenagers and students view HIV, as they tend to be particularly sexually active (Ogden, 2000).

Ogden (2000) suggests several possible consequences of knowledge, which are;

- That increasing knowledge increases fear in an individual, which may then cause denial resulting in no effect on behavior or even a detrimental effect on behavior.
- Improved knowledge may improve the individual's perception of reality and their perception of risk, which could therefore cause a change in behavior, as the person is not experience fear.
- Improving knowledge may increase the awareness of the seriousness of the illness, which could cause fear in some individuals, leading to behavior change, denial or prejudice or helplessness or a feeling of lack of control.

According to Ogden (2000), promoting safer sex may be more complicated than simply increasing knowledge.

Behavior change and maintenance programs provide essential health information, motivate people to reduce risk and increases individuals' skills in using condoms and negotiating safer sex (Global HIV Prevention Working Group, 2003). Effective approaches for young people and children involve life skills based education that promotes the adoption of healthy behaviors (Global HIV Prevention Working Group, 2003). These include taking greater responsibility for their own lives, making healthy choices, gaining strength to resist negative pressures and minimizing harmful behaviors (Global HIV Prevention Working Group, 2003). It has become clear that prevention of HIV/AIDS among adolescents is essential and that by understanding factors that predispose adolescents to risky behavior may be the single most powerful weapon against the spread of HIV/AIDS epidemic (Tobijor, 2000).

There may be behavior changes that would decrease transmission of HIV. Increased awareness could lead to reductions in risky sexual behaviors through increased condom use, delays in sexual debut, reduction in the number of sexual partners and probably a reduction in the prevalence of other STIs. According to a study carried out by the Government of Kenya (2002), Kenyans are very knowledgeable about HIV/AIDS and STIs. Knowledge of male condoms was very high. Substantial proportions of the respondents reported having many sexual partners. Despite high awareness of the disease, a significant number of sexually active respondents across the target groups reported having many non-regular sex contacts unabated. This persistent behavior indicates that heightened awareness of the HIV/AIDS and STIs and of the efficacy of condom use and knowledge of HIV prevention methods were not translating into safer sex.

Socio- Demographic Factors Associated with Behavior Change

According to Bennett *et al.*, (1997), adolescence is a period of transition from childhood to adulthood marked by physical, psychological and social maturation. This is due to

unplanned sexual intercourse as young people do not plan about having sex because the social environment does not allow them to do so. In many cases, boys meet girls on their way to the market or river and if they agree, they have sexual intercourse (Bennett *et al.*, 1997)

It is at this age that the rate of STIs including HIV/AIDS is at its highest. In most traditional societies, the period of transition from childhood to adulthood was short (Kiai and Nduati, 1997). Young people often took on the same responsibilities as adults. The change was often abrupt marked by ceremonies of initiation, which included practical instruction on adult behavior and sex education unlike in the modern society (Kiai and Nduati, 1997). This has resulted to a large number of the youth engaging in sex at an age when they cannot fully realize the consequences of their actions resulting in unwanted pregnancies, abortions and STIs. This is complicated further by high frequency of changing sexual partners (Kiai and Nduati, 1997).

To understand young people's behavior, it is necessary to understand the period of adolescence, the challenges it brings and the changes that come with it (Bennett *et al.*, 1997). Physical, mental and emotional development occurs at different and uneven rates in adolescents. They become physically mature before they have fully developed mental, emotional or social skills necessary to understand or practice safer sex behavior. As part of maturing process, young people often question established social norms and attitudes (Kiai and Nduati, 1997). Maturing also means developing one's own adult identity as part of a gender specific process. The process of changing from child to adult often takes the form of testing alternative views, behaviors and norms. As part of this process, adolescents tend to increasingly identify themselves with peer group values or behavior (Kiai and Nduati, 1997).

Risky behavior among adolescents is associated to rebellion against adults, which is a normal part of teenagers acquiring their own identity (Jackson, 2002). The risks may be different among young people in different cultures but often include experimentation with sexual activities, alcohol and drug abuse (Jackson, 2002). Risk taking among adolescents is strongly linked to the fact that the pleasure or importance of the movement may outweigh their ability to foresee or care about long-term consequences of their actions. Because adolescence is a period in which an identity is acquired, it is also a period of uncertainty (Jackson, 2002). When young people have a sense of self-efficacy and self-esteem (rather than powerlessness and a sense of self-worthlessness), they are better able to make their own decisions, they have less need to prove themselves to their peers by taking risks (Jackson, 2002).

According to Polsky and Clumeck (1999), the numbers of new diagnosis of HIV reflect a large amount of unsafe sex both by HIV positive and HIV negative persons. Despite huge prevention efforts, numerous studies have revealed substantial cases of unsafe sex in the population at large and in different subgroups amongst the youth throughout the world.

Kenya Ministry of Health (2005) states that early marriage or what is normally called child marriage is constitutionally illegal but culturally accepted and tolerated. The age that was reported was 14 years and 19 years (Kenya Ministry of Health, 2005). Many parents would force their daughters to name the sexual partner responsible for the pregnancy so that they would negotiate for marriage. Early marriage has also been attributed to idleness, giving love for money and parent's lack of school fees, which makes them give in to the pressure for marriage (Republic of Kenya, 2005). Behavior Change Communication (BCC) strategies play a vital role in this process and can set the tone for a comprehensive response (FHI, 2001). BCC strategies can function to support

all components of a comprehensive prevention and care program and create a cohesive environment for behavior change.

Prevention of HIV Transmission through Behavioral and sexual means

Sexual behavior is private and patterns of sexual behavior are not well understood (Kenyatta University, AIDS Control Unit, 2006). There are also many religious and cultural dilemmas in dealing with HIV as sexually transmitted. Finding ways to alter and change sexual behavior to eliminate the further spread of HIV has proved to be extremely difficult (Kenyatta University, AIDS Control Unit, 2006).

Sexual contact is the most frequent means of transmission of HIV (Polsky and Clumeck, 1999). Between 75% and 85% of all HIV infections in adults and adolescents worldwide are transmitted through unprotected sexual intercourse. Heterosexual intercourse accounts for more than 70% of all adult and adolescent infections and homosexual intercourse accounts for a further 5-10%, although the proportions may differ from region to region (Polsky and Clumeck, 1999). Lack of perception of risk and feeling of invulnerability can be significant obstacles in changing adolescent's behavior (Tuju, 1996). Many adolescents feel invulnerable to HIV infection. For instance, students interviewed in Malawi, South Africa, Tanzania and Kenya, revealed that they did not consider themselves at risk of contracting HIV, while others said that if they became infected, other people would be responsible and not themselves (Macphail and Campbell, 2001). Since the discovery of HIV, there have been many programs and measures to promote behavioral change towards safer sex.

Despite the huge efforts, the number of HIV infections continues to increase dramatically mainly in some developing countries. AIDS is primarily a STD. The only practical

method to decrease HIV transmission at present is by safer sexual practices (Polsky and Clumeck, 1999). When talking about sexual risk and safer sex, Polsky and Clumeck (1999) hold it that HIV is present in the sexual fluids of infected people including the vaginal secretions of women and the semen (both pre-ejaculation lubricating mucus and the ejaculate) of men. If these fluids come into contact with a part of the body that allows them to gain access to the bloodstream (for example the vaginal mucosa, the anal mucosa and wounds and the sores on the skin or in the mouth), then a sexual behavior is considered at risk of transmitting the virus. Unprotected anal and vaginal penetrations are the sexual practices most strongly associated with contracting HIV if one partner is infected (Polsky and Clumeck, 1999). Safer sex according to them includes every behavior that has the intention of avoiding transmission of HIV. They go on to say that if this condition is not fulfilled, safer sex includes using a condom correctly every time one has anal or vaginal sex. However, the numbers of new diagnoses of HIV especially among the adolescents reflect a large amount of unsafe sex both by HIV positive and negative persons. Despite huge prevention efforts, numerous studies have revealed substantial amount of unsafe sex in the population at large and in different sub-groups (Polsky and Clumeck, 1999).

Although sex has a biological function, it is one of the most socially diverse of human activities (Moloney, 2005). The meaning of sex differs profoundly among societies, cultures, sub-cultures and individuals. Moloney (2005) has classified these factors into three groups namely, factors that are linked to the attributes of the individual, factors within the sexual relationship and factors that derive from the community or culture of which the individual is a part. He too has identified the following factors as influencing the extent to which a person will take steps to protect against infection:

- a person's perception of his or her own ability to undertake a certain behavior

- the perception of the personal risk of HIV infection (it is common for many people to underestimate the dangers posed by personal behavior and the risk of HIV infection) outcome expectations (the results of adopting a new behavior)
- Perceived social and community norms.

The basic premise is the assumption that people make decisions about and potentially have control over their behavior. However, Moloney (2005) states that emotional factors may interfere with rational decision-making. This together with feelings of depression, suicidal or other self-destructive tendencies, the erotic arousal of taking risks, internalized homophobia in some men who have sex with men and feelings of guilt in some survivors can all be obstacles to safer sex (Moloney, 2005).

Behavior Programs Targeted at Adolescents

HIV prevention behavior programmes can target individuals, families, communities, entire societies or (ideally) a combination of all these. Well designed programmes seek to achieve results on multiple levels. They promote accurate individual knowledge and perception of risk and increase individual motivation to avoid risky behavior (the Global HIV Prevention and Working Group, 2008). Prevention programmes also build individual skills needed to use to effectively negotiate risky situations. Within house holds, HIV prevention programmes aim to decrease the stigma associated with both HIV and sexuality, to promote open discussions about sexuality and drug use and to influence gender roles and norms. At a community level, effective HIV programmes seek to increase the value associated with safer behaviors to support community members reduce their risk, to build solidarity and reciprocity and to reinforce new norms (The Global HIV Prevention and Working Group, 2008).

Human behavior is complex. Widespread behavior changes are challenging to achieve and there are important gaps in knowledge on the effectiveness of HIV prevention (Global HIV Prevention Group, 2008). Yet, research to date clearly documents the impact of numerous behavioral interventions in reducing HIV infection. A study carried out in Uganda by the Makerere Institute of Social Research (MISR), (2003), indicates that Uganda is internationally considered a leader in responding to HIV/AIDS and many countries are keen to learn the approaches that have been used and if possible replicate them. The study was to establish the social and cultural factors that had impacted on HIV in Uganda and in particular their role in enhancing behavior change. The findings from the study indicated that there was a strong relationship between information, awareness, knowledge, perception and behavior change (Makerere Institute of Social Research (MISR), (2003).

HIV prevention efforts targeting young people have traditionally focused on delaying the onset of sexual intercourse, promoting abstinence, decreasing frequency and number of sexual partners, safer sexual practices and condom use and treatment of STIs (FHI, 2001). Kiai and Nduati (1997) hold it that the goal of an AIDS prevention program for adolescents should be to reduce HIV/AIDS through adoption of safe patterns of behavior. Kiai and Nduati (1997) have identified the following behavioral programs targeted at the youth.

- Parental counseling; most adolescents are exposed to limited information from their parents. Usually, girls are more likely to be counseled than boys.
- School-based programs. The approach in Uganda and Kenya has been to infuse HIV/AIDS education into existing examinable subjects.
- Active health clubs and anti-AIDS clubs running in schools.

- Use of peer educators as agents for behavior change as peer education has been shown to be successful in reducing substance abuse such as alcohol, drugs, and tobacco and in reduction of odd risk behavior. Peer educators are a more credible source of information because they communicate in a language that can be understood by their peers, and they serve as role models that dispel the normative concepts that all youth are involved in the risk behavior.
- The electronic and print mass media like the radio, school-reading materials, newsletters targeting at the youth like the straight talk magazine and informal media like theater, music and others that include posters, t-shirts and interpersonal communication are all behavior programs targeted at adolescents.

Wambua (2001) has however identified the following barriers to positive behavior change among the youth.

- Unplanned sexual intercourse. Young people often do not think and plan about having sex because the social environment does not allow them to do so. In many cases, boys meet girls on their way to the market or river and if they agree, they have sexual intercourse.
- Misconceptions regarding HIV/AIDS and other STIs.
- Stigma attached to AIDS. Thus people do not try to find out their HIV status. Those who know they are HIV positive tend to be secretive in order not to be shunned by their friends, families and communities.
- Young people see themselves as indestructible and react to HIV/AIDS with comments such as “AIDS came for people”, “I am not a tree to be used for furniture” and “every one will die anyway”. Thus they continue with irresponsible sexual behaviors.

- Adults tend to seek teenagers for sex because they believe they are not infected with HIV.
- High illiteracy rates hinder information sharing on HIV and other STIs.
- Inability of girls to bargain for sex.
- Some cultural and religious beliefs.
- Poverty which is a barrier at the national, community and individual levels. Lack of resources for health services and for dissemination of appropriate health learning materials prevent sensitization regarding HIV and other STIs.
- Lack of supportive political will. Some countries find it hard to admit the magnitude and impact of HIV/AIDS because they need to maintain a particular international image, and therefore do not accord it the seriousness it deserves
- Abuse of alcohol and other drugs. Substance abuse inhibits the ability of youth to make rational decisions. It deters their efforts to abstain from sex, remain faithful to their partners or correctly and consistently use condoms.

The government of Kenya has acknowledged the need to establish youth-friendly HIV prevention services (M.O.H, 2005). Youth-friendly services are accessible, acceptable and appropriate for adolescents (M.O.H, 2005). They are broad-based health and related services provided to young people to meet their individual health needs in a manner and environment to attract interest and sustain their motivation to utilize such services (M.O.H, 2005).they include:

- Counseling on sexuality, abstinence and relationships.
- Screening and treatment of STIs.
- Voluntary Counseling and Testing (VCT).
- Provision of information and education on reproductive health.
- Ante and post-natal care.

- Provision of contraceptives.
- Provision of recreational facilities.
- Training in livelihood and life skills such as decision-making, assertiveness and goal-setting.
- School health talks on personal hygiene, reproductive health, STI prevention and HIV/AIDS prevention.

The youth friendly services meet the individual needs of young people who re-visit when they need to and recommend the services to their friends (M.O.H, 2005). The M.O.H (2005) has outlined the following reasons for establishing youth friendly services,

- To cater for the health needs of adolescents as they are a neglected group by the health system.
- To look in to the specific biological and psychological needs of adolescence.
- To educate the youth on behavior related risks and offer them counseling services on good health practices.

Youth friendly services should have the following minimum conditions (M.O.H, 2005),

- Affordability and accessibility.
- Safe and basic range of services.
- Privacy and confidentiality.
- Provider competence/attitude.
- Quality and sustainability.
- Inbuilt monitoring and valuation system.

Currently, Kenya has a few youth friendly services where young people can access reproductive health care services. Examples include, VCT, counseling on reproductive health issues and drug abuse and reproductive clinical services (M.O.H, 2005).

Despite the efforts made to establish youth-friendly HIV prevention services, more than half of the all new HIV infections in the world occur among young people under age 25 (UNAIDS, 2004). The key to working successfully with young people is to develop genuine adult youth partnerships early in the planning of interventions (UNAIDS, 2006). This is essential for developing shared objectives as well as to better understand the specific determinants of positive behavior change including the enabling factors that can create a supportive environment for change (FHI, 2001). Remarkable progress has been made in informing the public about HIV/AIDS. Sustenance of these programs and effecting real change in behavior and ultimately reducing STDs and HIV/AIDS and unwanted pregnancies among the school going youth unfortunately continues to be a problem (Karuru 2004).

Government Policy on HIV/AIDS and the Youth

The government of Kenya is committed towards eradicating the HIV/AIDS scourge, for instance, on November 14th 1999, the government declared H.I.V/A.I.D.S a national disaster (NACC, 2000). In addition, the Sessional Paper No. 4 of 1997 of the Republic of Kenya gives the following guidelines on youth education.

- Designing culturally, morally and scientifically acceptable AIDS education programmes for youth in and out of school.
- Protection of youth against anti-social behaviors such as pre-marital sex, drug abuse, teenage pregnancy and school drop-out.
- Strengthening the capacity of teachers, parents, leaders and communities in general to enable them to lead and educate young people about HIV/AIDS and provide role models for the youth.

- Enforcing the Liquor-Licensing Act in order to stamp out the current practice where bars, lodgings and other social amenities are located in residential areas thus giving young people negative experiences.
- Addressing the issues of poverty, unemployment and productivity in line with social dimensions of development and the initiative for youth action.

The government, in 2001 revised the secondary school curriculum by incorporating STI as an integral subject among the various subjects being taught in the schools (K.I.E, 2001). The topics covered under STI include any one of the following: gonorrhoea, Chlamydia, herpes, candidiasis, trichomoniasis, HIV/AIDS, and syphilis. Students are supposed to understand the other STIs through their own private studies (KIE, 2001). The overall goal of the AIDS education programmes is to prevent the spread of the HIV/AIDS among the youth in and out of school through behavior change.

Kelly (2000) points out that adolescents in secondary schools are predisposed to HIV infection due to the fact that schools provide little help to them on sexual and reproductive health despite the efforts to provide them with knowledge on HIV/AIDS. Little counseling is offered to assist them in understanding their sexual identity and how to cope with its demand. The values of behavioral standards communicated to adolescents through the mass media and society around them weakens their ability to deal in a mature way with their emerging sexuality as societies continue to be sexually permissive. Similarly, unwillingness of parents to discuss sexual issues with adolescents predisposes them to negative influences in and outside school. Lastly, since adolescents belong to a group, which is most likely to be AIDS free, young boys and girls are subjected to sexual attention from adults who may be infected by the HIV virus (Kelly, 2000).

2.7.1 National Policies for HIV Prevention

Despite an initial reluctance during the 1980's to acknowledge the gravity of the epidemic, Kenya now has political commitment to reverse the spread of HIV and AIDS. The National AIDS Control Council (NACC) was established in 2000 under the Office of the President to provide leadership and a stronger coordination mechanism for a new multi-sectoral national response to HIV/AIDS (NACC, 2009). The NAC has a costed plan for effective HIV management, including HIV prevention, for the period 2005/6-2009/10 and coordinates all HIV and AIDS programmes, policies and interventions in the country, working and liaising with stakeholders from government, civil society, the private sector, external agencies and the corporate world.

In September 2003, the Kenyan government approved a bill that would make it a criminal offence to terminate or deny employment to anyone on the basis of his/her HIV status and would prevent insurers from raising premiums or denying services to HIV-positive clients. With the passing of the HIV/AIDS Prevention and Control Act in December 2006, Kenya now has a policy prohibiting HIV screening for general employment purposes and ensuring that AIDS research protocols involving human subjects are reviewed and approved by a national or local ethical review committee (NACC, 2009). The country has anti-discrimination laws and regulations that specify protection for vulnerable subpopulations which include children, women and young people. Promotion and protection of human rights is explicitly mentioned in some HIV policies and strategies and there also policies and laws against child marriage, sexual abuse and gender-based violence.

The country has a national policy for free (to users) HIV-prevention services, Antiretroviral Therapy and HIV related care and support interventions. Through the Joint

Annual Performance Review (JAPR) process, the NACC conducts regular national annual reviews to monitor and evaluate the progress in implementing the national strategic plan including whether current practices promote risk behavior or hamper access to HIV prevention services (NACC, 2009). Kenya has a policy or strategy that promotes information, education and communication on HIV to the general population. The key messages that are explicitly promoted include being sexually abstinent, delaying sexual debut, being faithful, using condoms consistently, engaging in safer sex and involving people with HIV to a greater extent in the national response. The government promotes increased knowledge of HIV status by vigorously promoting counseling and testing. Other policies it promotes include, blood safety, personal hygiene and sanitation, improved methods of waste disposal, HIV-related reproductive and sexual health education for young people and HIV education as part of the curriculum in primary and secondary schools and teacher training colleges (NACC, 2009).

2.8 Other related studies that have been carried out on adolescents and HIV/AIDS

Karuru (2004) carried out a study on factors predisposing adolescents to HIV/AIDS in selected secondary schools of Kiambu District, Central Province, Kenya. It was a cross-sectional descriptive study aimed at investigating the factors that predisposed adolescents to high-risk sexual behaviors leading to HIV/AIDS infection. The population consisted of 600 secondary students from three selected Divisions in Kiambu District. The study indicated that the students were aware of the factors that can predispose them to HIV/AIDS. The average number of sexual partners for male students was higher (47.9%) as compared to that of female students (24%). The study recommended that adolescents must learn the facts on reproductive health before they become sexually active and that

the information needs to be regularly reinforced and built in both the classroom and beyond.

Ambagwa (2004) carried out a study on knowledge of the relationship between Sexually Transmitted Infections and HIV transmission among secondary school students in Kabartonjo Division, Baringo District, Kenya. It was a descriptive cross-sectional study, aimed at establishing the students' knowledge of the relationship between STIs and the transmission of HIV. A total of 365 sampled respondents were interviewed. About 50% of them were aware of clinical symptoms of STIs in both males and females. The results further showed that 86% of the students considered STIs to be a serious problem, 39% perceived themselves as being at risk of contracting STIs and 39.7% reported being at risk of contracting HIV. The study concluded that there was need to strategize on information, education and communication targeting adolescents on knowledge of STIs as a measure of curbing the transmission of HIV.

Onyango (2002) carried out a cross-sectional exploratory study aimed at determining the Factors that influence risky sexual behavior among the youth in selected school in Bondo District, Kenya. The schools were selected by purposive sampling, while the study subjects were selected randomly using a table of random numbers. Data was collected using self-administered questionnaires and key informant interviews. The results of the study showed that 94% of the youth who engaged in risky sexual behavior knew that HIV/AIDS was not curable and 60% of them still had multiple sexual partners. The media had a great influence on the youth with 66% of them having copied and performed certain activities picked from the media. The study concluded that there was need to give particular attention to health and sex education to the youth in and out of secondary schools in an attempt to stem the increasing incidence of HIV/AIDS among the youth.

Noor. (2003) also conducted a study on the Socio-economic and Cultural factors in the transmission of HIV/AIDS among schools and college going youth in Central Division of Garissa District, Kenya. 389 students aged between 15-24 years were involved. Data was obtained through structured questionnaires and focused group discussions. The results of the study indicated the existence of disparities especially in knowledge possessed by students. The study concluded that there was lack of proper dissemination of adequate HIV/AIDS information as well as limited involvement of the youth in the prevention and control of HIV/AIDS in the community. The study recommended that the youth be empowered and efforts made to encourage youth-friendly approaches in dealing with HIV/AIDS.

Obiero *et al.*, (2000), conducted a study among unmarried adolescents aged between 10-24 years, in Nyamira District. The study indicated that the maiden age for the first sexual experience among adolescents was 14.5 years for girls and 16 years for boys. The same study revealed that 55% of the boys and 44% of the girls had had a romantic relationship with a member of the opposite sex. According to the study, a large number of the youth engaged in sex at an age when they could not understand the consequences of their actions resulting in unwanted pregnancies, abortions and Sexually Transmitted Infections. The study recommended that educating young people on reproductive health and trying to understand their reasons for engaging in unsafe sex in this era should be considered.

Makerere Institute of Social Research (2003) carried out a study in Uganda to establish the social and cultural factors that have impacted on HIV/AIDS in Uganda and their role in enhancing behavior change. The findings from the study indicated that there was a strong relationship between information, awareness, knowledge, perception and behavior change. According to the study, although knowledge of HIV/AIDS (measured by

people's knowledge on how HIV is transmitted and how it can be prevented) was found to be near universal, big gaps were noted especially in areas where access to information was limited. There was also universal willingness and determination to change behavior especially among adolescents and women.

A behavioral surveillance survey (2002) was carried out by the Government of Kenya. It was to monitor and evaluate knowledge in HIV/AIDS attitudes and behavior in populations at particular risk of HIV infection, such as youth and female commercial sex workers. The study established that Kenyans were very knowledgeable about HIV/AIDS and STIs and a substantial proportion reported having many sexual partners. Condoms were not used consistently with higher risk partners. Trust of a partner was the most common reason for not using condoms at last sex. Youths mentioned dislike of condoms as a reason for not using them. This persistent behavior indicates that heightened awareness of HIV/AIDS and STIs had not translated into safer sex.

2.9 Summary of the Literature Review

From the afore-mentioned, it is evident that various studies have been carried out in the field of adolescents and HIV/AIDS. However, most of these studies have focused on knowledge, attitudes, and the use of VCT by the youth. A study carried out by Obiero *et al.*, (2000), indicated that despite adolescents having information and awareness on HIV/AIDS, many were still engaging in risky sexual behavior. Karuru, (2004) looked at factors predisposing adolescents to HIV/AIDS in selected secondary schools of Kiambu District, Central Province, Kenya, but did not look at the factors influencing behavior change among the students. Hence the need for this study. Another study carried out in Uganda by the Makerere Institute of Social Research in 2003 focused on behavior change of the out- of- school youth. However, this study focused on school going youths where

most of the behavior programs have been implemented. The concern for youths in secondary schools is overwhelming because in Kenya (Githunguri Division inclusive), age at first sexual intercourse is low (14 years) and age at first marriage seems to have been declining (16 years) contributing to observed increase in school dropouts (NASCOP, 2005).

According to the global HIV prevention-working group (2003), dozens of studies have demonstrated that a variety of strategies can help individuals initiate behavior change and sustain healthy behavior to reduce risk. The need for this study is supported by the Global HIV prevention-working group (2003), which indicates that behavior change and maintenance programs provide essential health information, motivate people to reduce risks and increase an individual's skills in negotiating safer sex.

It is also evident that in the recent years in Kenya, treatment has been over-emphasized overshadowing prevention. HIV responses in Kenya have been driven from the national level with general and overarching programmes that have not focused on the unique needs of specific most at risk populations like the youth in rural areas. Empirical evidence is still lacking on behavior change by the youth and others to effectively adhere to abstinence and condom use promotion among the youth in school is difficult, hence the need for this study.

The high level of awareness of HIV and AIDS in Kenya has not been matched by comparable behavior change especially among the youth. Further, according to the KAIS 2008 report, 70% of HIV positive adults are currently living in rural areas while most of HIV campaigns are concentrated in the urban areas hence this study so that the study findings could be used in providing policies and guidelines on the HIV and AIDS

response in Kenya. Youth represent the future of Kenya and need special attention in HIV prevention programs. They report high sexual activity and low condom use, which puts them at increased risk of infection with STIs including HIV. A multi-faceted approach that involves abstinence, faithfulness and condom use is urgently needed. Around the world, successful prevention programmes among the youth are the ones that equip them with the knowledge, skills and attitudes to delay sex and to prevent infection once they become sexually active.

CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

In this section, all methodological details of the study are presented under appropriate sub-topics. They include; Study Design, Study Area, Target Population, Sample Size and Sampling Procedure, Inclusion Criteria, Exclusion Criteria, Ethical Considerations, Data Collection Methods and Research Instruments, Pilot Study, Data Management and Quality Control and Data Analysis. Behavior change was measured by identifying the respondents age at first sexual debut, number of sexual partners those that were sexually active had, number of respondents that were able to abstain from sex and by identifying how many of the respondents practiced safe sex by use of condoms. Indicators used in the study to show that behavior change would lead to prevention of HIV and AIDS included effective and consistent use of condoms, abstinence from sex, age at first sexual debut and the number of sexual partners the respondents had.

3.1 Study Design

This study was a descriptive survey. This is considered as an appropriate research design because according to Cohen and Lawrence (1995), descriptive surveys gather data at a particular point in time with the intention of describing existing conditions or identifying standards against which existing conditions can be compared or determining relationships that exist between specific events.

3.2 Study Area

The study was conducted among secondary school students in Githunguri Division, Kiambu East District, in the Central Province of Kenya. These included students from mixed day schools, mixed boarding schools, girls' boarding schools and boys' boarding

schools in Githunguri Division. Githunguri division occupies an area of 171.6km² and has a population of 166,129 people (Kenya's Ministry of Finance and Planning, 2004). Githunguri Division is divided into four zones namely Komothai, Githiga, Githunguri and Ngewa zones. One of the main health challenges facing the area is HIV/AIDS (Kenya's Ministry of Finance and Planning, 2004). According to a report by NASCOP (2007), Central Province has a HIV prevalence of 3.8%, while Kiambu District has a HIV prevalence of 4.6%.

3.3 Target Population

The study population comprised of schoolboys and girls in Form One to Form Four classes from all Secondary schools in Githunguri Division. There are twenty-eight secondary schools in Githunguri Division; one (1) mixed boarding school, four (4) boys boarding schools, four (4) girls boarding schools and nineteen (19) mixed day schools. A total of 4,500 students were targeted. Secondary school students were chosen since they are in the adolescent stage and comprised the sexually active group in the society NASCOP (2006). Besides, adolescents are the window of hope of tomorrow and whatever happens at this stage will have a great impact both on the individual and the society at large. Hence, the importance of knowing factors influencing behavior change for HIV/AIDS prevention among the secondary schools students in Githunguri Division, Kiambu East District.

3.4 Sample Size and Sampling Procedure

Stratified random sampling was used to identify eight schools that made up the sample. According Cohen and Lawrence (1995), a sample of 10% of the population is adequate in large populations, while 20% of the population is acceptable in small populations. In this study, 20% was acceptable as the population was small, hence the 8 schools out of 28

schools. The sample was stratified into four categories namely, mixed day schools, mixed boarding schools, single boarding boys' schools and single boarding girls' schools. Since there was only one mixed boarding school in the area, it was purposively included in the sample. Class registers were used to randomly sample students by use of systematic random sampling. Probability of population by sample size was used to determine the number of students to be sampled per form depending on the sizes of the classes.

To determine the sample size, Mugenda and Mugenda (1999) formula was used. That is $n = \frac{z^2 pq D}{d^2}$

Where, n = Standard normal deviate (1.96) corresponds to 95% confidence interval.

p = Proportion in target population with the desired characteristic, 5.7% (HIV adult prevalence of 15-49 years)

q = $1 - p$ ($1 - 0.057$) = 0.943

d = degree of accuracy, that is 0.05

$n = \frac{(1.96^2) (0.057) (0.943)}{0.05^2}$

$n = 377$ (although a sample size of 384 subjects was used for better results of the study).

This is illustrated in the table below.

Category of School	Mixed Day	Mixed Boarding	Single Boys Boarding	Single Girls Boarding	Total
No. Selected	3	1	2	2	8
Boys	52	20	120	0	192
Girls	52	20	0	120	192
Sample size (Total)	104	40	120	120	384

3.5 Inclusion Criteria

The form one to four students who were selected from the eight schools that were randomly selected gave their informed consent to participate in the study as respondents.

3.6 Exclusion Criteria

All the form one, two, three and four students from the eight randomly selected schools who were not selected as study subjects and those who did not give their informed consent to take part in the study.

3.7 Research Instruments and Data Collection Procedures

Since the study involved collection of primary survey data, a questionnaire was administered. Each item in the questionnaire was developed to address a specific objective, research question or hypothesis of the study. The items in the questionnaire came from the literature review and from previous studies carried out by Karuru (2004), Obiero *et al.*, (2000), and Makere Institute of Social Research (2003) . This being a study in the social sciences, a questionnaire was suitable to use as the questions especially the closed ended ones are easy to analyze, administer and economical to use in terms of time and money. Four research assistants were used to administer the questionnaires to the participants. The research assistants distributed the questionnaires to the participants after seeking for informed consent. They then collected the questionnaires after the participants had filled them.

3.8 Pilot study

Two secondary schools from Githunguri division were randomly selected for the pilot study. The two schools were not therefore, involved in the subsequent actual study. The purpose of the pilot study was to determine the administrability and reliability of the instrument. The test-retest technique was used to establish the reliability of the

questionnaire. The questionnaire was administered twice to the respondents with a time lapse interval of two weeks. The scores from the two test were correlated and a high reliability coefficient of $r=0.92$ was found.

The content validity of the questionnaire was assessed by the researcher's supervisors. They helped determine if the questions sought the required information, were answerable and analyzable.

3.8.1 Data Management and Quality Control

Data that was collected was coded and analyzed using SPSS (Statistical Package for the Social Sciences).

3.8.2 Data Analysis

Research findings were presented using pie charts, bar diagrams, frequency distribution tables, measures of central tendencies and ratios. The measures of central tendency that were used included mean and median. Chi-square was used to compare the relationship between variables at a significance level of 0.05.

3.9 Ethical Considerations

The researcher got permission to carry out the study from Kenyatta University, School of Health Sciences. Authority was also obtained from the Ministry of Education, Kiambu East District Education Officer, the Kiambu East District Commissioner and from the Githunguri Division Area Education Officer. Likewise, permission was sought from the various individual principals of the sampled schools before involving the students as subjects in the study because these students were minors, and those who did not give their consent were not forced to participate in the study. The privacy and confidentiality of the information given by the subjects was maintained in the course of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The purpose of this study was to establish factors influencing behavior change for HIV/AIDS prevention amongst students in Githunguri Division, Kiambu East District, and Central Province. A sample size of 343 was selected from the 8 target schools. The data that were collected were coded and entered in SPSS package where the analysis was done. Frequency tables and charts were used to present the findings upon which discussion and conclusions were made. The chi-square was used to test the hypotheses. The findings of the study are presented in the sections that follow.

Background Information of the Respondents

Table 4.1 below shows characteristics of the respondents in terms of age, sex and form.

Table 4.1: Characteristics of the Respondents (Sex, Age, Form)

Gender	Frequency	Percent
Male	202	58.9
Female	141	41.1
Age		
13-15 yrs	67	19.5
16-19 yrs	268	78.1
Class/form		
Form 1	125	36.4
Form 2	52	15.2
Form 3	72	21.0
Form 4	90	26.2
Total	343	100.0

As shown in the table 4.1 above, majority (78.1%) of the respondents were in the age range of 16 to 19 years while minority, (19.5%) were 13 to 15 years age bracket. It was also established that 40.5% of the respondents that were interviewed were female, while 58.9% were male. It can further be seen that although 36.4% of the respondents were drawn from form one while 26.2%

were in form four, the sample was fairly representative of all the levels of students in the schools.

4.2.1: Religion of Respondents

Table 4.2 below shows the religion of the respondents.

Table 4.2: Religion of Respondents

Religion	Frequency	Percent
Muslim	8	2.3
Protestant	181	52.7
Catholic	98	28.6
No response	56	16.3
Total	343	100.0

Results in table 4.2 show that majority of the respondents (52.7%) were Protestants while 28.6% were catholic. About 16% of the respondents did not respond suggesting that they could not identify with any religious affiliation. Religion was important in the study as it provides moral guidance in issues of sex before marriage, abortion and marriage, thus preventing the spread of HIV/AIDS.

4.2.2: Respondents' Use of Leisure Time

Table 4.3 shows how respondents use their leisure time.

Table 4.3: Distribution of Respondents' Use of Leisure Time

Use of leisure time	N	Percent
Games/sports	181	52.8
Watching videos	106	30.9
Drama club	20	5.8
At home reading novels	12	3.5
Discos	8	2.3
With friends	6	1.7
In bars	4	1.2
Practicing agriculture	4	1.2
Practicing to be a musician	2	0.6
Total	343	100.0

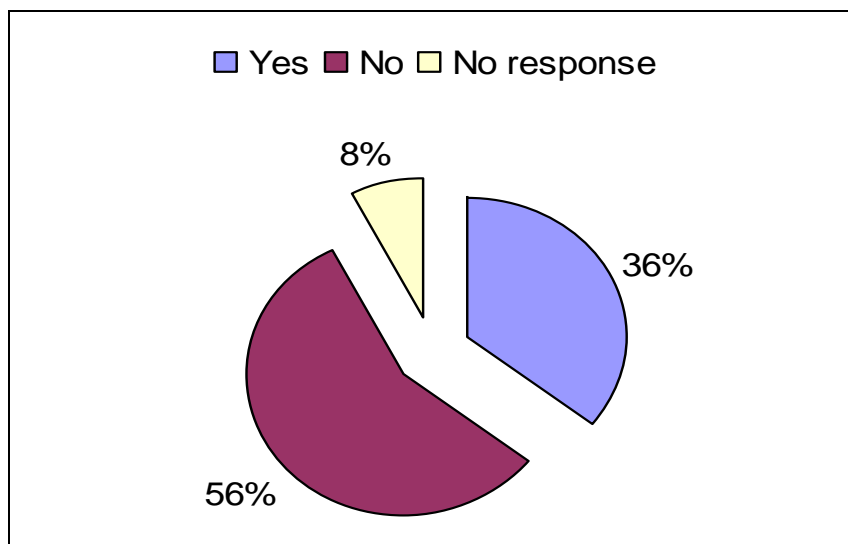
As shown in table 4.3, majority of the respondents (49.3%) spent their leisure time in sports while another 29.2% watched videos. 1.2% of the respondents spent their free time in bars and another 0.6% practicing to be musicians. Leisure activities are important pastime, therefore, help keep youth busy. This in turn diverts their attention from immoral activities that include pre-marital sex and drugs and substance-abuse.

4.3: Socio-Demographic Factors

4.3.1: Involvement in Sex

Figure 4.2 shows the distribution of respondents' involvement in sex.

Figure 4.2: Distribution of Respondents' Involvement in Sex

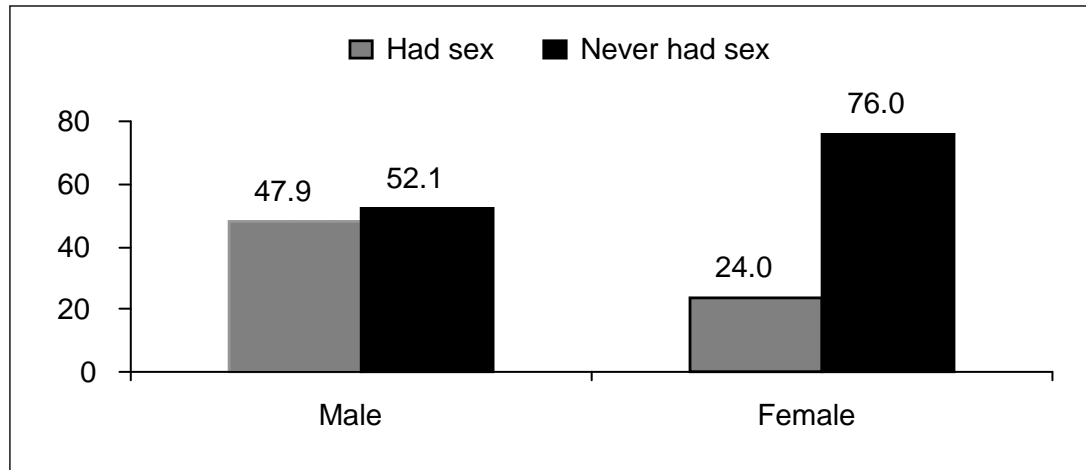


As shown in Figure 4.1 above, majority of the respondents (56%) had never had sexual intercourse while 36% had engaged in sex. Eight percent of respondents did not respond to the question probably because they were uncomfortable revealing such information about themselves. These results show that the proportion of 36% of respondents who had been engaged in sex were vulnerable to contracting HIV. This also implies that the message on attitude change towards casual sex had little impact.

4.3.2: Involvement in Sex on the Basis of Gender

Figure 4.3 shows the distribution of respondents' involvement in sex on the basis of gender.

Figure 4.3: Distribution of Respondents' Involvement in Sex on the Basis of Gender



Results shown in Figure 4.2 above show that 47.9% of the male respondents compared to 24% of the female respondents conceded to have had a sexual experience. It is however possible that boys accepted to having sex so as to look like real men. Girls on the other hand suppressed acknowledging exposure to sex so as not to appear to have loose morals. These results are similar to those attained by a study carried out by Karuru (2004), where more male students (47%) as compared to female students (24%) had engaged in sex.

4.3.3: Age at First Sexual Intercourse

The respondents who had engaged in sex were asked to state the age at which they had their first sexual intercourse. The responses obtained are as shown in table 4.4 below.

Table 4.4: Respondents' Age at First Sexual Intercourse

Table 4.4 below shows the respondents' age at first sexual intercourse.

Age of respondents	Frequency	Percent
7	24	4.3
8	26	5.9
9	24	4.3
10	28	7.6
12	28	7.6
13	28	7.6
14	30	9.2
15	30	9.2
16	34	13.5
17	30	9.2
18	28	7.6
No response	33	13.0
Total	343	100.0

Table 4.4 above, shows that about one quarter of the respondents (29.7%) had their first sexual experience at the age of 12 or less. This shows that many of the respondents had sex while still very young. The average age of first sexual experience was 13.56 years. The average age of first sexual intercourse was slightly higher for boys (13.59 years) than for girls (13.45 years). This indicates that girls were more likely to get into sex at a younger age than boys. This confirms the results of a study by NASCOP (2005), where by the age at first sexual debut of adolescents was discovered to be 12 years, and that by the age of 20 years, 90% of adolescents usually have been engaged in sexual intercourse.

4.3.4: Last Date of Sexual Intercourse

Figure 4.4 below shows the last dates of sexual intercourse for the respondents who had engaged in sex.

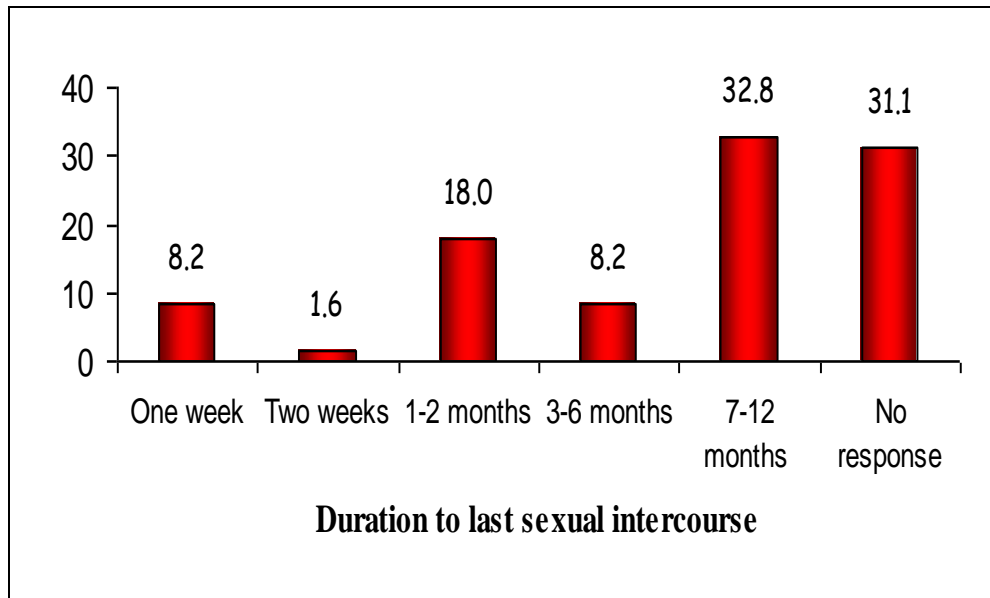
Figure 4.4: Distribution of Respondents' Last Date of Sexual Intercourse

Figure 4.4 above depicts the last time the respondents had sexual intercourse prior to the survey. It shows that 32.8% of the respondents had sex between 7-12 months prior to the survey while 26.2% had engaged in sex 1 – 6 months before the study was carried out. About ten percent of the students had had sex within two weeks before the survey. 31.1% of the respondents gave no response probably due to the myths and taboos surrounding the subject of talking about sexual issues openly in the society. Wambua (2001) conducted a study among church going youth in Machakos District and discovered that 69% of the respondents had engaged in sex, while only 30.5% of the respondents abstained. These findings by Wambua (2001) tally with the findings of this study.

4.3.5: Number of sexual partners

Table 4.5 below shows the distribution of the respondents' number of sexual partners.

Table 4.5: Distribution of Respondents Number of Sexual Partners

Sex	Mean	Std. Deviation
Male	2.03	2.036
Female	1.43	2.158

Table 4.5 shows that the average number of sexual partners for boys was higher (2.03) than that of girls (1.43). The findings are evidence that the youth were active sexually and any efforts to encourage responsible sex or behavior change are most relevant.

4.3.6: Use of Condom during Last Sexual Intercourse

Figure 4.5 below shows whether respondents used condoms during their last sexual intercourse.

Figure 4.5: Respondents' Use of Condoms during their Last Sexual Intercourse

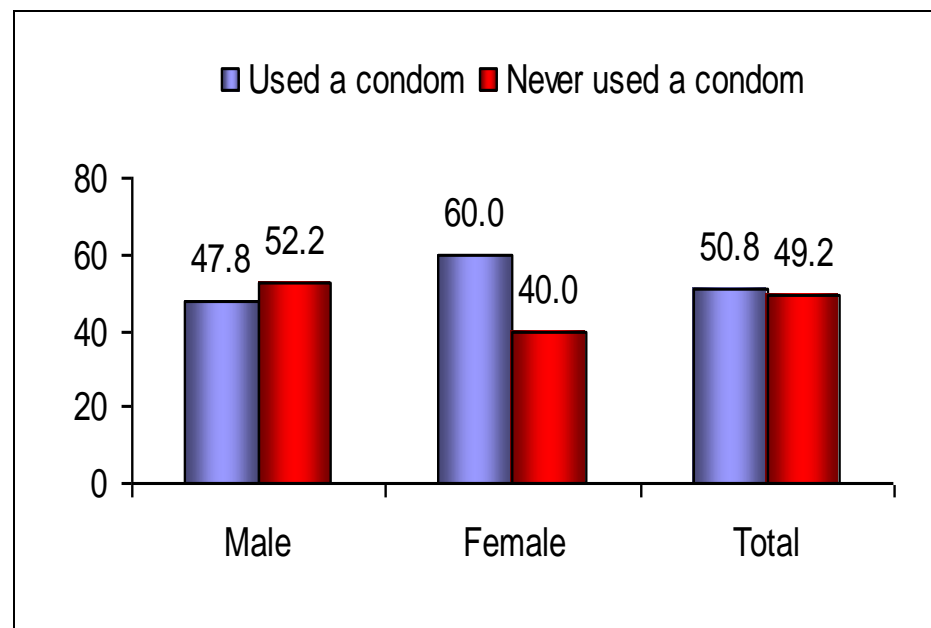


Figure 4.5 above shows the use of condom amongst respondents where 50.8% had used condoms while 49.2% had not. It also shows that more females (60%) than boys (52.2%) had used a condom. The findings imply that about one half of the students that had engaged in sex never used protection and therefore had exposed themselves to the risk of contracting HIV and other STDs.

4.3.7: Frequency of Condom Usage

Table 4.6 shows the respondents frequency in their use of condoms

Table 4.6: Distribution of Respondents' Use of Condoms

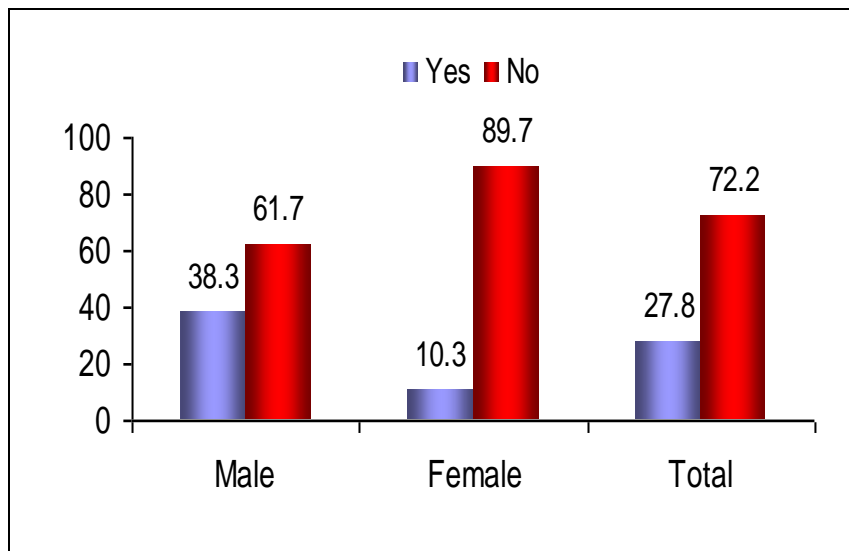
Use of condoms	Frequency	Percent
At every time	36	58.1
Sometimes	18	29.0
No response	8	12.9
Total	62	100.0

From table 4.6 above, majority of the respondents that had used a condom (58.1%) did so every time they had sex while 29% used it sometimes. This shows that condom use was still not effective means of protection as it was not used every time by those that had sex indicating that the youth were still engaging in risky behavior, predisposing them to HIV/AIDS. This tallies with the findings of Karuru (2004) who concluded that knowledge of the students on facts about HIV/AIDS was not reflected in their prevention measures against the disease as only 12.8% of the study population reported to have used condoms on regular basis.

4.3.8: Unprotected Sex as Evidence of Love

Figure 4.6 below shows whether or not respondents view unprotected sex as evidence of love

Figure 4.6: Respondents' View of Unprotected Sex as Evidence of Love



The respondents were asked whether having unprotected sex with their partners was prove that they were loved. Majority of the respondents (72.2%) were negative while 27.8% believed so. It can be seen that 38.3% of the boys compared to 10.3% of the females believed in this. This implies that boys were more likely to demand for unprotected sex as a way of seeking assurance that they were loved by the partners.

4.3.9.1: Perception on Persistent Use of Condom

Figure 4.7 below shows the respondents' perception on persistent use of condoms

Figure 4.7: Respondents' Perception on Persistent Use of Condom

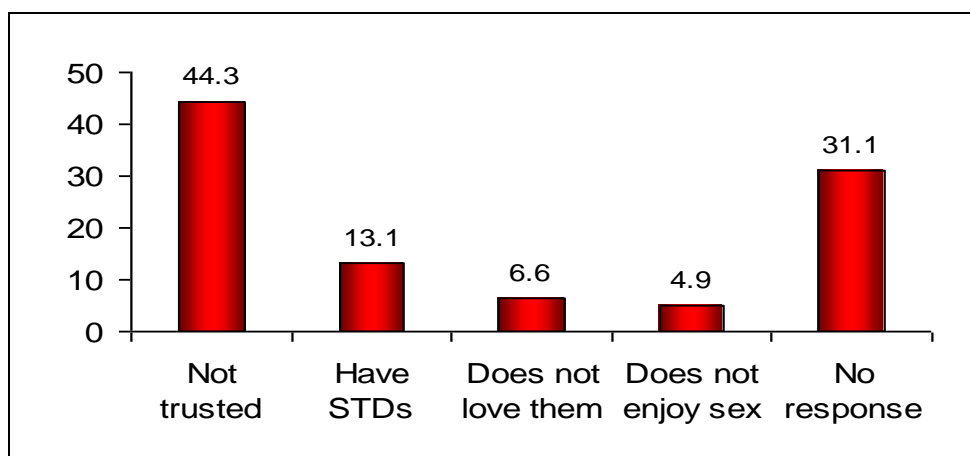


Figure 4.7 above shows that a large proportion (44.3%) of the respondents would fear that they were not trusted by their partners while 13.1% would feel that they were suspected of having STDs. This shows that many of the respondents who had had sex would be uncomfortable if their partners insisted on consistent condom use. The findings imply that many of the respondents treasured unprotected sex. This is a dangerous notion and is not consistent with teachings on HIV and AIDS prevention. Unprotected sex predisposes the youth to HIV/AIDS infection as hetero-sexual sex is one of the ways through which HIV is spread.

4.3.9.2: Perception on Abstinence from Sex

Table 4.7 below shows the respondents perception on abstinence from sex

Table 4.7: Respondents' Perception on Abstinence from Sex

Perception on abstinence	Sex		Ever had sex	
	Male f(%)	Female f(%)	Yes f(%)	No f(%)
Coward	106 (58.9)	72 (60.5)	66 (56.9)	100 (59.9)
Not functioning sexually	80 (44.4)	36 (30.3)	38 (32.8)	72 (43.1)
Responsible	38 (21.1)	41 (34.5)	18 (15.5)	59 (35.3)
Infected with HIV	30 (16.7)	28 (25.5)	24 (20.7)	30 (18.0)
Nothing	36 (20.0)	12 (10.1)	18 (15.5)	26 (15.6)

Percentages and totals based on respondents

Table 4.7 above shows that slightly more females (60.5 %) than males (58.9%) thought they would be regarded as cowards when they abstained from sex. It can also be seen that more of those that had never had sex (59.9%) thought they were regarded in this manner. The latter finding does not suggest that students would engage in sex so as not to be regarded as cowardly. The findings further show that more males (44%) than females (30.3%) felt that they would be regarded as being sexually dysfunctional if they abstained from sex. More of those that had never had sex (43.1%) also believed they would be

regarded as dysfunctional. Apparently very few of the respondents thought they would be viewed positively when abstaining from sex. This suggests that many of the youth believed that abstinence was not regarded as a positive virtue by the larger society. This supports research findings of a study carried out amongst adolescents by the Kenya Ministry of Health (2001). The study revealed that adolescents engaged in unprotected sex, thus predisposing themselves to HIV infection.

4.4 Knowledge on HIV and AIDS

This objective sought to establish the knowledge levels of the respondents regarding HIV and AIDS. This was based on knowledge of the key ways to reduce IDS transmission such as abstaining from sex, being faithful to one uninfected partner and using of condoms. Table 4.10 below shows the mean rankings and standard deviations obtained on several factors that predispose adolescents to HIV/AIDS

4.4.1: Factors Predisposing Adolescents to HIV/AIDS

Table 4.8 below shows the respondents views on factors predisposing adolescents to HIV/AIDS

Table 4.8: Respondents' views on Factors Predisposing Adolescents to HIV/AIDS

Predisposition to HIV/AIDS	N	Mean	Std. Deviation
Peer pressure/influence	281	3.38	1.381
Reading or watching pornography	297	3.23	1.513
Curiosity/need to experiment	246	3.17	1.483
Drug use and abuse	303	3.06	1.517
Poor role modeling by parents	252	3.05	1.461
Influence from mass media	266	3.02	1.340
Male/female circumcision	283	2.92	1.473
Relaxed rules at home/church/ in society	257	2.88	1.557
Availability of contraceptives	230	2.85	1.369
Poverty	264	2.65	1.373

Scale: 1- Strongly disagree, 5 –Strongly agree

Table 4.8 above shows that the respondents highly ranked peer pressure/influence as a factor predisposing adolescents to HIV/AIDS. This is probably because they encouraged each other to indulge in reckless sexual practices. Exposure to pornography (mean=3.23) was also highly ranked as a factor that may lead adolescents to HIV/AIDS. Pornography encouraged sex or sexual practices that do not emphasize safe sex according to the respondents (mean 3.23).

Poverty (mean=2.65) and availability of contraceptives (mean=2.85) were regarded least as factors predisposing adolescents to HIV and AIDS. This shows that the respondents did not view a direct linkage between HIV and poverty.

4.4.2: Knowledge about HIV/AIDS

Table 4.9 below shows the respondents knowledge about HIV/AIDS

Table 4.9: Respondents' Knowledge about HIV/AIDS

Knowledge about HIV/AIDS	True N (%)	False N (%)
A person can be infected with HIV/AIDS and not even know it	298 (87.0)	44 (13.0)
A person who is sick with aids can infect others	296 (86.2)	45 (13.8)
HIV is transmitted by engaging in unprotected sexual intercourse with an infected person	294 (85.8)	49 (14.2)
A person with many different partners could be at risk of HIV infection	277 (80.7)	66 (19.3)
Risk of contracting HIV is increased by presence of other sexually transmitted diseases	261 (76.2)	82 (23.8)
Regular use of condoms helps to reduce the risk of contracting HIV	210 (61.1)	131 (38.9)
By reducing the number of sexual partners, one reduces chances of HIV infection.	212 (61.8)	131 (38.2)
One can tell someone infected with HIV virus by just looking at him or her	68 (19.7)	275 (80.3)

Table 4.9 above shows that the largest proportion of respondents agreed that a person can be infected with HIV/AIDS and not even know it (87%). They also agreed that a sick

person would infect others (86.2%). There was a high proportion of students agreeing that HIV is transmitted by engaging in unprotected sexual intercourse with an infected person (85.8%). Students disagreed with the statement that one can tell someone infected with HIV/AIDS virus by just looking at him or her. The findings generally show that the respondents were well informed about issues related to HIV and AIDS. This implies that the students had been equipped with information regarding the same. It is therefore plausible to deduce that HIV/AIDS campaigns should focus on teaching the youth to use the information they have to stay safe. A study carried out by Karuru (2004) indicated that students were aware of the factors that can predispose them to HIV/AIDS. The study further revealed that knowledge of the students on facts about HIV/AIDS was not reflected in their prevention measures against the disease, as only 12.8% of the students used condoms on regular basis and majority of the adolescents did not consider themselves to be at risk of contracting HIV. Thus, there is need for adolescents to learn facts about HIV/AIDS before they become sexually active and the information needs to be regularly reinforced and built in both the classroom and beyond.

4.5: Behavior Programs Targeted at Adolescents

This objective sought to assess the respondents' awareness of programs targeting adolescents as well as their impact in encouraging behavior change. The respondents were asked to give their opinions of what they thought HIV prevention focused on. Table 4.12 shows the responses obtained.

4.5.1: Focus of HIV Prevention Efforts

Table 4.10 below shows the respondents views on HIV prevention measures.

Table 4.10: Respondents Views on Focus of HIV Prevention measures

HIV prevention measures	Frequency	Percent
Promoting abstinence	139	40.5
Use of condom	68	19.8
Treatment of sexually transmitted Infections	20	5.8
Delaying the sexual onset of intercourse	18	5.2
Decreasing frequency and number of sexual partners	6	1.7
All the above	34	9.9
No response	58	16.9
Total	343	100.0

From table 4.10, it can be observed that a larger number of the respondents (40.5%) rated promotion of abstinence as the most important HIV intervention effort. 19.8% of the respondents said that condoms were a means of HIV/AIDS prevention. Another 5.8% said that treatment of sexually transmitted infections could prevent HIV/AIDS transmission, while 5.2% of the respondents indicated that delaying the onset sexual of intercourse could reduce the spread of HIV/AIDS. The findings show that the students are aware that abstinence is the most effective method of stopping the spread of HIV/AIDS. This confirms a study that was carried out by Ambagwa (2004). The study findings were that majority of the students (88%), were aware of how to avoid contracting HIV, the virus that causes AIDS.

4.5.2: Most effective Behavioral Programs Targeted at the Youth

Table 4.11 below shows the respondents views on information highlighted most in behavior change programmes

Table 4.11: Respondents' View on Information Highlighted Most in Behavior Change Programmes

Information highlighted most in behavior change programmes	Frequency	Percent
Decreasing frequency and number of sexual partners	85	24.8
Promoting abstinence	70	20.4
Delaying the onset of sexual intercourse	62	18.1
Treatment of sexually transmitted infections	46	13.4
Use of condom	18	5.2
No response	62	18.1
Total	343	100.0

Table 4.11 shows that majority of the respondents (24.8%) rated decreasing frequency in number of sexual partners as the information highlighted most in behavior change programmes targeted at the youth. 20.4% of the respondents indicated that messages on promoting abstinence were highlighted most in behavior change programmes targeted at the youth. 18.1% of the respondents indicated that messages that promoted the delay of the onset of sexual intercourse were highlighted most in behavioral programmes targeted at the youth. Another 13.4% of the respondents indicated that messages on treatment of Sexually Transmitted Infections were highlighted most in behavioral programs targeted at the youth. However, 18.1% of the respondents gave no response. This indicated that there was a strong relationship between information, awareness, knowledge, perception and behavior change.

4.5.3: Knowledge about Voluntary Counseling and Testing (VCT)

Figure 4.8 below shows the respondents' knowledge about Voluntary Counseling and Testing

Figure 4.8: Respondents' Knowledge about Voluntary Counseling and Testing

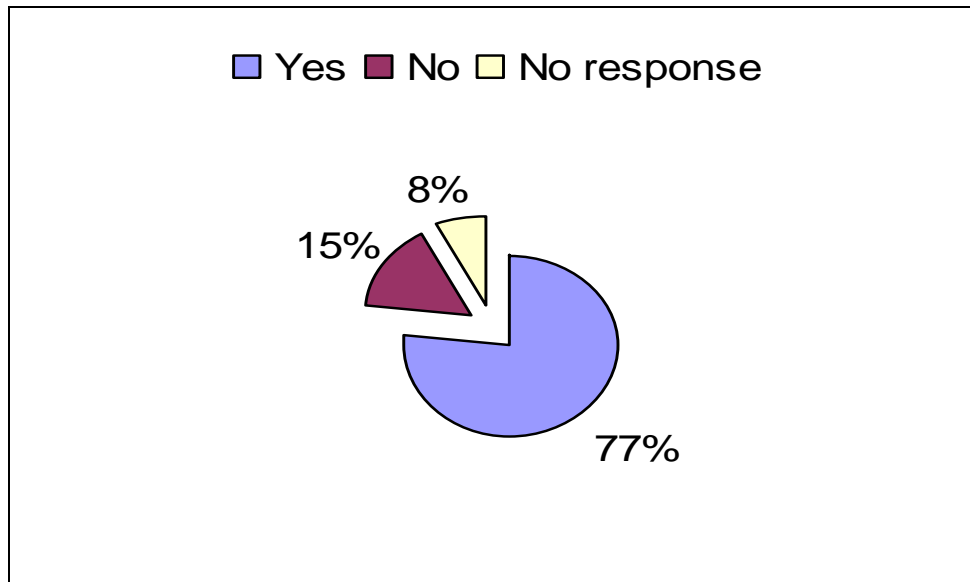
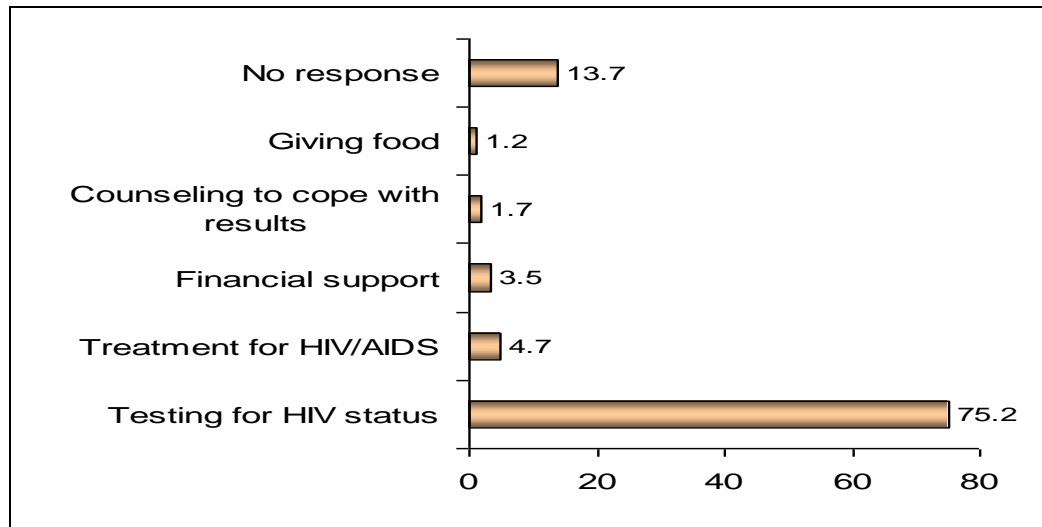


Figure 4.8 shows that majority of the respondents (77.0%) were aware of VCT while a minority of the respondents (14.9%) had no idea about VCT. Only 8.2% did not respond to the question. With the knowledge of VCT, then it is possible for behavior change to occur. This is because one of the services offered in a VCT centre is education about HIV/AIDS, and this could lead to behavior change and prevention of HIV among students.

4.5.4: Services Offered at VCT Centers

Figure 4.9 below shows the respondents views about services offered at VCT centers.

Figure 4.9: Respondents' Views about Services Offered at VCT Centers



*multiple responses were allowed

The respondents were asked about services offered in a VCT centre. From the figure 4.9, majority of the respondents (75.2%) stated testing for HIV status as the main activity which goes on at VCT while 4.7% of the respondents mentioned treatment for HIV/AIDS as the main activity which goes on at VCT. Financial support (3.5%) and Counseling to cope with results (1.7%) were also mentioned by the respondents as activities which go on at VCT. About 13.7% did not respond to the question. These findings imply that majority of students were well informed about the kind of support services that were provided at a VCT centre. Testing for HIV status is important because it enables the clients to know their HIV status so that those who are HIV negative can adopt behavior change that can prevent them from getting infected.

4.5.5: Voluntary Counseling and Testing within Twelve Months

Figure 4.10 below shows whether the respondents had visited a VCT center 12 months prior to this study.

Figure 4.10: Respondents' Visit to a VCT Center within Twelve Months

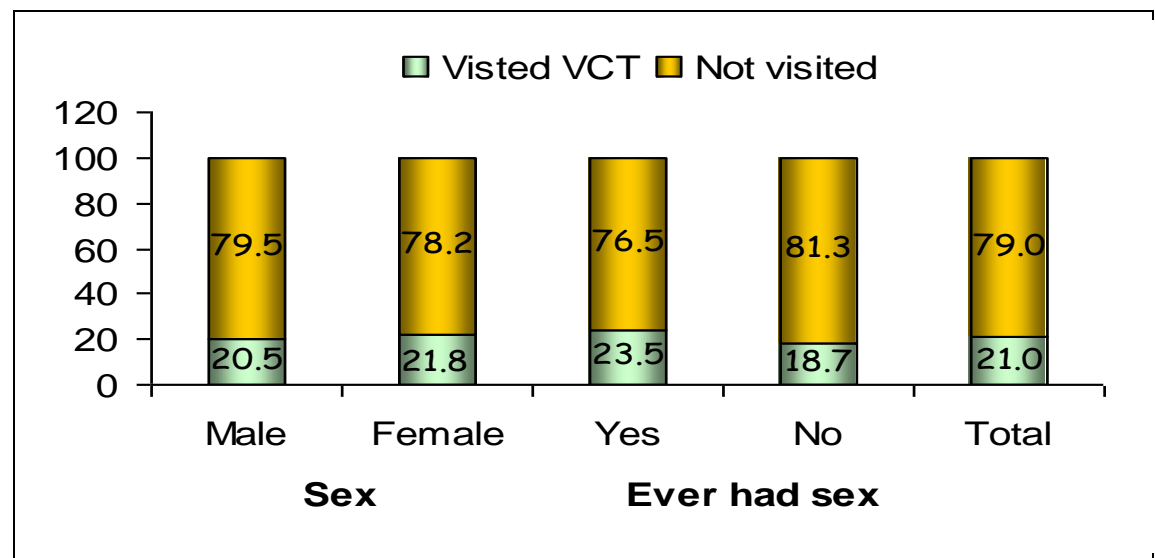
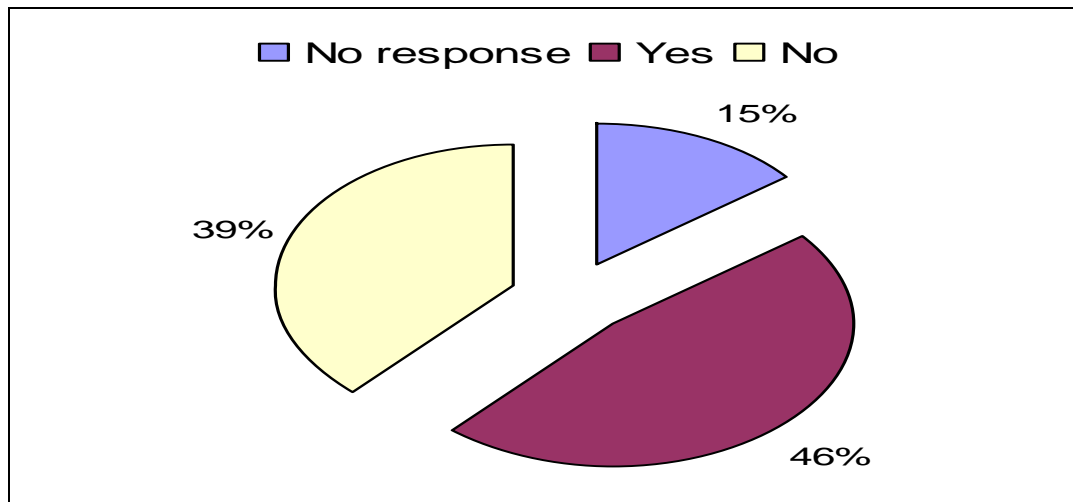


Figure 4.10 shows that majority of the respondents (79%) had not visited VCT 12 months before this study while a minority of the respondents (21%) had visited VCT 12 months before this study. It can also be seen that more girls than boys did attend VCTs. Similarly respondents that had engaged in sex sought VCTs more than those that had not. More needs to be done to encourage more youth to attend VCTs to not only know their status but also to seek information about HIV and AIDS. Failure to attend VCT centers may hinder behavior change among adolescents as they will not have access to information on HIV/AIDS given in these centers.

4.5.6: Knowledge about Youth Friendly Services

Figure 4.11 below shows the respondents Knowledge about youth friendly serviced

Figure 4.11: Respondents' Knowledge about Youth Friendly Services

The respondents were asked about their awareness of the youth-friendly services. Figure 4.11 depicts that majority of the respondents (46.9%) had heard about youth friendly-services, while 38.5% had not heard of the services. Only 14.6% did not respond to the question. Youth-friendly services are accessible, acceptable and appropriate for adolescents (M.O.H, 2005). They are broad-based health and related services provided to young people to meet their individual health needs in a manner and environment to attract interest and sustain their motivation to utilize such services as VCT and reproductive health education. This is meant to enhance behavior change as the students will not fear to seek VCT services due to stigmatization or ignorance.

4.5.6: Source of Information about Youth Friendly Services

Figure 4.12 below shows the respondents source of information about youth-friendly services.

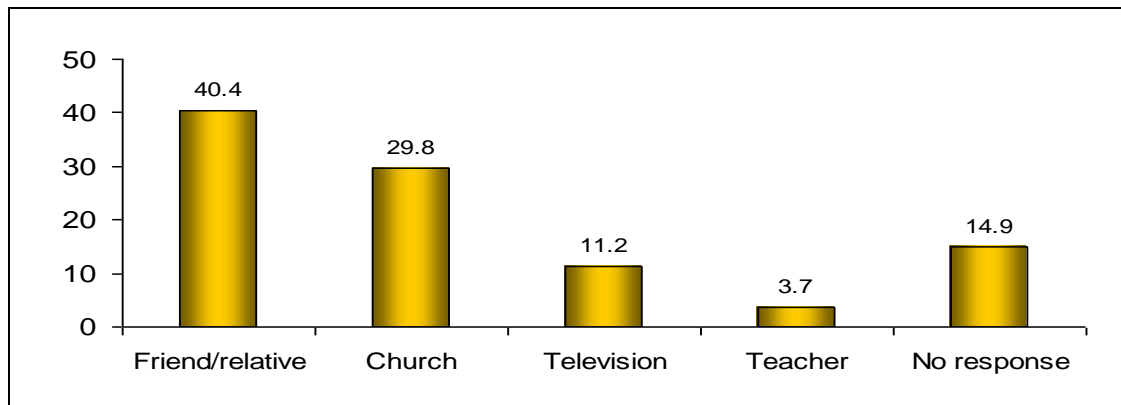
Figure 4.12: Respondents' source of Information about Youth Friendly Services

Figure 4.12 above shows that a larger proportion of the respondents (40.4%) had heard about the youth friendly services from relatives and friends, 29.8% had heard about the services in church, 11.2% from televisions while 3.7% heard about youth friendly services from their teachers. This shows that information about youth friendly services had not been channeled through the schools where the youth spent most of their time.

4.5.7.: Activities Related to HIV Prevention Undertaken in School

Table 4.12 below shows the respondents views on activities related to HIV prevention undertaken in schools.

Table 4.12: Respondents' Views on Activities Related to HIV Prevention Undertaken in School

Activities related to HIV prevention in school	Frequency	Percent
Peer education/counseling	152	44.3
Guidance and counseling	111	32.4
Taught by teacher on HIV	16	4.7
Straight talk club	6	1.7
Others	2	.6
Total	343	100.0

The respondents were asked about activities related to HIV prevention undertaken by them in school. From table 4.12 above it is shown that a bigger number of the respondents (44.3%) participate in peer education/counseling, 4.7% of the respondents take part in Guidance and counseling. Attending tutorials conducted by teachers on HIV (4.7%) and participation on straight talk (1.7%) were also mentioned as the main activities related to HIV prevention undertaken by them in school. 16.3% did not respond to the question. This is important because wider delivery of effective behavior change strategies is central to reversing the spread of HIV/AIDS among students as there is no known cure for AIDS.

This is in agreement with the findings of a study carried out in Uganda by the Makerere Institute of Social Research (2003) that indicated that there was a strong relationship between information, awareness, knowledge, perception and behavior change.

4.5.8.: The Fear to Know their HIV Status

Figure 4.13 below shows the respondents' views on fear for HIV testing

Figure 4.13 Respondents' Views on Fear for HIV Testing

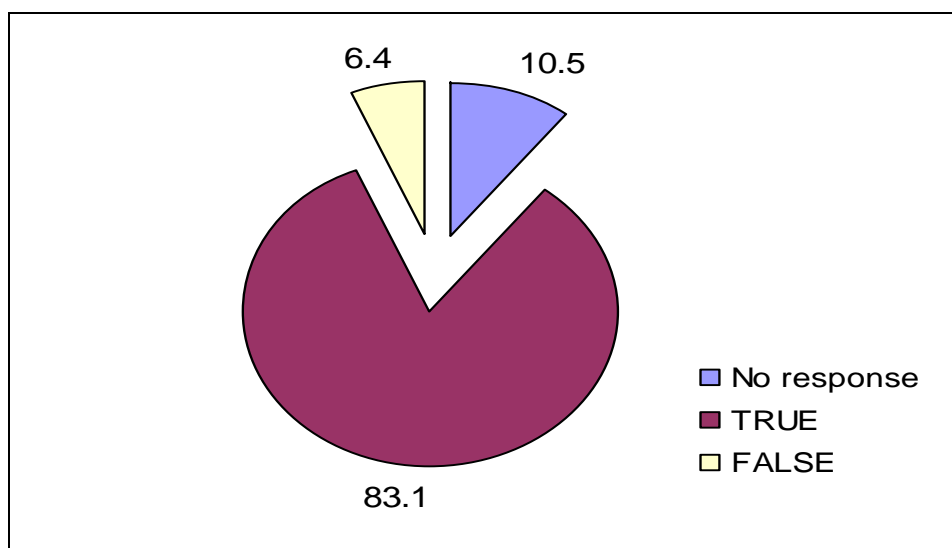


Figure 4.13 above reveals that majority of the respondents (83.1%) agreed that most people are afraid of HIV test because they would not like to know their status, while 6.4% did not agree. Only 10.4% did not respond to the question. Knowledge of HIV status is important as far as behavior change is concerned. However, HIV/AIDS is surrounded by fear, ignorance and denial that have led to stigmatization and discrimination against people living with HIV/AIDS. Fear of being identified with HIV keeps people away from knowing their HIV status as well as changing unsafe sexual behavior.

4.5.9: Knowledge of HIV Status

Table 4.13 below shows the respondents willingness to know their HIV status.

From the table 4.13, majority of the respondents (70.8%) would like to know their HIV status, while 17.5% did not want to know their HIV status. However, only 11.1% did not respond to the question.

Table 4.13: Respondents' Willingness to know their HIV status

	Frequency	Percent
No response	38	11.1
Yes	243	70.8
No	60	17.5
Total	343	100.0

Knowledge of HIV status would assist in behavior change as students would be able to make informed choices as far as their sexual behavior is concerned. They may opt to abstain from sex, remain faithful to one uninfected partner or use condoms during sexual intercourse.

4.6: Reasons for Wanting to Know HIV Status

Table 4.14 below shows the respondents' reasons for wanting to know their HIV status

Table 4.14: Respondents' Reasons for Wanting to Know their HIV Status

Reasons for wanting to know HIV status	Frequency	Percent
If I am infected to start using drugs	43	17.7
Know my status so I can take care of myself	42	17.3
To learn how to protect myself from being infected	18	7.4
I am not sure of myself	18	7.4
To know how to feed well to live long infected	10	4.1
To abstain and be confident in myself	10	4.1
To be able to counsel others	6	2.5
Because I have never had sex	4	1.6
So that I may not be afraid to do what I want	4	1.6
To be able to choose a partner	2	0.8
Find out my status	2	0.8
No response	82	33.7
Total	243	100.0

The respondents were asked to state the reasons for wanting to know their HIV status. Table 4.14 shows that a larger fraction of the respondents (17.2%) would like to know their status so that they could take care of themselves. 17.3% of the respondents would like to know their status so that if infected, they could start using drugs. 5.8% of the respondents would like to know their status to learn how to protect themselves from being infected, while 5.2% would like to be sure of their HIV status. 2.9% of the respondents would like to know their status to know how to live long if infected and 2.9% of the respondents would want to know their HIV status so as to abstain from sex and use available preventive devices such as condoms in their sexual contacts.

4.8 Relationship between Gender and Behavior Change for Prevention of the Spread of HIV/AIDS.

The chi-square analysis was done to determine if there would be a significant relationship between gender and behavior change for prevention of the spread of HIV/AIDS among students in Githunguri Division. Table 4.15 below shows this relationship.

Table 4.15 Relationship between Gender and Behavior Change

Gender	Male (N)(%)	Female(N) (%)	Total
Sexually active	60 (34.88)	31 (18.67)	91 (26.53)
Not sexually active	112 (67.12)	135 (81.33)	252 (73.47)
Total	172 (100)	166 (100)	343 (100)

Chi-square=4.00, df=1, P-value=0.032

After a chi-square test at a confidence level of 0.05, the p value was found to be less than 0.05 implying that there is a significant relationship between gender and behavior change for HIV/AIDS prevention among students. Thus the null hypothesis that gender would not significantly influence behavior change for HIV/AIDS prevention among students was rejected. More females (76%) than males (66.7%) had embraced behavior change. This implied that more males were sexually active as compared to female students. Thus there is a need to have prevention programmes that focus more on the males so as to enhance their behavior change. A study carried out by Karuru (2004) also indicated that there was a significant difference between male and female students on behavior change.

4.9 The Influence of Prevention Efforts Targeted at Adolescents and Behavior Change for HIV and AIDS Prevention

The chi-square analysis was done to determine if HIV and AIDS prevention efforts targeted at adolescents would significantly influence behavior change for HIV and AIDS prevention among secondary school students in Githunguri Division. Table 4.16 below shows the analysis.

Table 4.16 Relationship between Prevention Efforts Targeted at Adolescents and Behavior Change for HIV and AIDS Prevention

HIV prevention effort	Yes (N) (%)	No (N) (%)	Total(N) (%)
Peer education	152 (33.48)	125 (21.22)	277 (26.56)
Knowledge of youth friendly services	167 (36.78)	132 (24.41)	299 (28.68)
Knowledge of HIV status	72 (15.86)	271 (46.01)	343 (32.89)
Use of condoms	63 (13.88)	61 (10.36)	124 (11.87)
Total	454 (100)	589 (100)	1043 (100)

Chi-square=8.14, df=3, P-value=0.04

Prevention efforts targeted at adolescents and behavior change for HIV and AIDS prevention

From table 4.16, the chi-square analysis yielded a P value of 0.04 which was less than 0.05, implying there was a significant relationship between Prevention efforts targeted at adolescents and behavior change for HIV and AIDS prevention. This is in line with the findings of a study carried out in Uganda by the Makerere Institute of Social Sciences in 2003. The study established that Uganda's success story in curbing the spread of HIV/AIDS was synonymous with the so called ABC approach to HIV and AIDS

prevention (A-Abstain, Be faithful, C-Condom use). Indeed, HIV and AIDS prevention methods if properly channeled to meet the needs of adolescents would help in behavior change among the adolescents for the prevention of HIV/AIDS in Kenya.

4.10 Relationship between Knowledge of HIV/AIDS Prevention on Behavior Change

The chi-square analysis was done to determine if there would be a significant relationship between knowledge of HIV/AIDS prevention on behavior change. Table 4.17 shows the results.

Table 4.17 Relationship between Knowledge of HIV/AIDS Prevention and

Knowledge about HIV/AIDS	True (N) (%)	False(N) (%)	Total (N) (%)
A person can be infected with HIV/AIDS and not know about it	297 (37.88)	46 (18.77)	343 (33.33)
A person with many partners would be at risk of HIV infection	277 (35.33)	66 (26.94)	343 (33.33)
Using a condom can lower your chances of HIV infection	210 (26.79)	133 (54.29)	343 (33.33)
Total	784 (100)	245 (100)	1029 (100)

Chi-square=1.56, df=2, P-value=0.364

From table 4.17, the P value (0.364) is greater than 0.05 implying that there was no significant relationship between knowledge of HIV/AIDS prevention and behavior change for HIV/AIDS prevention among students. Although the students had knowledge on HIV/AIDS, the study findings indicated that most of them still engaged in unsafe sex.

It is important that knowledge a key theoretical factor in sexual behavior has a significant positive impact on behavior change. However, knowledge in this regard is not enough. Onyango (2002) in his study on factors influencing risky sexual behavior among the youth in secondary schools in Bondo District found out that youths' knowledge that AIDS is not curable had not changed their attitude of having multiple sexual partners. Thus knowledge of the risks of a sexually transmitted infection does not always lead to attitudinal change from risky sexual behavior.

4.9 Discussions of the Results

Background Information of the Respondents

According to the study findings, 58.8% were male, while 41.1% were female. Thus, more male respondents participated in the study as compared to female. Most of the respondents were between the ages of 16-19 years of age (78.1%) and therefore, in the age bracket of the population most at risk of contracting HIV. Young women of age 15-24 years form part of the group that is particularly most at risk of contracting HIV as compared to their male counterparts in the same age bracket (UNAIDS, 2006). This is also the group that is likely to engage in risky sexual behavior as they are adolescents moving from the phase of childhood to adulthood. Thus, factors influencing behavior change for HIV/AIDS prevention among students are important because it is the age when sexual habits and decisions about risk behavior and safe practices are formed (Downing *et al*, 1999).

Most of the respondents identified with the protestant faith (52.7%), while 28.6% were of the Catholic faith. However, 16% of the respondents were not affiliated to any religious group. Kenya consists of many religious groups and each of them has certain rules and norms which form part of regulating mechanisms in society (Republic of Kenya, 1997).

These norms are relevant to the transmission and spread of HIV/AIDS. Most religions have a stand on the issue of pre-marital and extra-marital sex, abortion, contraceptives and polygamy in keeping with their beliefs. This in turn has a bearing on the management of HIV/AIDS (Republic of Kenya, 1997). Since most of the respondents were affiliated to various religions, they may have been aware of teachings of their churches relating to HIV/AIDS and pre-marital sex.

When asked how they spent their leisure time, majority of the respondents were engaged in games/sports (52.8%), 30.9% of the respondents watched videos, another 5.8% were in the drama club while others (1.7%) visited friends and another 1.2% visited bars. Use of leisure time by adolescents is important as its misuse can predispose them to HIV. When they do not engage in meaningful leisure activities like sports and games, they are most likely to be involved in drugs and substance abuse. This can be through injecting drug use highly predisposing them to HIV. At the same time, while under the influence of drugs and alcohol, their will power to make judgments is reduced causing them to engage in unsafe sex (Jackson, 2002). The results of the study indicating that majority of the students engaged in various leisure activities was a positive step in helping reduce HIV infection as most of the students were kept busy during their free time.

Gender and its influence on behavior change for the prevention of the spread of HIV/AIDS

Majority of the respondents (56%) had never had sexual intercourse prior to the study, while 36% had engaged in sex. 8% of the respondents did not respond to this question. 47% of the male respondents as compared to 24% of the female respondents conceded to have had a sexual experience. A proportion of the respondents (24.7%) had their first sexual experience at the age of 12 years or before. The study also revealed that 32.8% of

the respondents had had sex between 7-12 months prior to the survey, while 20% of them had done so 1-6 months before the survey. According to the survey, more males (47.9%) had been engaged in sex as compared to their female counterparts (24%). Thus, female youths of 15-19 years are less likely to engage in sex as compared to males of similar age groups. This suggests that males in Kenya are more likely to initiate sexual intercourse earlier than their female counterparts. It also indicates that there are differences between women and men in rates of sexual transmission of HIV. This confirms the findings of various studies carried out in the USA in the early 1990s and several European countries which showed that it is easier for a woman to contract HIV from sexual contact with a man than it is for a man with a woman.

The study also revealed that the average number of sexual partners for boys was higher (mean =2.03) than that of girls (mean =1.430). This showed that the relationship between perceived risk and reported behavior change is rather weak. 49% of the respondents never used a condom during their last sexual intercourse while 50.1% of them used condoms during their last sexual intercourse. The study also revealed that out of the 36% of the respondents who had engaged in sexual intercourse, 58.1% of them used condoms every time they had sexual intercourse, while 29.0% used condoms sometimes. Asked whether having unprotected sex was evidence of love, 72.25% of the respondents responded in the negative, while 27.8% indicated acceptance. 44.3% of the respondents said that persistent use of condoms meant that their partners did not trust them. 13.1% of the respondents attributed persistent use of condoms to their partners having an STI, while 6.65% of them said that persistent use of condoms meant that their partners did not love them. 4.9% of the respondents said that persistent use of condoms made them not to enjoy sex. This shows that prevention campaigns against HIV were bearing fruits as majority of the

respondents used condoms thus embracing safe sexual practices and it is also evidence of behavior change among the students.

More female students (60.5%) than the male (58.9%) thought that they would be regarded as cowards when they abstained from sex. 44.4% of the male respondents said that abstinence from sex meant that they were not functioning sexually, while 30.3% of the female respondents indicated the same. This confirms what Kelly (2000) says that adolescents in secondary schools are predisposed to HIV infection due to the fact that schools provide little help to them on sexual and reproductive health despite the efforts to provide them with knowledge on HIV/AIDS.

Knowledge about HIV/AIDS

Concerning factors predisposing adolescents to HIV/AIDS, most of the respondents cited peer pressure (mean=3.38) to be the main factor. Reading or watching pornography (mean=3.23) followed. Curiosity and need to experiment (mean=3.17) followed, while other respondents said that drug use and abuse (mean 3.06) predisposed adolescents to HIV/AIDS. Other factors included the influence from the mass media (mean=3.02), male and female circumcision (mean=2.92), relaxed rules at home, church and in society (mean=2.88), availability of contraceptives (mean=2.85) and poverty (mean=2.65). This confirms what Jackson (2002) has identified as factors predisposing adolescents to HIV/AIDS. Some of these factors include alcohol or other drug consumption and reduced will power judgment and inhibitions, peer pressure, permissiveness and lack of role models in the society.

On knowledge about HIV/AIDS, 87% of the respondents' indicated that a person can be infected with HIV/AIDS and not even know it. 86.2% said that a person who is sick with

AIDS can infect others. 85.8% said that a person with many different partners could be at risk of HIV infection, while 80.3% said that one cannot tell someone infected with the HIV virus by just looking at him or her. These results confirm the results of KDHS (2003) that the level of HIV/AIDS awareness is very high in Kenya. However, though this knowledge had translated to behavior change in some youth, others were still engaging in risky sexual behavior, like having many sexual partners and not using condoms every time they had sex. Behavior change and maintenance programmes should thus provide essential health information, motivate people to reduce risk and increase individual's skills in practicing safe sexual behavior.

Behavior Programmes Targeted at Adolescents

From the study's findings, 40.55% of the respondents said that HIV prevention efforts focus was on condom use, and 58% said that the focus was on treatment of sexually transmitted infections. However, the goal of HIV/AIDS prevention programmes for the adolescents should be to reduce HIV/AIDS, through adoption of safe patterns of behavior, such as abstinence from sex, remaining faithful to one uninfected partner or using condoms if one has to have sex.

The respondents identified the following to be the most effective behavior programmes targeted at the youth; decreasing frequency and number of sexual partners (24.4%), delaying the onset of sexual intercourse (18.1%), treatment of sexually transmitted infections (13.4%), and use of condoms (5.2%). Kiai and Nduati (1997) have identified the same effective behavior programmes and others that include use of peer education as agents of behavior change. Decreasing frequency and number of sexual partners, delaying the onset of sexual intercourse, treatment of sexually transmitted infections and use of condoms are effective ways of preventing the spread of HIV/AIDS. This is because there

is no known cure for AIDS, and even if a cure is discovered, human behavior will remain important as new prevention strategies are unlikely to be 100% effective in preventing transmission.

From the study, 77% of the respondents had heard about VCTs, while only 14.9% had not heard about them. The respondents revealed that the following services are offered at VCT centers: testing for HIV/AIDS (4.7%), financial support (3.5%), and counseling to cope with HIV results (1.7%). Thus most of the respondents were aware of what happens at VCT centers and the value VCT has as an intervention measure for HIV/AIDS. However, according to the results of the study, 79% of the respondents had not visited a VCT centre during the last 12 months prior to the study. Only 21% of the respondents had visited a VCT centre 12 months prior to the study. This is in line with the findings of the NASCOP (2008), where it was discovered that two thirds of the country's 37 million people had never been tested for HIV. The reason for this may be attributed to the stigma associated with HIV/AIDS. Fear of being identified with HIV often keeps people from seeking to know their sero-status as well as changing unsafe behavior or even caring for people living with HIV/AIDS. Those who learn about their HIV status choose to keep it a secret from their spouses, relatives and friends so as not to be discriminated against. This in turn leads to the increased spread of HIV/AIDS. Counseling and testing is a key sexual behavior change strategy. Individuals who test HIV negative are motivated to guard their sero-status, while those that test HIV positive can be counseled on how to protect their partners from infection, and be referred for Antiretroviral Therapy (ART).

On youth-friendly services, the study found out that 46% of the respondents had heard about them, while 39% of the respondents did not know about them. Currently, Kenya's Ministry of Health is in the process of providing youth-friendly services where young

people can access reproductive health care services (M.O.H, 2005). However, there is a dire need to popularize them so that adolescents learn about them and appreciate them as a means for behavior change and HIV/AIDS prevention. This can be done through the media, churches and schools by teachers.

The respondents identified some of the activities relating to HIV prevention undertaken in schools to include peer education and counseling (44.3%), guidance and counseling (32.4%), teachers teaching students about HIV/AIDS (4.7%), and straight talk club (1.7%). This means that peer education and counseling played an important role in the prevention of HIV in schools. Peer education has been seen as an agent for behavior change especially in reducing substance abuse such as alcohol and tobacco and in reduction of risk behavior (Kiai and Nduati, 1997).

83.1% of the respondents said that most people are afraid of HIV testing because they would not like to know their status, while 6.1% of the respondents said otherwise. This fear can be eliminated by offering VCT services that are friendly and through counseling before testing. 70.8% of the respondents said that they would like to know their HIV status, while 17.5% of them did not want to know their HIV status. Those respondents who wanted to know their HIV status gave different reasons for wanting to do so. Some of these reasons are that if infected by the virus, they would start using drugs (17.7%), to know their status so that they would start taking care of themselves (17.3%), to learn how to protect themselves from being infected (7.4%), and because they were not sure of their status (7.4%). VCT is an essential component on the continuum of prevention, treatment, care and support of people living with HIV/AIDS (UNAIDS, 2006). Through pre and post test counseling carried out in a supportive environment, a person undergoing voluntary HIV counseling and testing is motivated towards positive behavior. VCT

provides an opportunity for a person to know their HIV status, to prevent both transmission to others and re-infection. It can also be an opportunity to access care and support programmes including prophylaxis and treatment of opportunistic infections and access to anti-retroviral drugs (UNAIDS, 2006).

On behavior programmes targeted at the youth in Kenya, 29.7% of the respondents revealed that there were many youth-friendly services offered in Kenya. 23.9% of the respondents indicated that the media played a great role in transmitting AIDS prevention messages. 16.3% of the respondents indicated that adolescents are a neglected group by the system. Only 3.5% of the respondents revealed that VCT was not important at all. Behavior programmes targeted at the youth are important because more than half of the new HIV infections in the world occur among young people under age 25 (UNAIDS, 2006). The key to working with young people is to develop genuine adult- youth partnerships early in the planning of interventions (UNAIDS, 2006). This makes the youth to own these intervention programmes and to have them tailored to meet their needs. This in turn may lead to behavior change as the youth will understand the importance of behavior change for the prevention of the spread of HIV/AIDS.

Inferential Analysis.

The study set out to test three hypotheses. The chi-square statistic at a P-value of 0.05 was used to test the hypotheses. From the findings of the study, there was a significant relationship between gender and behavior change for HIV/AIDS prevention among secondary school students in Githunguri Division. Thus the null hypothesis that there would be no significant relationship between gender and behavior change for HIV/AIDS prevention among secondary school students in Githunguri Division was rejected. From this study, it was established that more females than males had embraced behavior change for HIV/AIDS prevention. This may be due to the fact that boys would want to

experiment their sexual strength by having as many sexual partners as possible, while girls easily offer their trust to boys and may remain faithful to one sexual partner for a period of time. This confirms what Karuru (2004) indicated in her study among students in Kiambu District. In Karuru's study, there was a high significant difference between male and female students on behavior change (pre-marital sex). This was caused by the fact that male students considered having sexual intercourse as a sign of one being seen as a real man. Hence, the desire to be considered a hero and not be ostracized by peers as a virgin was very strong.

The second hypothesis of the study was HIV and AIDS prevention efforts targeted at adolescents would not significantly influence behavior change for HIV and AIDS prevention. The study indicated that there was a significant relationship between HIV and AIDS prevention efforts targeted at adolescents and behavior change for the prevention of HIV and AIDS. These efforts included peer educators, knowledge of youth friendly services, knowledge of HIV status and use of condoms.

Peer education is essential in educating young people as this will facilitate sharing of knowledge among peer members (Global HIV Prevention Group, 2008). It is important to get young people to participate actively in matters related to their reproductive health including education on HIV/AIDS. Peer education focuses on reducing specific risks to behavior change that play a crucial role in the transmission of HIV/AIDS. However, there is need for training peer educators among the students on HIV/AIDS. When students get HIV/AIDS messages from their peers, it is easier for them to accept these messages and this in turn may translate to behavior change leading to a reduction in the spread of HIV/AIDS among the students. At the same time, trained peer educators can always transfer their skills and knowledge to their fellow students given the co-operation and

resources. Most young people are sensitive to peer opinion especially older adolescents (Global HIV Prevention Group, 2008). Perception of what peers think often has a greater influence on their sexual and other risky behavior than the opinion of parents and other adults. It can be used to set standards for acceptable behavior among certain peer groups including students (Global HIV Prevention Group, 2008).

Youth friendly services should be accessible, acceptable and appropriate for adolescents. They are however very few such services in Kenya and the youth do not have access to health services that are able to meet their individual health needs in a manner and environment that attracts their interest and sustain their motivation to use such services. Services offered in youth friendly centers include counseling on sexuality, abstinence and relationships, screening and treatment of STIs voluntary counseling and testing and provision of information and education on reproductive health. Youth friendly services if adequately provided would lead to behaviors change among adolescents as they would know their HIV status so as to make informed choices on the kind of behavior they would wish to adopt.

The third hypothesis of the study was that there would be no significant relationship between knowledge of HIV/AIDS prevention on behavior change for HIV/AIDS prevention among students in Githunguri Division. The chi-square analysis showed no significant relationship between knowledge of HIV/AIDS and behavior change among the students. Therefore, the null hypothesis was accepted. Despite the fact that majority of the students had information on HIV/AIDS, a good proportion still engaged in risky sexual behaviors. This confirms Becker and John (1987) health belief model which states that information is not enough to bring about behavior change. Adolescents need to have enough resources and available information support to be able to make changes necessary

to protect themselves for HIV/AIDS. They must perceive themselves to be at risk of health threat, before they take actions to reduce risky behaviors or to engage in healthy alternative behavior. This also confirms the results of a study carried out by Onyango (2002) in Bondo among secondary school students. The study indicated that the students' knowledge that AIDS is not curable had not changed their attitude of having multiple sexual partners, that is, knowledge of the risks of sexually transmitted infections does not always lead to attitudinal change from risky sexual behavior. Therefore, HIV/AIDS awareness level among the students does not necessarily make them discard their risky sexual behavior.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

Other than 16% of the students, the rest identified with the two main religious groups namely protestant (52.7%) and catholic (28.6%). 91.2% of the students spent their leisure time meaningfully by engaging in games, sports and drama clubs.

56% of the students had abstained from sex prior to the study. More male students (47%) as compared to female students (24%) had engaged in sex between 7-12 months prior to the survey. The average number of sexual partners for male students was higher (47.9%) as compared to that of female students (24%).

50.1% of the students who engaged in sex used condoms, as compared to 49% of the students that never used condoms. The students cited the following factors that can predispose them to HIV/AIDS: Peer pressure (mean=3.38), Reading or watching pornography (mean 3.23), Curiosity and need to experiment (mean 3.17), Drug and substance abuse (mean 3.06), Mass media (mean3.02), Male and female circumcision (mean 2.88), Relaxed rules at home and church (mean 2.85), Availability of contraceptives (mean 2.6) and Poverty (mean 2.65).

Students have knowledge on HIV/AIDS. 87% of the students knew how HIV is transmitted while 80.7% of the students knew about HIV/AIDS prevention. According to the students, the most effective behavior programmes targeted at the youth are, decreasing frequency and number of sexual partners, use of condoms, delaying the onset of sexual intercourse and treatment of STIs. 77% of the students have knowledge on VCT. 79% of

the students had not visited a VCT centre during the last 12 months prior to the study due to fear of knowing their HIV status. 39% of the students had not heard about youth friendly services. The students cited the following activities undertaken in schools relating to HIV prevention; Peer education and counseling (44.3%), Guidance and counseling (32.4%) and Teachers teaching students about HIV/AIDS (4.7%).

There is a significant relationship between gender and behavior change for HIV prevention among students in Githunguri Division, Kiambu District. More female students had embraced behavior change than their male counterparts. There is a significant relationship between HIV and AIDS prevention efforts and behavior change for HIV/AIDS prevention among students in Githunguri Division, Kiambu District. The prevention efforts should target the male adolescents more for behavior change.

There is no significant relationship between knowledge of HIV/AIDS prevention and behavior change among students in Githunguri Division, Kiambu District. Knowledge of HIV and AIDS did not deter the students from engaging in risky sexual behavior thus need to combine knowledge with prevention efforts such as youth friendly services and peer programmes for effective behavior change.

5.2 Conclusions

- a) There is a relationship between gender and behavior change for HIV/AIDS prevention among students. This can be explained by the fact that males have more sexual partners than females.
- b) HIV and AIDS prevention efforts such as youth friendly services, peer education and use of condoms have a significant influence on behavior change for HIV/AIDS prevention among students.

- c) There is no significant relationship between knowledge of HIV/AIDS prevention and behavior change for HIV/AIDS prevention among students. Despite having knowledge on HIV/AIDS prevention this did not stop the students from engaging in risky sexual behavior.

5.3 Recommendations

- Guidance and counseling services should be strengthened in schools and should be well manned in schools to enhance behavior change for HIV/AIDS prevention among the students.
- Ministry of Health and Ministry of Education should target more male students in their sexual behavior change programmes.
- Ministry of Health and Ministry of Education should jointly work towards availing more reading materials on HIV/AIDS and sexual behavior change.

5.4 Areas for further studies

- This study has looked at “Factors Influencing Behavior Change for HIV/AIDS Prevention Amongst Students in Githunguri Division”. A complimentary study to assess factors influencing the successful HIV/AIDS interventions among students should be carried out to develop a wider and more comprehensive framework on HIV/AIDS Intervention strategies among Students.
- The above study should be replicated in other divisions other than Githunguri Division.
- A study to assess the effectiveness of peer counseling and education in changing the attitude towards VCT services among students should also be conducted.

REFERENCES

- Ambagwa, P. (2004). **Knowledge of the Relationship between Sexually Transmitted Infections and HIV Transmission among Secondary School Students in Kabartonjo Division, Baringo District.** Unpublished MPHE Thesis: Kenyatta University.
- Ajzen, I. and Fishbein, T. (1984). **Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research Reading.** Wesley: AM; Addison.
- Bandura, A. (1991). **Perceived Self-efficacy in the Exercise of Control Over AIDS Infection. Evaluation and Patient Planning,** 13: 9-11. New jersey, Englewood Cliffs: Prentice-Hall.
- Becker, M., and John, N. (1987). **Comparing Social Learning Theory and the Health Belief Model, in W.B. Ward (ed), Advances in Health Education and Promotion** Pg 245-249. Greenwich: Jai Press.
- Bennett, J., Schopink, D., and Ng'weshemi, J. (1997). **HIV Prevention and AIDS Care in Africa. A District Level Approach.** Amsterdam: Royal Tropical Institute.
- Cohen, L., and Lawrence, M. (1995). **Research Methods in Education (4th Ed).** London: Rout ledge.
- Downing, M., Knight ,K., and Vernon, K. (1999). **This is My Story: A Descriptive Analysis of Peer Education. HIV/STD Risk Reduction program for Women Living in Housing Developments. AIDS Education Prevention.** 11 (3): 243-261.
- Family Health International (FHI) (USAID) (2001). **HIV/AIDS Prevention and Care in Resource Constrained Settings. A Handbook for the Design and Management of Programs.** Arlington: USA.
- Global HIV Prevention Working Group (2003). **Access to HIV Prevention: Closing the Gap.** Geneva.
- Global HIV Prevention Working Group (2008). **Bringing HIV Prevention to Scale: An Urgent Global Priority.** Geneva
- Government of Kenya (2002). Central Bureau of Statistics, **Analytical Report on Population Projections.** Nairobi.
- Jackson, H. (2002). **AIDS Africa Continent in Crisis.** Harare: (SIDA, UNESCO, UNFPA).
- Karuru, P. (2004). **Factors Predisposing Adolescents to HIV/AIDS in Selected Secondary Schools of Kiambu District, Central Province, Kenya.** Unpublished MPHE Thesis: Kenyatta University.
- Kaupeni, E., Craddock, S., Opong, J., and Ghosh , J. (2004). **HIV and AIDS in Africa: Beyond Epidemiology.** Victoria: Blackwell.

- Kelly, M. (2000). **Planning for Education in the Context of HIV/AIDS**. UN UNESCO.
- Kenya Demographic and Health Survey (KDHS)(2008)**. Central Bureau of Statistics. Nairobi: Government Printing Press.
- Kenya Demographic and Health Survey (KDHS)(2003)**. Central Bureau of Statistics. Nairobi: Government Printing Press.
- Kenya's Ministry of Finance and Planning. (2004). **Kiambu District Development Plan (2004-2008)**. Nairobi: Government Printing Press.
- Kenya Ministry of Health (2005). **Adolescent Reproductive Health and Development Plan of Action (2005-2015)**. Ministry of health- Kenya and Ministry of Planning and National Development. Nairobi: Government Printing Press.
- Kenyatta University AIDS Control Unit (ACU) (2006). **HIV/AIDS Policy**. Nairobi KU HIV/AIDS Control Unit.
- Kiai, W., and Nduati, R. (1997). **Communicating With Adolescents About AIDS. Experience From Eastern and Southern Africa**. Ottawa: International Development Research.
- K.I.E. (2001). Ministry of Education Science and Technology. **Secondary Education Syllabus** Vol. 1, Vol.2 and Vol. 3. Nairobi: K.I.E
- Macphail,C. and Campbell, C. (2001). **Condom use among adolescents and young People in a Southern African township**. South Africa.
- M.O.H. (2005). **National Guidelines for the Provision of Adolescent Youth friendly Services (YSF) in Kenya**. M.O.H. Division of Reproductive Health. Nairobi.
- Moloney, M. (2005). **Counseling for HIV/AIDS. The Use of Counseling Skills for HIV/AIDS**. Nairobi: Pauline's Publications Africa.
- Makerere Institute of Social Research (MISR), (2003). **Focus Group Discussion on Socio-Cultural Factors Impacting On HIV/AIDS in Uganda**. Kampala: MISR.
- Mugenda, O. and Mugenda, A. (1999). **Research Methods. Quantitative and Qualitative Approaches**. Nairobi: African Center for Technology Studies (ATCS).
- National AIDS Control Council, (NACC). (2000). **The Kenya National HIV/AIDS Strategic Plan, 2000-2005**. popular version. Nairobi: NACC.
- National AIDS Control Council (NACC, 2009). **Kenya HIV Prevention, Response and Modes of Transmission Analysis**. Nairobi. NACC.
- NASCOP. (2005). **Kenya HIV/AIDS Data Booklet**. NASCOP: Nairobi
- NASCOP. (2006). **Kenya HIV/AIDS Data Booklet**. NASCOP: Nairobi.

- NASCOP. (2007). **Kenya HIV/AIDS Data Booklet**. NASCOP: Nairobi.
- NASCOP. (2008). **Kenya AIDS Indicator Survey (KAIS)**. NASCOP:Nairobi.
- Noor, H. (2003). **Socio-economic and Cultural Factors in the Transmission of HIV/AIDS among School and College going youth in Central Division of Garissa District, Kenya**. Unpublished MPHE Thesis: Kenyatta University.
- Obiero, C., Nyagero, J., Mwikali, M., Tendo, W., and Omurwa, T. (2000). **Young People's Knowledge and Experience with STDS/HIV/AIDS in Nyamira District**, in East African Medical Journal Vol. 77 No. 6 pp s11-s14.
- Onyango, J. (2002). **HIV/AIDS: Factors Influencing Risky Sexual Behavior among The Youth in Selected Secondary Schools in Bondo District, Kenya**. Unpublished MPHE Thesis: Kenyatta University.
- Plessis, G. (2003). **HIV/AIDS and Social Research**. Pretoria: University of South Africa: Mukleneuk.
- Polsky, B., and Clumeck, N. (1999). **HIV and AIDS**. London: Harcourt Publishers.
- Republic of Kenya. (1997). **Ministry of health: Sessional Paper No. 4 of 1999 on AIDS in Kenya**. Nairobi: Government Printing Press.
- Republic of Kenya. ((2005). **AIDS in Kenya. Trends, Interventions and Impact**. (7th Edition). NASCOP: Kenya.
- Tobijar, H. N. (2000). **The Dignity of Human Sexuality and the AIDS Challenge**. Nairobi: Kenya.
- Tuju, R. (1996). **Understanding the challenge**. Kenya, Nairobi: ACE Communications.
- UNAIDS. (2004). **Report on the Global AIDS Epidemic (4th Global Report)**. Geneva: Arington.
- UNAIDS. (2006). **Report on the Global AIDS Epidemic**. Geneva: Arington
- UNAIDS. (2007). **Report on the Global AIDS Epidemic**. Geneva: Arington
- UNAIDS. (2008). **Report on the Global AIDS Epidemic**. Geneva: Arington
- Wambua, L. (2001). **A Guide to Adolescent and Reproductive Health – Parents of Tomorrow**. Nairobi: English Press LTD.
- Wambua, L. (2001). **Sexual Behavior among Church going Youth in Mwala Division, Machakos District**. East African Medical Journal 77 (6): s15-s17.

APPENDIX A: LETTER TO RESPONDENT

Isabel N. Ndegwa,
Kenya University,
P.O. Box 43844,
Nairobi .
1st October, 2008.

Dear student,

REF: REQUEST FOR YOUR PARTICIPATION IN RESEARCH STUDY

You have been selected to participate in this study. The aim of this study is to assess the factors influencing behavior change for the prevention of HIV/AIDS among secondary school students in Githunguri Division, Kiambu District. You are kindly requested to be very honest with your answers. You are not required to write your names and any information given by you will be treated with utmost privacy and confidentiality. The responses will not be discussed with your teachers or any member of your family or friends. Your co-operation will be highly appreciated because it will lead to the success of this study.

Thank you.

Isabel N. Ndegwa.

APPENDIX B: QUESTIONNAIRE

You are required to respond to the following questions by ticking in the spaces provided against each option or by writing in the spaces provided where there are no options.

Where 'others' is your option, please specify appropriately in the spaces provided.

Name of school:

Zone:

Date:

SECTION A: BACKGROUND INFORMATION OF THE RESPONDENT

1. Sex:

Male Female

2. Age

i) Less than 13 years ii) 13 – 15 years iii) 16 – 19 years 3. Class/form 1 2 3 4

4. Where is your home now?

i) Rural ii) Urban

5. What is your religion (tick appropriately)

i) Protestant ii) Catholic iii) Muslim iv) SDA

v) Others (specify) _____

6. Whom do you stay with at home?

i) Parents ii) Uncle iii) Sister iv) Brother v) Aunt

vi) Others (specify) _____

7. Where do you spend your leisure time?

i) Discos ii) Games/sports iii) Watching videos iv) In bars v) Drama club

vi) Others (specify) _____

SECTION B: SOCIO-DEMOGRAPHIC FACTORS

8. Have you ever had sex?

Yes

No

9. How old were you when you had sex for the first time?

10. When was the last time you had sex?

i) One week ago

ii) Two weeks ago

iii) 1-2 months ago

iv) Six months ago

v) One year ago

vi) Others (specify) _____

11. How many sexual partners do you have?

12. a) Have you used a condom?

Yes

No

Not applicable.....

b) If yes, how often do you use a condom?

i) Every time

ii) Sometimes

iii) A few times

iv) Not applicable.....

13. The last time you had sex, did you use a condom?

Yes

No

Not applicable.....

14. a) Have you ever suffered from a sexually transmitted infection?

Yes

No

b) If yes, where did you go for treatment?

i) Private clinic

ii) Bought drugs

- iii) Hospital
- iv) School clinic
- v) Friend
- vi) Others (specity) _____

15. Does having unprotected sex with your boy friend/ girl friend prove that he/she loves you?

Yes

No

16. What are your fears about your sexual partners when you consistently use a condom every time you have sex?

i) You do not love him/her

ii) Your are not trusted

iii) Does not enjoy sex

iv) You have sexually transmitted disease

v) Others (specity) _____

17. What do you think people say about you when you abstain from sex? (tick all if applicable).

i) Coward

ii) Infected with HIV

iii) Not functioning sexually

iv) Responsible

v) Nothing

SECTION C: KNOWLEDGE ON HIV/AIDS

18. The following are suggested factors that predispose adolescents to HIV/AIDS. Please indicate your opinion of these statements by putting a tick against SD, D, N or SA on the box provided after each question where;

- i) **SD** stand for **Strongly Disagree** with the statement
- ii) **D** stands for **Disagree** with the statement
- iii) **A** stands for **Agree** with the statement
- iv) **N** stands for **Neither Agree** nor **Disagree** with the statement
- v) **SA** stands for **Strongly Agree** with the statement

Factors predisposing adolescents to HIV/AIDS	SD	D	N	A	SA
Male/female circumcision					
Reading or watching pornography					
Drug use and abuse					
Peer pressure/influence					
Influence from mass media					
Poverty					
Availability of contraceptives					
Curiosity/need to experiment					
Poor role modeling by parents					
Relaxed rules at home/church/society					

19. Which of the following statements are True or False in your opinion? (Tick in the blank spaces provided).

	TRUE	FALSE
a) A person can be infected with HIV/AIDS but not even know about it.		
b) One can tell someone infected with HIV/AIDS virus by just looking at him or her.		
c) A person who is sick with AIDS can infect others.		
d) Risk of contracting HIV is increased by presence of other sexually transmitted diseases.		
e) HIV is transmitted by engaging in unprotected sexual intercourse with an infected person		
f) A person with many different sexual partners could be at risk of HIV infection.		
g) By reducing the number of sexual partners, one reduces chances of HIV infection.		
h) Regular use of condoms helps to reduce the risk of contracting HIV.		

SECTION D: BEHAVIOUR PROGRAMS TARGETED AT ADOLESCENTS

20. in your opinion, HIV prevention efforts focus on, (tick one only)

- i) Delaying the sexual onset of sexual intercourse
- ii) Promoting abstinence
- iii) Decreasing frequency and number of sexual partners
- iv) Use of condom
- v) Treatment of sexually transmitted infections (STIs)
- vi) All the above

21. Which of the following behavioral programs targeted at the youth is the most effective? (Tick only one)

- i) Parental counselling

- ii) School based programs like being taught about HIV/AIDS in schools
- iii) Use of peer counsellors as agents for behaviour change
- iv) Newspapers
- v) The mass media
- vi) Others (specify) _____

22. Have you ever heard about Voluntary Counseling and Testing (VCT)?

Yes No

23. What happens at a VCT centre? (More than one answer is allowed).

- i) Financial support e.g. school fees
- ii) Testing for HIV status
- iii) Treatment for HIV/AIDS
- iv) Giving food
- v) Counselling to cope with results

24. a) During the last twelve months, did you have any Voluntary Counselling and Testing?

Yes No

b) If yes, where did you seek VCT?

- i) Hospital
- ii) Private clinic
- iii) VCT centre
- iv) Herbalist
- v) Others (specify) _____

25. a) Have you ever heard about youth friendly services?

Yes No

b) If yes, how did you learn about youth friendly services?

- i) Through friend/relative
- ii) Television
- iii) Church
- iv) Teacher
- v) Others (specify) _____

26. What activities in relation to HIV/AIDS prevention do you do in your school? (More than one answer is allowed).

- i) Peer education/counseling
- ii) Guidance and counselling
- iii) Being taught about HIV/AIDS by the teacher
- iv) Straight talk club
- v) Others (specify) _____

27. Most people are afraid of HIV test because they would not like to know their status.

True False

28. a) Would you like to know your HIV status?

Yes No

b) If yes, give reasons for your answer.

29. Which statement among those given below would you support about behaviour programs targeted at the youth.

- i) Adolescents are a neglected group by the health system
- ii) There are many youth friendly services being offered in Kenya
- iii) The media plays a great role in transmitting HIV/AIDS prevention messages
- iv) VCT is not important at all

Thank you for your co-operation



**KENYATTA UNIVERSITY
OFFICE OF THE CHAIRMAN
DEPARTMENT OF PUBLIC HEALTH**

Our Ref:

Your Ref:

**P.O BOX 43844
Nairobi, Kenya
811622/810901- 19
E-mail: publichealth@ku.ac.ke
Fax: +254-2-811455**

20th February, 2008

Dear Sir/Madam

RE: NDEGWA ISABEL NJERI – REG. NO. 157/CE/12138/2004

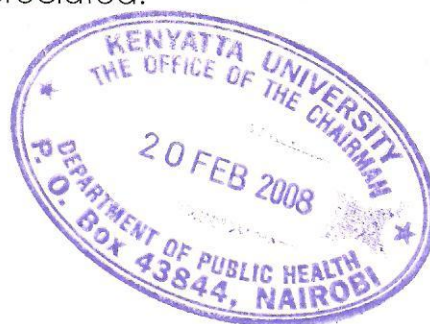
The above mentioned is a bonafide student of Kenyatta University pursuing an MPH Degree in the department of Public Health.

Isabel has completed her course work and is in the process of undertaking fieldwork in order to write her thesis as part of the requirement for MPH Degree.

Any assistance given to her will be highly appreciated.

Thank you.

**DR. I. MWANZO
CHAIRMAN, DEPARTMENT OF PUBLIC HEALTH**



APPENDIX D

OFFICE OF THE PRESIDENT

PROVINCIAL ADMINISTRATION AND NATIONAL SECURITY



Telegrams: "DISTRICTER", Kiambu
Telephone: Kiambu (office) 22321 - 4
When replying please quote
CORR 3/9/VOL. V/192

THE DISTRICT COMMISSIONER
P. O. Box 32
KIAMBU
27th October 2008

District Officer
GITHUNGURI DIVISION

RE: RESEARCH AUTHORIZATION

This is to notify you that Ndegwa Isabel Njeri- a post –graduate Student at Kenyatta University, Nairobi has been authorized by the Ministry of Higher Education and Technology to carry out a Research on "**Factors influencing Behaviour Change for HIV/AIDS Prevention among students in Githunguri Division**", Kiambu East District for a period ending 31st November 2008.

Kindly accord her the necessary assistance.

A handwritten signature in black ink, appearing to read 'H.S. Abdallah'.

H.S. ABDALLAH
FOR: DISTRICT COMMISSIONER
KIAMBU EAST

c.c.

Ndegwa Isabel Njeri

MINISTRY OF EDUCATION

Telephone: Kiambu (office) 020-2044696
FAX NO. 020-2090948



DISTRICT EDUCATION OFFICE
KIAMBU EAST
P. O. Box 9
KIAMBU

When replying please quote

KBU/107/

27th October 2008

All Principals of secondary schools
GITHUNGURI DIVISION

RE: RESEARCH AUTHORIZATION

You are hereby informed that **Ndegwa Isabel Njeri** – a post-graduate student at Kenyatta University, Nairobi has been authorized by the Ministry of Higher Education and Technology to carry out a research on **“Factors Influencing Behavior Change For HIV/AIDS Prevention Among Students in Githunguri Division, Kiambu East District,”** in Kiambu East district.

Kindly accord her the necessary assistance.

KAMANDE B K
FOR: DISTRICT EDUCATION OFFICER
KIAMBU EAST

Copy to:

District Commissioner
KIAMBU EAST

Area Education Officer
GITHUNGURI DIVISION



REPUBLIC OF KENYA

**MINISTRY OF HIGHER EDUCATION SCIENCE
& TECHNOLOGY**

Telegrams: "SCIENCE TEC", Nairobi
Telephone: 02-318581
E-Mail: ps@scienceandtechnology.go.ke

JOGOO HOUSE "B"
HARAMBEE AVENUE,
P.O. Box 9583-00200
NAIROBI

When Replying please quote

Ref. MOHEST 13/001/ 38C 477/2

11th August 2008

Ndegwa Isabel Njeri
Kenyatta University
P.O. Box 43844
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on, *'Factors Influencing Behaviour Change for HIV/AIDS Prevention among Students in Githunguri Division, Kiambu East District.*

I am pleased to inform you that you have been authorized to carry out research in Kiambu East District for a period ending 30th September, 2008.

You are advised to report to the District Commissioner and the District Education Officer Kiambu East District before embarking on your research.

On completion of your research, you are expected to submit two copies of your research report to this office.


M. O. ONDIEKI
FOR: PERMANENT SECRETARY

Copy to:

The District Commissioner
Kiambu East District

The District Education Officer
Kiambu East District

