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SUBSTANCE ABUSE AND VULNERABILITY TO HIV AND AIDS AMONG ADOLESCENTS IN PUBLIC SECONDARY SCHOOLS IN MERU CENTRAL DISTRICT, KENYA

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DECLARATION

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

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DEDICATION

To God, who kept me healthy and gave me sufficient grace to carry out this work. To my loving wife Lucy, our children Emmy and Timothy, for their support, encouragement and understanding.

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ACRONYMS AND ABBREVIATIONS

AED	Academy for Educational Development
APSA	Association for Professionals in Services for Adolescents
AIDS	Acquired Immunodeficiency Syndrome
CSA	Centre for Study of Adolescence
ANOVA	Analysis of Variance
CDC	Centre of Disease Control
CNS	Central Nervous System
DCT	Diagnostic Counseling and Testing
DDP	District Development Plan
FGD	Focus Group Discussions
GoK	Government of Kenya
GYCA	Global Youth Coalition on HIV and AIDS
HIV	Human Immunodefiency Virus
IDUs	Intravenous Drug Users
KIE	Kenya Institute of Education
KNACP	Kenya National AIDS Control Programme
MERA	Medical Education Resource Africa
MOEST	Ministry of Education Science and Technology
MoH	Ministry of Health
MSM	Men who have Sex with Men
NACC	National AIDS Control Council

NACADAA	National Council of Antinarcotics and Drug Abuse Authority
PCA	Populations Communications Africa
SPSS	Statistical Packages for Social Sciences
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGASS	United Nations General Special Session
UN	United Nations
UNIDCP	United Nations International Drug Control Programme
UNODC	United Nations Office of Drugs and Crime
USA	United States of America
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organizations
YAC	Youth AIDS Coalition

OPERATIONAL DEFINITIONS OF TERMS

Adolescent Youth aged between thirteen to nineteen years old.

Depressants Drugs that slow down central nervous

Drug Any natural or artificially made chemical that changes the function or structure of the body in some way.

Drug abuse Sporadic or persistent excessive use of any chemical for any reason other than its acceptable medical purpose(s).

Hallucinogens Drugs that lead to distortion of perception.

Stimulants Drugs that stimulate central nervous system

Vulnerability Being at risk of contracting Human immunodeficiency virus, which causes AIDS.

Youth Any person aged between ten to twenty four years.

ABSTRACT

A drug is any natural or artificially made chemical that changes the functions or structure of the body in some way. On the other hand drug abuse is the non-medical use of drugs. Most studies among young people have been done on relationship between injectable drugs and HIV and AIDS. However little has been done on relationship between HIV and AIDS and non-injectable substances such as alcohol, khat (locally called *miraa),* cigarette ad bhang among others. This study aimed to determine the relationship between substance abuse and vulnerability to HIV and AIDS among adolescents in public secondary schools in Meru Central District. Vulnerability was assessed on the basis of risky behaviour patterns of substance abusers. A descriptive cross- sectional survey was conducted and a sample size of 740 students selected. Simple stratified random sampling was used to select schools from various categories and proportional random sampling was used to select respondents from the selected schools. Qualitative data was obtained using focus group discussions and interviews while quantative data was collected using self-administered questionnaires. Data was analyzed using one way ANOVA to determine the most commonly abused substances among adolescents in public secondary schools and to test whether there were significant differences in substance abuse among adolescents in boys', girls' and co-education schools in the district. The t-test was used to determine whether there was significant difference in substance abuse between rural and urban schools. About 60% (n= 736) of the students in public secondary schools in Forms two to four admitted that they were involved in substance abuse such as alcohol, *khat*, cigarette, bhang or glue. There was a significant difference in substance abuse levels in public secondary schools ($F=5.014$, $df= 7$, $P<0.05$, $n= 736$). A post ANOVA test (Tukeys HSD, $P < 0.05$) showed that commercial alcohol and *khat* were abused by significantly high number of students ($P< 0.05$) during school time. The number of boys abusing substances was significantly higher than that of girls ($F=40.9$, $df =76$, $P<0.05$, $n=736$). The t-test showed that there was a significant difference in the number of students taking substances in rural schools compared to urban schools ($t_{38} = 5.019$, $p < 0.05$). Tukeys test ($P<0.05$) revealed that students in rural schools mostly abused *khat* followed by alcohol while in urban schools more students abused alcohol followed by *khat.* Over 40 % (n=736) of the students had experienced sexual intercourse at the time of the study. Nearly 40% (n= 294) of the students had sexual intercourse without any protection such as condom and over 17% (n = 294) of the students had multiple sexual partners by the time of the study. About 31.4% (n= 294) of the sexual abuse was attributed to people under the influence of substance abuse. The study revealed that abuse of substances such as *khat*, alcohol, cigarette and bhang contributed to high risks of vulnerability to HIV and AIDS. From the study it can be concluded that commonly abused substances that are non-injectable lead to high vulnerability of contracting HIV and AIDS. Therefore the government of Kenya and all stakeholders should endevour not only to control injectable drugs but also the commonly abused substances in order to fight HIV and AIDS effectively.

CHAPTER ONE

INTRODUCTION

1.1 Background information

A drug is any natural or artificially made chemical that changes the functions or structure of the body in some way (Tabifor, 2000). Drug abuse is the non-medical use of drugs (Ndetei, 2004). Drugs modify behavior of the people who abuse them (Tony, 2000). This can lead to uncontrolled sexual emotions and impaired judgment. For instance, abuse of alcohol leads to lack of self-control such that the behaviour that is normally held in check is expressed (Dale and Wayne, 1999). This may lead to careless sexual behaviour and therefore vulnerability to HIV and AIDS. Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome is generally a behavioural disease, transmitted through social behaviour and therefore malleable behaviour (Drucker *et al.*, 1992). This implies that behaviour change is the key to the transmission and control of the disease. This study therefore investigates the role of substance abuse in risky behaviour change.

Globally, HIV and AIDS is the fourth largest cause of death and in sub-Saharan Africa is the leading cause of death (USAID/WHO, 2006). Worldwide, HIV and AIDS is killing the most productive youth, aged between 15-30 years (Advocates For Youth, 2007). These young people include adolescents. For this reason the impact of the disease cannot be ignored. Adolescents are the youth aged 13-19 years (KIE, 2003) and they mainly consist of secondary school age youth. One of the fundamental aspects of HIV infection is that contamination generally occurs via the mucosae. These include urethral, vaginal, anorectal and cervico-vaginal mucosae. Mother-to-child transmission via breast milk

involves digestive mucosa (MERA, 2007). Sexual intercourse may lead to HIV transmission through urethral, vaginal or anorectal mucosae.

Substances are classified according to their effects in the body systems. Depressants such as alcohol slow down the nervous system and impair thought and judgment. Narcotics, which include heroine and morphine, also slow down the nervous system and relieve pain. Stimulants, for instance tobacco and *khat* stimulate the central nervous system (CNS). This leads to increased activity and mood elevation. Hallucinogens such as bhang stimulate and suppress the CNS and therefore cause distortion in perception (Ndetei, 2004).

In Kenya, youth is the fastest growing segment of the population as over 50% of them are less than twenty years (NACC, 2005). A survey of youth in Kenya suggested that about 63% regularly abuse substances (UNODC, 2006). The national HIV and AIDS prevalence rate in Kenya is 5.1% and more than 1.4 million Kenyans are living with HIV and AIDS (KAIS, 2007). The same report indicates that out of these, 934,000 are aged 15 to 49 years and 102,000 are younger than 14 years. The country recorded 55,000 new HIV cases in 2006 (KAIS, 2007). The report reveals that among the youth aged 15 to 24 years, women are four times more likely to be infected than men. Seven out of ten infected adults are rural residents (KAIS, 2007).

During adolescence biological and psychological changes occur, the individual emerging from childhood state of socio-economic dependence to one of relative independence

(WHO, 1999). The boys and girls are attracted to each other and tend to pair up. This may easily lead to casual sex. Most adolescents experience identity crisis and are easily influenced by peer pressure (WHO, 1999). Due to lack of experience, some adolescents attempt to solve their problems using false solutions such as substance abuse and promiscuous sexual behaviour. This includes experimentation with substances and sexual exploration (WHO, 1999). While a cure for HIV and AIDS is still far fetched, prevention is the main focus. This requires identification of factors that influence prevention. The main aim of this study was to determine the relationship between drug abuse and vulnerability to HIV and AIDS.

1.2 Statement of the problem

Substance abusers are considered to be a special group of people at high risk of contracting HIV and AIDS. It has been difficult to pinpoint the exact cause of increased drug and alcohol abuse but there has been little awareness creation of the consequences of substance abuse among the population (USAID, 2006). The prevalence of HIV and AIDS among Intravenous Drug Users (IDUs) in Kenya is between 68 % and 88% (Ndetei, 2004). If non- injectable drugs were taken into consideration this percentage could be even higher. Though the national prevalence of HIV and AIDS in Kenya has declined to as low as 5.1 % (NACC, 2008), rising substance abuse could reverse the progress made if left unchecked. Youth aged 10-24 years easily get involved in risky behaviour that may lead to HIV infection (CSA, 2005). Currently in Kenya there is no specific policy on HIV and AIDS prevention targeting the age group of 10-24 years,

where adolescents are included (YAC, 2006). Targeting this age group would require addressing the issue of drug abuse in relation to HIV and AIDS.

1.3 Justification and significance of the study

Over half of all new infections with HIV worldwide each year are among young people between the ages of 15 and 24 years (Mutie, 2006). Everyday, more than 6,000 young people become infected with HIV world wide, almost five every minute (GYCA, 2006). Therefore young people, including adolescents form a large proportion of the population being threatened by HIV and AIDS. This can also provide a window of opportunity for the course of the epidemic. Yet the needs of the world's over one billion young people are often ignored when strategies on HIV and AIDS are drafted, policies developed and budgets allocated. This is especially tragic as young people are more likely than adults to adopt and maintain safe behavior (GYCA, 2006). Young people are vulnerable to HIV infection because of ignorance and lack of essential services to protect themselves (GYCA, 2006). Hence the findings of the study can be used to educate the young people on dangers of substance abuse in relation to HIV and AIDS transmission.

Most of the studies on the relationship between drug abuse and vulnerability to HIV and AIDS have been done on Intravenous Drug Users (IDUs) (USAID, 2006). Thus very little has been done on the role of non- injectable substances such as alcohol, bhang, cigarette and *khat* among others. Other studies have focused on the relationship between substance abuse and riots and violence in schools rather than vulnerability to HIV and AIDS (MOEST, 2001). A survey by NACADAA revealed that hardly do adults use or

abuse substances unless they used them before age 21 years (NACADAA, 2003). Consequently, ages below 21 years (where adolescents belong) are important catchments in efforts to control substance abuse in our country. Moreover NACADAA has recognized that the school is a convenient, effective site for preventing substance use (and therefore HIV and AIDS control) for four reasons: most preventive approaches target school-age populations, schools are structured settings that are easily accessible, educators recognize the importance of preventing substance abuse, as well as promoting health, on students' achievement of academic goals, and youth begin substance use (and sexual activities) during the age they should be in school (NACADAA, 2003).

A number of other studies on young people and HIV and AIDS have concentrated on general youth aged 15-24 years and not specifically on adolescents aged 13-19 years (Tony, 2000), who are mainly found in secondary schools. Lifestyle is the main factor in the spread of HIV and AIDS. Risky behavior patterns associated with substance abuse have been used in this study to determine vulnerability to HIV and AIDS. The findings of this study can be used to create awareness among the stakeholders on the relationship between substance abuse and vulnerability to HIV and AIDS. The results can also be used to formulate policies to control substance abuse and HIV and AIDS among adolescents in secondary schools. Moreover the findings of the study can be used to increase knowledge among academicians and stimulate more research work in the related fields.

1.4 Research questions

(a) Which types of substances are commonly abused by adolescents in public secondary schools in Meru Central District?

(b) What differences in substance abuse exist between male and female adolescents in public secondary schools in Meru Central District?

(c) What differences in substance abuse exist among adolescents in rural and urban public secondary schools in Meru Central District?

(d) What risky behaviour modifications are brought about by the substance abuse among adolescents in public secondary schools?

1.5 Hypothesis

There is no relationship between substance abuse and vulnerability to HIV and AIDS among the adolescents in public secondary schools.

1.6 Objectives

1.6.1 General objective

To determine the relationship between substance abuse and vulnerability to HIV and AIDS among adolescents in public secondary schools in Meru Central District.

1.6.2 Specific objectives

(a) To identify the commonly abused substances among adolescents in public secondary schools in Meru Central District.

(b) To determine differences in substance abuse between male and female adolescents in public secondary schools in Meru Central District.

(c) To determine the differences in substance abuse among adolescents in rural and urban public secondary schools in Meru Central District.

(d) To assess the risky behaviour modifications brought about by substance abuse among adolescents in public secondary schools in Meru Central District

CHAPTER TWO

LITERATURE REVIEW

2.1 Global trends of substance abuse in relation to HIV and AIDS

Trade in drugs is a complex and a massive global industry, with markets in almost every country of the world (UNODC, 2006). Illegal drugs accounted for about $321.6 billion of world trade by 2006, making it larger than the global iron and steel industries (UNODC, 2006). Therefore, drugs contribute a great deal to the economy of the world. In USA alone revenue from sale of cigarettes, alcohol and illicit drugs exceeded $128.3 billion (2.5% of GDP) in 1986. However societal costs of substance abuse in diseases, premature death, lost productivity, theft, violence, unwanted and unplanned sex as well as cost of interdiction and law enforcement are greater than value of the sales of these substances (UNAIDS, 2007).

A world drug report noted that there are about 200 million people (5% of global population) who take illicit substance at least once in a year (UNODC, 2006). This number could be even bigger if all other substances of abuse, including legal substances in different countries were to be considered. Cannabis has been considered to have the largest drug market in the world (UNODC, 2006). It is cultivated in about 176 countries worldwide (UNODC, 2006). Substance abuse is virtually in every corner of the globe (USAID, 2004).

Tobacco companies recruit at least 2.7 million new smokers, usually young people, annually (Dale and Wayne, 1999). Most of the advertisements, which entice young people into substances such as cigarette and alcohol, carry messages that create a warm aura about smoking and use of alcohol. Adolescence and young adulthood are the periods most associated with the onset of illicit drug use worldwide (Tabifor, 2000). United Nations International Drug Control Programme (UNIDCP) has acknowledged the role of drugs in the spread of sexually transmitted diseases, which include HIV and AIDS (Tabifor, 2000). The HIV pandemic remains the most serious of all the infectious diseases, posing a great challenge to public health in the world (UNAIDS, 2007). Since the start of the pandemic HIV and AIDS is killing more victims than any other infectious disease in the world (MERA, 2007). Globally more than half of the new HIV cases occur among the young people aged 15-24 years (Wang'ombe, 2004). This implies that there are certain factors that lead to this high HIV infection rate among the youth. Hence it is important to find out the role that substance abuse may play in vulnerability to HIV and AIDS.

In 2007 the total number of people living with HIV and AIDS globally was 33.2 million, 2.5 million were newly infected and 2.1 million deaths occurred due to AIDS (UNAIDS, 2007). The global number of people living with HIV and AIDS (PLWHA) has reduced by 16%, from 39.5 million in 2006 to 33.2 million in 2007 (UNAIDS, 2007). However the burden of HIV and AIDS worldwide is still high. It is also emphasized that the differences between estimates published in 2006 and those of 2007 results are largely from refinements of methodology of obtaining data rather than trends in the pandemic

itself (UNAIDS, 2007). Every day over 6800 persons become infected with HIV and 5700 die from AIDS worldwide (UNAIDS, 2007)

In Asia, national HIV prevalence is highest in South-East Asia, with wide variation in epidemic trends between different countries. While the epidemics in Cambodia, Myanmar and Thailand all show declines in HIV prevalence; those in Indonesia (especially in the Papua province) and Viet Nam are growing (UNAIDS, 2007). Although the proportion of people living with HIV in India is lower than previously estimated, the epidemic continues to affect large numbers of people (UNAIDS, 2007). Overall in Asia, an estimated 4.9 million people were living with HIV in 2007, including the 440,000 people who became newly infected in the past year. Approximately 300,000 people died from AIDS-related illnesses in 2007 (UNAIDS, 2007). In Central Asia the HIV and AIDS epidemic has grown from 500 cases in 2000 to over 12,000 in 2004 (UNODC, 2006). It is estimated that Central Asia has 0.5 million drug abusers (UNODC, 2006). Central Asia lies along the drug routes from Afghanistan to Russia and Western Europe. Possibly the fast growth rate of HIV and AIDS cases in Central Asia could be attributed to high level of substance abuse.

Although HIV infections have been reported in each of China's provinces, most of the people living with HIV in China are believed to be in Henan, Guangdong, Guangxi, Xinjiang and Yunnan provinces (Ministry of Health China, 2006). It is estimated that just under half of all people living with HIV in China in 2006 were infected during injecting drug uses with contaminated equipment, while a similar proportion acquired the

virus during unprotected sex (Ministry of Health China, 2006; Lu, 2006). Although the epidemic is still dominated by injecting drug use, recent data indicate an emerging epidemic among men who have sex with men in the main cities and it is estimated that as many as 7% of HIV infections could be attributed to unsafe sex between men (UNAIDS, 2007). Studies have found HIV prevalence among men who have sex with men ranging from 1.5% in Shanghai (Choi, 2007), 1.7% in the south (UNAIDS, 2007), and 3.1%–4.6% in Beijing (Choi, 2003; Ma, 2006). The overlap of injecting drug use and sex work is an important factor in the HIV epidemic in China. Increasing numbers of women are injecting drugs and in some places as many as half of them are commercial sex workers. Many male injecting drug users also buy sex, often without using condoms (Hesketh, 2006). New, more accurate estimates of HIV indicate that approximately 2.5 million people in India were living with HIV in 2006, with national adult HIV prevalence of 0.36%. Although the proportion of people living with HIV is lower than previously estimated, India's epidemic continues to affect large numbers of people (UNAIDS, 2007). Prevalence trends in India vary greatly between states and regions. Even in the four southern states (Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu) where the large majority of people living with HIV are residing, HIV prevalence varies and the epidemic tends to be concentrated in certain districts (World Bank, 2005).

Studies in the USA showed that by the time young people reach their secondary age, almost all have used alcohol and majority have tried tobacco and marijuana (UNODC, 2004). Prevalence of substance use among adolescents increases with increasing school grade in Canada. By grade twelve (equivalent to form four) about 80% of adolescent

students had consumed alcohol and more than 40% had consumed cannabis by the end of 2005 (UNODC, 2006). By the end of 2005, there were 40.3 million people living with HIV and AIDS globally, of whom 25.8 million (64%) lived in sub-Saharan Africa (MERA, 2007). Globally, about 4.1 million people became newly infected in 2005 and 2.8 million lost their lives to AIDS (Mutie, 2006). It is projected that an addition of 45 million people will be infected with HIV in 126 low and middle-income countries by the year 2010, if unchecked (USAID/WHO, 2006). A part from poverty, other factors such as substance abuse, which include alcohol, *khat* bhang and cigarette, should be considered in the fight against HIV and AIDS.

In USA, from 2001 through 2005, HIV and AIDS cases increased among youth aged 15-19 years (CDC, 2007). In the same country, each year, about 750,000 adolescent females become pregnant and 20,000 young people (15-19 years) are newly infected with HIV and AIDS (Advocates for Youth, 2007). This indicates that adolescents are sexually active and at high risk of contracting HIV and AIDS. In 2003 one in 50 high school students in USA had injected illegal substances. Up to 25% of the estimated 40,000 new cases of HIV infections that occurred in U.S.A that year were reported among young people less than 22 years old (CDC, 2007). Most of these young people were therefore adolescents. The same report stated that out of the cases of HIV infection in USA, 49% were men who had sex with men (MSM), 6% were heterosexual men, 5% were intravenous drug users and 4% were MSM who also injected substance(CDC, 2007) . Many of these studies, which relate to drug abuse and spread of HIV and AIDS, are associated with injectable drugs where the drug abusers share unsterilised needles. This

study focused on the risks posed by other commonly abused drugs apart from injectable substances.

2.2 Substance abuse in relation to HIV and AIDS situation in Africa

Global, regional and country specific reports suggest that the epidemic of HIV and AIDS in drug users continues to spread, with an increasing number of countries reporting HIV infection in this group (Ball, 1999). For instance momentum is growing in sub-Saharan Africa to address HIV transmission linked to alcohol use and high-risk sexual behaviour (Needle *et al.*, 2006).

The first case of HIV and AIDS in Africa was reported in Uganda in 1982 (Willis, 2002). In sub- Saharan Africa HIV prevalence is 5.0% while globally it is slightly less than 1.0% (UNAIDS, 2007). Sub-Saharan Africa has just over 10% of the world's population, but it has about 63% of all people living with HIV and AIDS in the world (UNAIDS/WHO, 2006). In 2005 alone 3.2 million people were newly infected with the virus and 2.4 million died of AIDS in Africa (MERA, 2007). At 26% the national adult HIV prevalence in Swaziland is the highest ever found in a countrywide population based survey anywhere in the world (UNAIDS/WHO, 2008). South Africa remains the "global epicentre" of the HIV and AIDS epidemic (MERA, 2007). Some 32% of people living with HIV globally live in South Africa, where 34% of AIDS deaths occur (UNAIDS/WHO, 2006). An estimated 1.8 million South Africans have died from AIDS related diseases since the epidemic began (UNAIDS/WHO, 2008). It is reported that more than three quarters of all AIDS deaths globally in 2007 occurred in South Africa

(UNAIDS/WHO, 2008). Young women in South Africa face greater risks of becoming infected than men. Indeed, among 15–24-year-old, women account for about 90% of new HIV infections (Rehle, 2007). These young people include adolescents. It could be important to find out whether substance abuse could be playing a role in this high rate of infection among the young people. Rising infection levels among young people (15–24 years) in Mozambique, suggest that new HIV infections are still increasing (UNAIDS/WHO, 2008).

Human Immunodeficiency Virus prevalence started to decrease in Uganda in 1992, alongside evidence of substantial behaviour change that inhibited the spread of HIV (UNAIDS, 2007). However, that trend appears to have stabilized in the early 2000s. While the decline in HIV prevalence observed among pregnant women attending antenatal clinics in Kampala and some other urban areas appears to have persisted through 2005, other urban and most rural surveillance sites indicate an overall leveling off of prevalence during the current decade (Kirungi, 2006; Shafer, 2006). In 2005 the national prevalence rate in Uganda was 6.7% and about one million people were living with HIV and AIDS (UNAIDS, 2006). It is important to note that with a population growing as rapidly as in Uganda (which has a total fertility rate of 6.7%), a stable HIV incidence rate means that an increasing number of people acquire HIV each year (UNAIDS, 2007). The stable HIV trends are occurring alongside an apparent recent increase in more sexual risky behaviour (UNAIDS, 2007).

In national population-based surveys conducted in 1995, 2000, 2004–5, and 2006, higher risky sex was reported by 12%, 14%, 15% and 16% of adult women respectively, and by 29%, 28%, 37% and 36% of adult men respectively (Kirungi, 2006; Ministry of Health Uganda & ORC Macro, 2006; Uganda Bureau of Statistics and Macro International Inc., 2007). This indicates that men get involved in more risky behaviour than women. Uganda was the first country in sub-Saharan Africa to register a drop in adult national HIV prevalence. The epidemic, however, remains serious with infection levels highest among women (7.5% compared to 5.0% among men) and urban residents (10% compared to 5.7% among rural residents) according to a national survey conducted in 2004–5 (Ministry of Health Uganda and ORC Macro, 2006). A study in rural villages in Uganda showed that the infection seemed to be rising again (UNAIDS/WHO, 2006). It is important to investigate the factors that could be contributing to this rise.

The prevalence of HIV and AIDS has also declined in the United Republic of Tanzania (UNAIDS, 2007). The most recent information shows HIV prevalence among antenatal clinic attendees in Zanzibar ranging from 0.7% in Unguja to 1.4% in Pemba (Salum, 2003), while in mainland Tanzania it was 8.7% among women using antenatal services in 2003–2004, down from 9.6% in 2001–2002 (Swai, 2006). On the mainland, a national population-based HIV survey in 2003–2004 found adult HIV prevalence of 7% in 2003–2004 (Tanzania Commission for AIDS, National Bureau of Statistics and ORC Macro, 2005). In most of the comparatively smaller epidemics in West and Central Africa, adult national HIV prevalence has remained stable overall. However, signs of declining HIV prevalence are evident in an increasing number of countries, notably Côte d'Ivoire, Mali

and urban Burkina Faso. In these countries, as well as in Benin, there is evidence of a shift towards safer behaviour (UNAIDS, 2007). Nigeria still has the largest epidemic in this sub-region. The national HIV prevalence among women attending antenatal clinics in Nigeria appears to be stable, but with large variation between different regions and states (Utulu and Lawoyin, 2007).

Sub-Saharan Africa has become increasingly vulnerable to illicit drug production, trafficking and consumption (Needle *et al.*, 2006). Many parts of Africa are a global highway for illegal substance trafficking (Tabifor, 2000). Drug trafficking and transport in Africa introduces drugs into new geographic areas, expands domestic market and introduces drugs to new people (Needle *et al.*, 2006). Majority of substance abuse victims are the youth (Tabifor, 2000). For instance a report by the United Nations indicates that 70% of drug addicts started using substances in their teens (Ndetei, 2004). Surveys point to high levels of alcohol abuse among high school students in South Africa (APSA, 2004). Substance abuse is linked to high-risk sexual practices and HIV transmission within the sub- Saharan Africa (Needlle *et al.*, 2006). Concern about drug use and its consequences in sub-Saharan Africa was raised as early as 1999 in a publication by the United Nations Office on Drugs and Crime (UNODC). The UNODC report, "The Drug Nexus in Africa" documented trends in substance production, trafficking to and through sub-Saharan Africa, and the consumption of cannabis, heroin, cocaine, and other drugs, suggesting that illicit drug use in sub-Saharan Africa is not a "minor" concern as was often assumed (UNODC, 1999).

Substance abuse is becoming an increasingly important factor in some of the HIV epidemics in sub-Saharan Africa, including Kenya, South Africa, Mauritius and United Republic of Tanzania (UNAIDS, 2007). Human Immunodeficiency Virus transmission due to sharing of injection equipment has been extensively documented (Aceijas *et al.*, 2004; AED, 2000; Friedland *et al.*, 1989; Marmor *et al.*, 1984). Mauritius has between 17,000 and 18,000 IDUs (Needle *et al.*, 2006). Compelling data also come from South Africa where a rapid assessment conducted among male and female drug users in three cities documented HIV prevalence of 28% (Parry and Pithey, 2006). About 4% of registered HIV and AIDS cases in North Africa were found in intravenous drug users and individual countries reported even higher rates (Ndetei, 2004).

Some sub-Saharan African countries are experiencing significant changes in the patterns of illicit drug use, through both non-injection and injection drug use, which has implications for the potential spread of HIV (Needle *et al.*, 2006). Along with increasing concern about the potential for HIV spread among drug using populations, there is also growing awareness in sub-Saharan Africa of the relationship between alcohol use, particularly misuse and abuse of alcohol, and HIV risk (Bryant, 2006; Campbell, 2003). Sexual risk-taking behaviours associated with alcohol use are highly prevalent in many African countries severely affected by HIV and AIDS (Fritz *et al.*, 2002; Simbayi *et al.*, 2004). According to the World Health Organization (WHO), the eastern and southern regions in Africa have the highest consumption of alcohol per drinker in the world, and the prevalence of hazardous drinking patterns, such as drinking a large quantity of alcohol per session, or being frequently intoxicated, is second only to Eastern Europe

(Needle *et al.*, 2006). Offerwill (1994) reported that beer production had increased by 124% worldwide but by 400% in Africa. Research links heavy alcohol use with several high-risk sexual behaviours, such as multiple sex partners, unprotected intercourse, sex with intravenous drug users or commercial sex workers (C.S.W), and needle sharing (NACADAA, 2006). Alcohol consumption may also lead to increased social activity and other normally restricted behaviour (NACADAA, 2006). Health ministers from countries in the East, Central and Southern Africa regions resolved to incorporate issues related to alcohol into their national HIV and AIDS strategies. The ministers also called for rapid situational analysis to be conducted on the relationship between alcohol and HIV in the region (Needle *et al.*, 2006). This study can be taken as part of the response to this call.

Studies of high school students in Ghana, Kenya and Zambia, showed that prevalence of drinking alcohol is 70% to 80% (WHO, 2002). Willis (2002) reported that in Africa about 50% of people became HIV positive before age 25 years and 50% died before reaching 35 years. These are mainly young people, including the adolescents. Africa has about two-thirds of all young people living with HIV and AIDS in the world, approximately 6.2 million (WHO, 2006). In Zimbabwe the risk of acquiring HIV increases considerably in both females and males from late adolescents to mid-30s. A total of 7% of females and 3% of males aged 15-19 years tested HIV positive, compared to 35% females and 30 males in mid-30s (UNAIDS/WHO, 2008).

Heterosexual intercourse accounts for over 90% of HIV and AIDS transmission in sub-Saharan Africa and this may be even higher in some places. For instance, in Masaka district of Uganda heterosexual intercourse accounts for 99% of HIV infection (Willis,

2002). The practice of having multiple sex partners is the main reason for the spread of HIV and AIDS in Africa, Asia and most developing countries (Booth *et al.*, 2001). This study attempts to find out whether drug abuse leads to such risky behaviour as multiple sex partners among adolescents in secondary schools. The results of a study in Uganda among secondary school students revealed that sexual activity among adolescents is high and usually begins at an early age (WHO, 2006). About 34 studies in 20 developing countries revealed that substantial numbers of youth in all regions are sexually active (USAID, 2006). The same report reveals that use of contraception in general and condoms in particular is inconsistent, especially by males with regular partners. Unprotected sexual relations remain the main cause of spread of HIV and AIDS pandemic (MERA, 2007). The study in this report seeks to find out whether drug abuse might be contributing to such inconsistent use of condoms by adolescents, leading to high vulnerability to HIV and AIDS.

2.3 Drug abuse in relation to HIV and AIDS situation in Kenya

About 92% of Kenyan adolescents and young adults (16-26 years) have experimented with substances in the growing up process (Tony, 2000). Most adult drug users engage in substance use before they are 21 years of age. This is the age when their bodies are still forming and at which the youth are normally in school or college (NACADAA, 2007). The commonly abused drugs in Kenya by the adolescents and youth are commercial beer and spirits, cigarettes, local brew (*Busaa*), local spirits (Chang'aa), *khat* , bhang and inhalants (Tony, 2000). Some drugs in Kenya are classified as illegal drugs and others are not considered illegal. It is therefore difficult to control use of substances not

considered illegal. For instance a Kenyan court ordered police to stop using breathalyzers because the country has no law against drinking and driving (Mckean, 2005). The same report stated that two men were arrested when their breath tested positive for alcohol and they challenged prosecutors to identify which law they had broken. These legalized substances in Kenya include alcohol, cigarettes and *khat*. Most students who use *khat* are unaware that it is harmful because the government has legalized its use; as a result, they are increasingly using it under the illusion that it is safe (NACADAA, 2007). A study in Kenya revealed that 25.4% of adolescents and young adults use drugs regularly and 18.5% have been addicted (Tony, 2000). According to the report, alcohol (commercial beer and spirits) and cigarettes account for 87% of all regular drug users in Kenyan youth (Tony, 2000).

In a study undertaken by the Child Welfare Association, it was revealed that one in every 15 Kenyan students is on drugs and that 60 per cent of drug abusers are below 30 years of age. The United Nations Office on Drugs and Crime has further revealed that, startlingly, half of abusers are between the age of 10 and 19 years (NACADAA, 2008). This age bracket includes adolescents. Though bhang is still the most abused (and produced) drug in Kenya, cocaine and "crack" cocaine usage is on the increase and no one is safe (NACADAA, 2008). Use of alcohol, bhang and *khat* in Kenya has indigenous roots and the three substances have been widely used in the indigenous society; however, no evidence exists to show that substance abuse has been part of indigenous heritage; indeed, the indigenous society in most cases regarded drunkenness as a disgrace (NACADAA, 2007). In light of this observation, the rapid spread of substance abuse can

be traced to the breakdown of the indigenous society and to the introduction of foreign influences that have made a variety of substances available on a large scale. Ultimately, substance use by the youth implies a breakdown of family values evident in the indigenous society. As a result, several parents have lost control over their children, and, freed from parental control, some children have succumbed to substance abuse. Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome was first identified in Kenya in 1984 and since then it has become a tragedy of devastating proportions (Mutie, 2006).

Death rates from HIV have reached an unprecedented level in Kenya, at about 150,000 per year (NACC, 2008). Even with scale-up of treatment, death rates in Kenya are likely to continue to rise because of the large number of people who were infected in the 1990s. The good news is that new HIV infections in adults, which peaked in the early 1990s at over 200,000 per year, have now dropped to well below 100,000 per year (Ministry of Health- Kenya, 2006). National HIV prevalence in Kenya has decreased from a high level of around 14% in the mid-1990s to 5% in 2006 (NACC, 2008). The downward trend was especially profound in the urban sites of Busia, Meru, Nakuru and Thika, where median prevalence declined from 28% in 1999 to 9% in 2003 among 15–49-year-old women attending antenatal clinics, and from 29% in 1998 to 9% in 2002 among those aged 15–24 years (Hallett, 2006). Human Immunodeficiency Virus epidemic in Kenya has been declining amid evidence of changing behaviour. Besides behavioural change, mortality of people infected with HIV several years ago has also contributed to the declines in prevalence (UNAIDS, 2007). There were about 1.3 million people living with

HIV and AIDS in Kenya by the end of 2006 (UNAIDS/WHO, 2006). In the same year the rate of new infections was 60000 per year, approximately 164 people per day (UNAIDS/WHO, 2006). Therefore, Kenya is still contending with a serious problem of HIV and AIDS epidemic despite the drop in prevalence rate. The National Agency for Campaign Against Drug Abuse Authority (NACADAA) (2006) has warned that rising substance abuse may reverse the progress made in the fight against HIV and AIDS. There is evidence that youth engage in sex at very early ages with large numbers having multiple or concurrent sex partners (Wang'ombe, 2004). Adolescents' exposure to early sex features strongly as an aspect that profoundly increases the incidence of the prevailing HIV and AIDS prevalence among the adolescents in Kenya (NACC, 2005). It would be important to find out whether substance abuse contributes to this early exposure to sex among adolescents in secondary schools. Adolescents' reproductive health study in Kenya, particularly among those living in high HIV infection areas, shows that girls have higher infection rate than boys (Mutie, 2006).

Recent report by USAID (2006) revealed that prevalence rate in girls (15-24 years) is 4.5% while in boys of the same age is 0.8%. This has been attributed to high frequency of sexual intercourse between young girls and older men (USAID, 2004). In Kenya the initial peak for HIV infection is among females aged 15-19 years and males aged 20-24 years (Wang'ombe, 2004). This suggests that females become sexually active earlier than males. This study seeks to find out whether substance abuse contributes to this high prevalence rate of HIV and AIDS among the adolescent girls in secondary schools. Age of sexual debut seems to have dropped as low as nine years for girls (Wang'ombe, 2004).

The knowledge of sex in these girls is also low; hence they are not able to make informed choices in sex matters and older men take advantage of such girls (Wang'ombe, 2004). Peer pressure drive young people into smoking and alcohol consumption, which may in turn lead to sexual promiscuity and increased risks of HIV and AIDS (Wang'ombe, 2004).

Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome was declared a national disaster in Kenya by the former president Moi in 1999, and has equally become devastating in Meru Central District. Although there is no sufficient data, most recent surveys done in hospitals indicate that Meru Central District ranks among the leading in HIV and AIDS prevalence in the country (MoH/GoK, 2006). Meru Central District has over 50,000 teenagers, majority being girls, who are HIV positive (DHP, 2007). Although prevalence rate in the district appears to have gone down remarkably from 14% in 2004 to 7% in 2006, 3.3% in 2007, 4.3% in 2008 and currently at 3% (MoH/GoK, 2006; DHP, 2007; MoH/GoK, 2009), drug abuse can reverse the progress made if nothing is done. Case studies among secondary school and college youth in many countries dispel the notion that sex is always consensual (WHO, 2006). A study in Kenya revealed that many teenagers experience sexual intercourse, which they describe as "unwanted" and a consequence of trickery, threat, coercion or force (Tony, 2000). Forced sexual intercourse put the victim under high risk of contracting HIV and AIDS.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study area

This study was carried out in Meru Central District, one of the 13 Districts in Eastern province of the Republic of Kenya. The district borders with Laikipia district to the West, Meru South to the South, Tharaka to the East, and Meru North and Isiolo Districts to the North (Appendix III). It lies within longitudes 37^0 and 38^0 East and latitude 0^0 3' 45'' and 0^0 2' 30'' South of Equator. The district has a total area of 2982 Km^2, out of which 1030 Km^2 are covered by Mt. Kenya and Imenti forests while the remaining 1952 Km^2 are under human settlement. There are 11 administrative divisions, 15 educational zones, and three urban centres within the district (DDP, 2002). The three urban centres are Meru town, Nkubu and Mitunguu. The total number of locations is 57 and 157 sub-locations.

The district has a population size of 566325 people, youth (15-25 years) being 134,407 and those of secondary school age (14-17 years) being 55,561 (DHP, 2007). The population growth rate is at 1.48% (DSP, 2005). The total number of registered secondary schools in the district, with Forms 1-4, is 93. These include 75 public secondary schools and 18 private schools. There are 21 boys' schools, 26 girls' schools and 28 co-education schools (MOEST, 2006). The main economic activity in the district is agriculture. This includes crop farming and animal husbandry. The industries in the district are mainly agricultural based, and they include a dairy factory, tea factories, coffee factories, maize milling and bakeries. A lot of bhang is illegally grown in the forested area and *khat* from neighbouring Meru North District is sold in the towns and

market centres within Meru Central District. Road network in the district is fairly good, especially connecting the neighbouring districts such as Meru North, the main source of *khat.*

In 2006, the disease burden in the district was mainly malaria with 265,869 new cases and a prevalence rate of 35.2%; it was also leading in high inpatient case fatality (DHP, 2007). The prevalence of HIV and AIDS in the district has been brought down from 38% in 2002 to currently 3% (DHP, 2007). Awareness and behavior change in the district is above 95% (DHP, 2007). Antiretroviral drugs uptake is still low and are offered in only five centres. Accessibility to these services is a challenge to many HIV positive clients who have to walk for many kilometres to reach these centres (DHP, 2007). The main challenges of young people in the district include substance abuse, teenage pregnancy, abortion, and general indiscipline of adolescents, especially in secondary schools (DSP, 2005).

3.2 Study population

The study population was adolescents aged between 14 and 19 years, attending public secondary school in Meru Central District. Teachers involved in Guidance and Counseling in public secondary schools in the district were also interviewed to provide key information.

3.2.1 Inclusion criteria

The study involved students in public secondary schools in Meru Central District aged 14-19 years, who consented to give information. The students included in the study were in form two to four while teachers interviewed were those in Guidance and Counseling, who consented to give information.

3.2.2 Exclusion criteria

Students who were out of school during the study, those outside the age bracket of 14-19 years and those who did not consent to give information were excluded. Teachers not involved in Guidance and Counseling and those who did not consent to give information were also left out. Form one students were left out because most had not settled or reported in some schools by time the study was conducted. Private schools were also not considered in this study.

3.3 Study design

This was a descriptive cross - sectional survey conducted to describe the characteristics of the study population in relation to drug abuse and vulnerability to HIV and AIDS at one point in time

3.4 Ethical considerations

Clearance for the study was obtained from relevant authorities beginning with Kenyatta University post graduate committee, Ministry of Education, Local Administration and authorities of the selected schools. Consent was obtained from all respondents. The

purpose of the study was communicated clearly to the participants while requesting for the consent. The study findings have been made available to the concerned schools and District Education Office, Meru Central District. Confidentiality of information was observed.

3. 5 Sampling method

Meru Central District was purposively selected due to its proximity to Meru North where *khat* is grown and therefore easily available to students in the schools. It has also been known that substantial amount of bhang *(Cannabis sativa)* is grown in Mt. Kenya forest, which forms part of Meru Central District. The HIV and AIDS prevalence is still high in Meru Central District in spite of AIDS awareness level being about 95% (DDP, 2002).

There were a total of 93 registered public secondary schools in the district. Stratified random sampling was used to select the schools to be included in the study. These schools were sub-divided into rural and urban schools. Each of these categories was sub-divided further into boys' schools, girls' schools, and co-education schools. They were then sub-divided into boarding and day schools. Simple random sampling was used to select one school from each of these categories. A total of eight schools was selected to represent all the main categories of public schools in the district. Proportional random sampling was used to select respondents from the selected schools. In single gender schools respondents were selected using systematic random sampling, where a class list was used to pick the respondents who were in school at the time of the study. In co-education schools proportional random sampling was used to select boys and girls to be

involved in the study. The teacher in-charge of Guidance and Counseling department from each sampled school was interviewed. Focus group discussions (FGD) were used to collect in-depth qualitative data from senior classes (Form 3 and 4). Each FGDs comprised of 10-12 members, half from Form three and another half from the Form four. Systematic random sampling was used to select participants in FGDs from single sex schools. Proportional random sampling was used to select respondents in FGDs from co-education schools.

3.6 Sample size determination

Sample size was determined using the formula applied by Fisher (Mugenda and Mugenda, 1999).

$$n = \frac{Z^2 pqD}{d^2} \quad (N \geq 10{,}000)$$

n = Desired minimal sample size

Z = Standard normal deviate which is equal to 1.96 at 95% confidence level.

p = Proportion of the target population estimated to be engaged in drug abuse = 0.6.

q = 1-p (1-0.6 = 0.4)

d = Degree of accuracy desired for the study at 95% confidence level= (0.05)

D = Design effect = 2 (Due to rural and urban school set-ups).

$$n = \frac{1.96^2 \times 0.6 \times 0.4 \times 2}{0.05^2} = 737.5872$$

The sample size was rounded to **740.**

3.7 Data collection

Data was collected using pre-tested self-administered questionnaires. Questionnaires were distributed to the respondents in the selected schools by the researcher and his trained research assistants. The students filled the questionnaires under the supervision of the researcher and his assistants. The researcher also held focus group discussions (FGDs) with the selected students in Forms three and four. These students were considered to have had enough experience in secondary schools to discuss freely. Interviews were also carried out with teachers involved in guidance and counseling.

3.8 Data analysis

Statistical Packages for Social Sciences (SPSS) was used to process the data. Data was analyzed using one-way ANOVA to test whether there were significant differences in drug abuse among boys' schools, girls' schools, and co-education schools. The t-test was used to determine whether drug abuse in rural and urban schools differed. Data from FGDs were processed manually by creating categories, themes and patterns that were analyzed and interpreted. The variables tested included risky behaviour modifications brought about by substance abuse. The risky behaviour modifications were assessed in terms of condom use, sex debut, number of sexual partners and rate of sexual abuses such as rape among others.

CHAPTER FOUR

RESULTS

4.1 Demographic characteristics of students

4.1.1 Gender and age distribution

Both boys and girls involved in the study were between the age of 14 to 19 years. About 57.4% (n = 736) of the respondents sampled were girls and 42.6% (n = 736) were boys (Fig. 4.1).

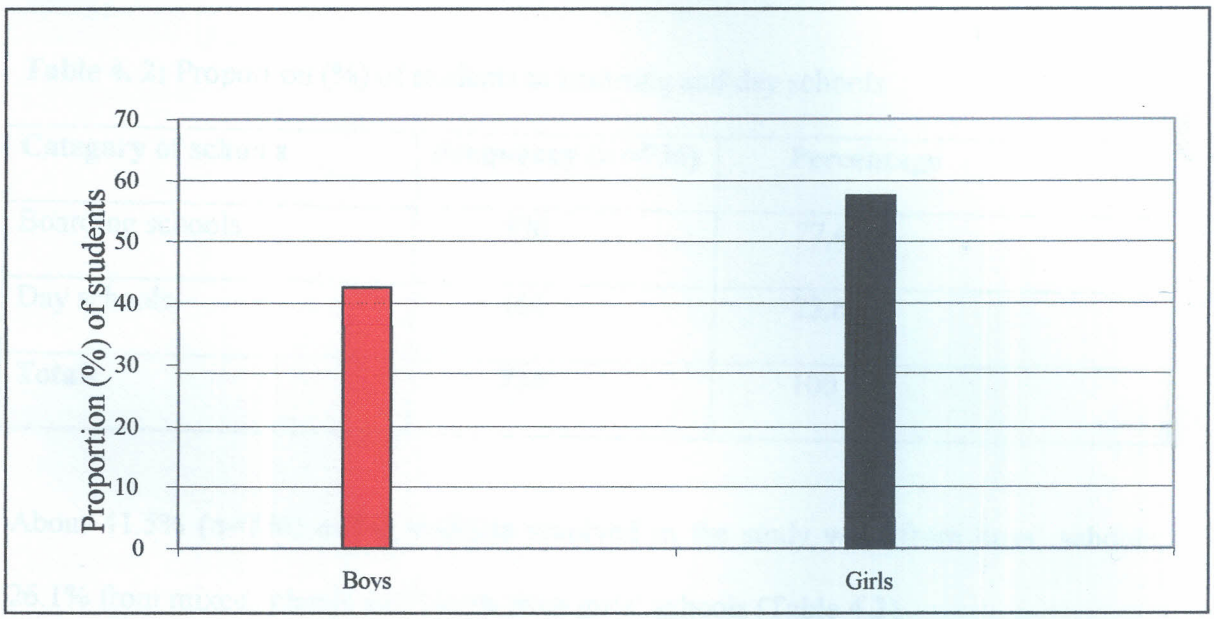


Figure 4.1: Proportion (%) of boys and girls sampled in the study

4.1.2 School categories of the respondents

The proportion of the students involved in the study from rural schools was 49.9% (n= 736) while that of urban schools was 50.1% (n = 736) (Table 4.1).

Table 4.1: Proportion (%) of students sampled from rural and urban schools

Type of schools	Frequency (n =736)	Percentage
Urban schools	369	51.1
Rural schools	367	49.9
Totals	736	100

Over 77% (n = 736) of respondents were in boarding schools and only slightly above 22% (n =736) were in day schools (Table 4.2).

Table 4. 2: Proportion (%) of students in boarding and day schools

Category of schools	Frequency (n =736)	Percentage
Boarding schools	570	77.4
Day schools	166	22.6
Totals	736	100

About 41.5% (n=736) of the students involved in the study were from boys' schools, 26.1% from mixed schools and 26.4% from girls' schools (Table 4.3).

Table 4. 3: Proportion (%) of respondents in their selected schools by gender

	Frequency (n=736)	Percentage
Boys' schools	305	41.5
Mixed schools	236	26.1
Girls' schools	195	26.4
Totals	**736**	**100**

4.2 Students' experience with substances

Sixty percent (n = 736) of the respondents admitted that they had taken at least one of the substances such as *khat*, cigarette, alcohol, bhang and glue by the time of the study. When the students were in school, they took various substances as shown in Table 4.4.

Table 4.4: The proportion (%) of students who abused various substances when in school

Substance taken	**Frequency (n = 442)**	**Percentage**
Cigarette	85	18.9
Commercial alcohol	96	21.8
Local alcohol	55	12.5
Khat	96	21.8
Bhang	37	8.5
Narcotics	19	4.3
Inhalant	24	5.4
Others	30	6.8
Totals	**442**	**100**

To identify the most commonly abused substances in the district, one-way ANOVA was carried out on the number of students and their frequencies of taking the substances. There was a significant difference in the substance abuse levels ($F = 5.014$, $df = 7$, $P < 0.05$). A post ANOVA test (Tukeys HSD, $P < 0.05$) revealed that the substances taken by most students in Meru Central District schools were commercial alcohol and *khat*. The two substances were taken by a significantly high number of students in the district (21.8%, n = 442) (Table 4.4). In all the schools involved in the study, teachers in charge of Guidance and Counseling reported that alcohol, *khat* and cigarettes were the top three substances abused by the majority of the students in secondary schools in the district.

4.3 Substance abuse by students during school time and over the holidays

The mean number of students who used substances over the holidays was 2.54 while during school time it was 2.17. Therefore was no significant difference in the mean number of students abusing substances during school time and over the holidays ($P > 0.05$), although a slightly larger number of the students took substances over the holidays (Fig.4. 2).

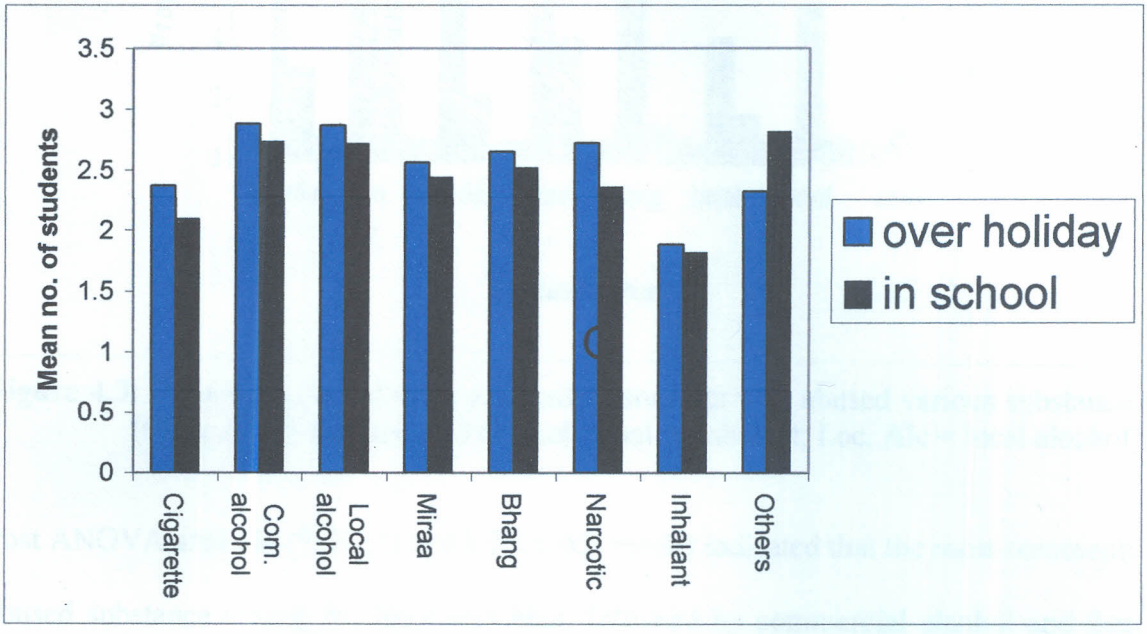


Figure 4.2: Mean number of students who abused substances over the school holidays and during the school time.

4.4 Student gender and substance abuse

The proportion of male students who abused various substances was higher than that of female students. About 78.6% (n=314) of the boys had taken at least one type of substance at the time of the study compared to only 21.4% (n=422) of the girls. However, different proportions of both male and female students abused various

substances (Fig.4.3). The number of boys who abused various substances was significantly higher than the number of girls ($F = 40.9$, $df = 76$, $P < 0.05$).

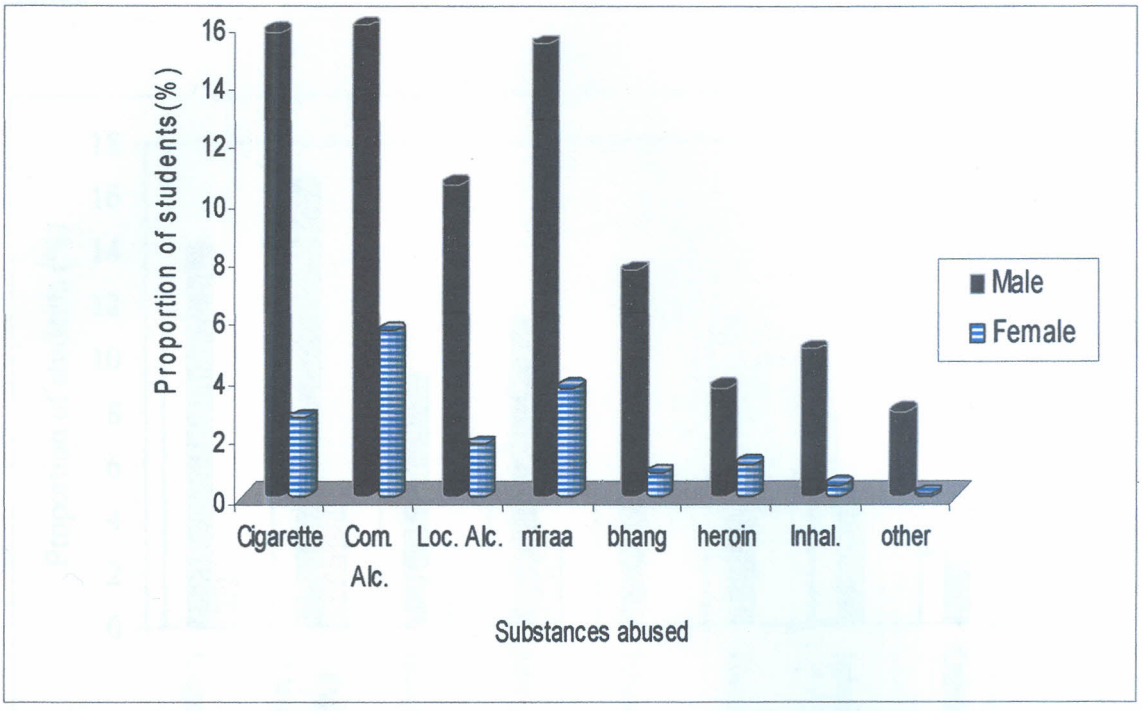


Figure 4.3: Proportion (%) of male and female students who abused various substances (Com. Alc. = Commercial alcohol; Inhal. = Inhalant; Loc. Alc = local alcohol)

Post ANOVA analysis (Tukey's HSD, $P < 0.05$) results indicated that the most commonly abused substance among the boys was *khat*, followed by commercial alcohol and then cigarette. However, girls mainly abused commercial alcohol followed by *khat*.

4.5 Substance abuse in different categories of schools

Substance abuse in boys' schools was significantly higher than in girls' schools and mixed schools (Tukey's HSD, $P < 0.05$) while that in mixed schools was higher than in girls' schools. For instance, commercial alcohol was abused by 16.71% ($n = 442$) of the students in boys' schools, 12.77% ($n = 442$) in mixed schools and 4.21% ($n = 442$) girls'

schools. In girls' schools no student was found to have taken any inhalant substance (Fig.4. 4). Only one girl in this study admitted to have taken bhang at least once in a month.

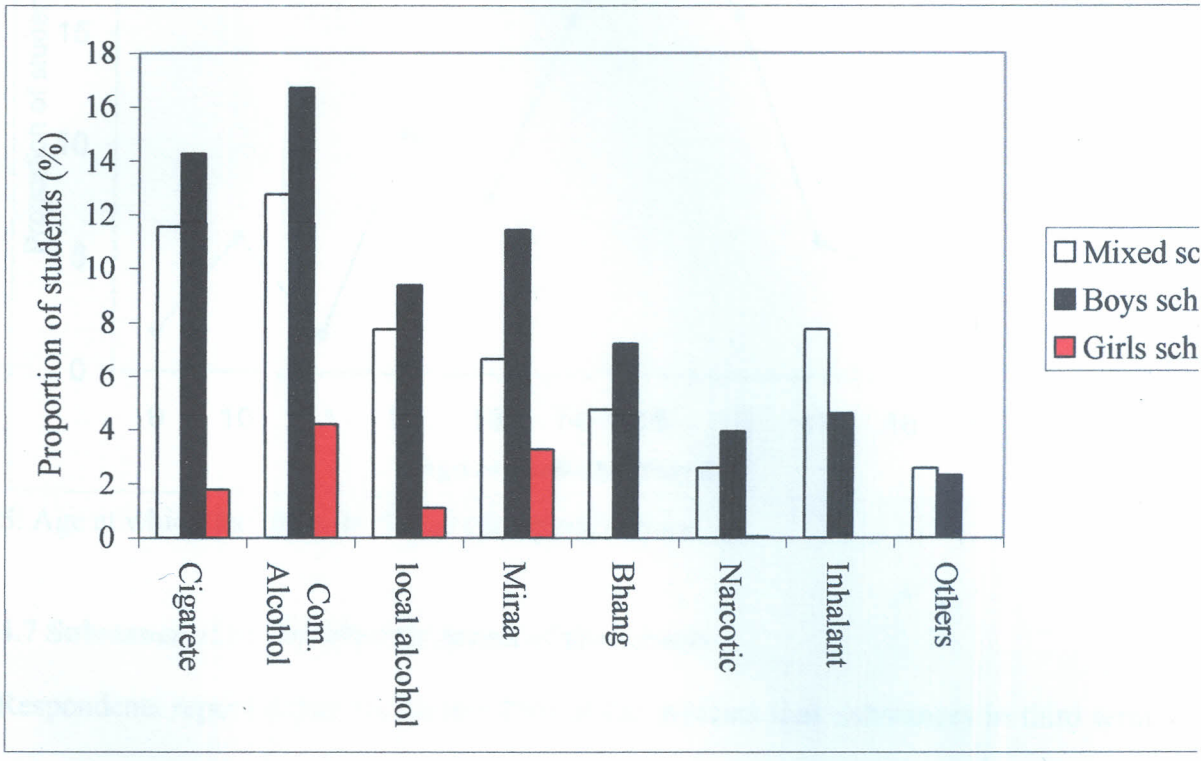
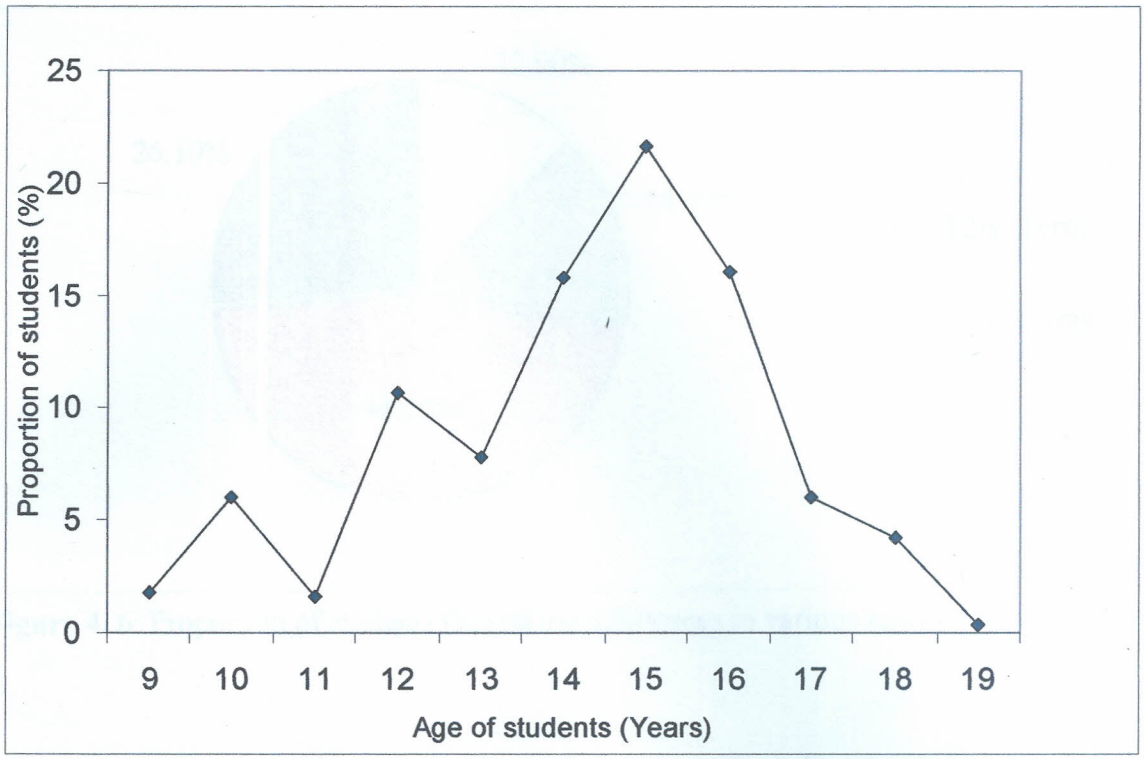


Figure 4.4: Proportion of students (%) who abused various substances in mixed schools, boys' schools and girls' schools (Com. Alcohol = Commercial alcohol).

4.6 Age at which students started abusing substances

Most students started abusing substances between 12 to 18 years. However, some started taking substances as early as nine years and even below. Age fifteen years was the mode at which majority of the students started taking substances (Fig. 4.5).



5: Age at which the students started taking substances

4.7 Substance abuse in different terms of the schools

Respondents reported that 46.2% (n =736) of the students took substances in third term while 12.9% (n = 736) and 14.8% (n = 736) in first and second terms respectively. About 26% (n = 736) of the students took substances equally in all terms (Fig.4. 6). The students mainly took substances in the toilets and in buildings under construction during evening or morning preps.

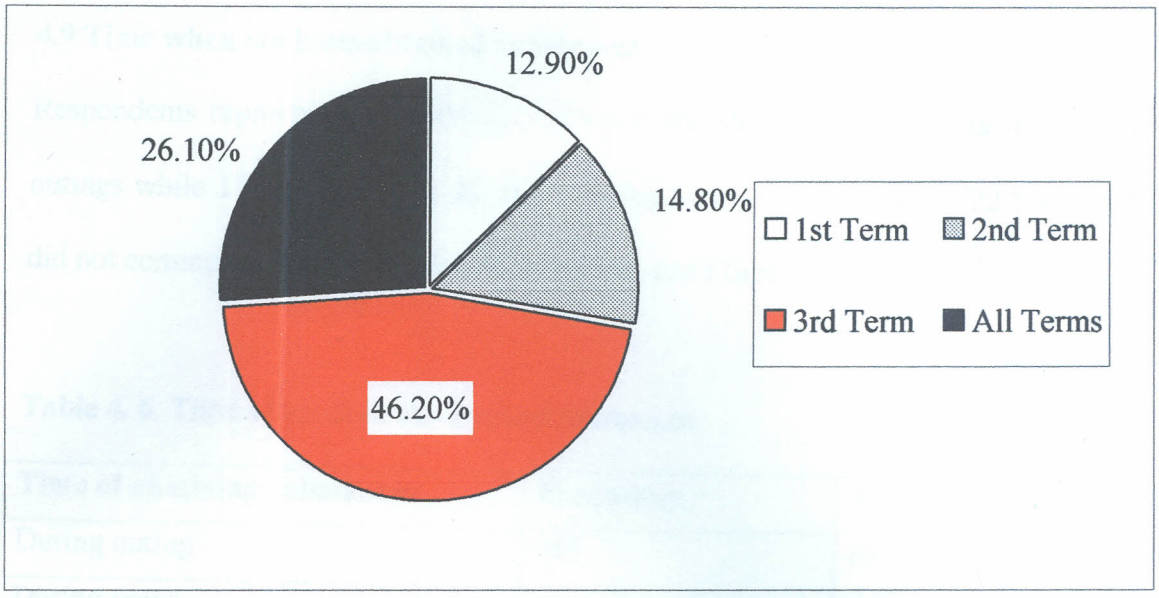


Figure 4. 6: Proportion of students (%) taking substances in various school terms

4.8 Persons responsible for supply of substances to students in schools

When in school, over 63% (n = 442) of the students were supplied with substances by other fellow students and about 14.7% (n = 442) by neighbours of the school. Other people who supplied substances to students were school workers (6.2%, n = 442), teachers (6.0%, n = 442) parents or guardians (0.7%, n = 442) (Table 4. 5).

Table 4. 5: Persons responsible for supply of substances to students in schools

Source of drugs	**Frequency (n = 442)**	**Percentage**
Other students	281	63.6
Neighbours of the schools	65	14.7
School workers	27	6.2
Teachers	26	6.0
Parents and guardians	4	0.7
Other sources	39	8.8
Totals	**442**	**100**

4.9 Time when students obtained substances

Respondents reported that 60.4% (n = 736) of the students obtained substances during outings while 17.3% (n = 736) got them during preps. Other students (22.3%, n = 736) did not comment on when substances were obtained (Table 4. 6).

Table 4. 6. Time when students obtained substances.

Time of obtaining substances	Frequency	Percentage
During outing	445	60.4
During preps	127	17.3
Non- committal	164	22.3
Total	**736**	**100**

4.10 Reasons for taking substances by students

Over 53% (n = 442) of the students were influenced by their peers into substance abuse, 8.6% (n = 442) took substances out of their own curiosity, 4.2% (n = 442) were influenced by the media, 9.6% (n = 442) took substances to forget their problems, 9.2% (n = 442) to feel 'high', 7.7% (n = 442) to have fun, 3.4% (n = 442) to kill boredom and another 3.4% (n = 442) took substances for other reasons such as wanting to feel like adults, easily available, forced to take by some senior students among others reasons (Table 4.7).

Table 4. 7: Proportion (%) of students who took substances for various reasons

Reason for substance use	Frequency (n= 442)	Percentage
Peer influence	238	53.9
Curiosity	38	8.6
Media influence	19	4.2
Forget problems	42	9.6
Feel ' high'	41	9.2
Have fun	34	7.7
Kill boredom	15	3.4
Other reasons	15	3.4
Total	**442**	**100**

4.11 Pocket money given to students

This study established that most students always carried pocket money to school even after having been bought the necessary items for use in school. About 7% of the students carried over Ksh 1000, 61% (n = 736) carried between Ksh.500 to 1000, and 32 % (n =736) below Ksh 500 (Table 4. 8).

Table 4. 8: Proportion (%) of students who carried various amounts of pocket money to school

Amount of pocket money	Frequency (n = 736)	Percentage
Below Ksh. 500	236	32
Ksh. 500 -1000	449	61
Over Ksh. 1000	51	7
Total	**736**	**100**

4.12 Substance abuse by parents/guardians

Even though over 90% (n= 736) of the parents/guardians did not sell any form of substance, the study revealed that 40.8% (n =736) of them took alcohol, 35.5% (n =736) cigarettes, 14.9% (n =736) chewed *khat*, 3.5% (n =736) took other substances and 5.3% (n= 736) of the parents/guardians did not take any substance (Table 4. 9).

Table 4. 9: Substances abused by parents/guardians

Substance abused	Frequency (n =736)	Percentage
Alcohol	300	40.8
Cigarette	261	35.5
Khat	110	14.9
Others	26	3.5
None	39	5.3
Total	**736**	**100**

4.13 Substance abuse among adolescents in rural and urban public secondary schools in Meru Central District

The results of t-test revealed that there was a significant difference between substance abuse in rural and urban schools ($t_{38} = 5.019$, $p < 0.05$). In rural schools substance abuse was slightly higher than in urban schools (Fig. 4.7).

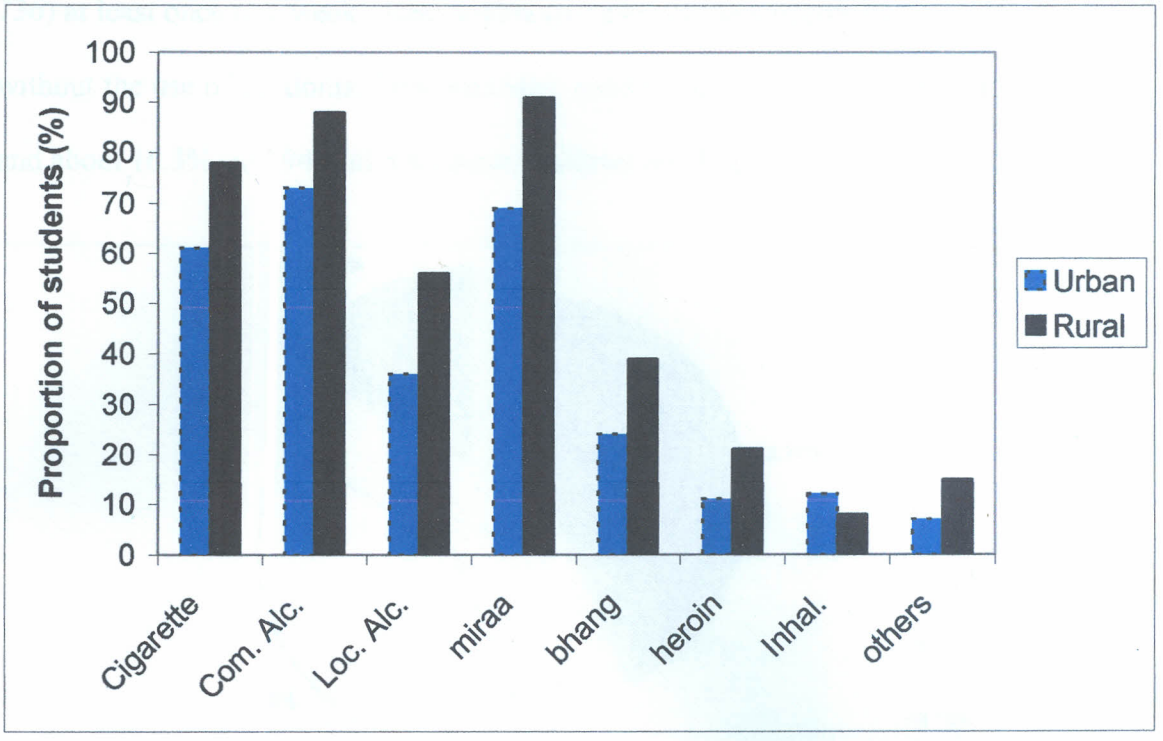


Figure 4.7: Proportion of students (%) in urban and rural schools who took various substances (Com. Alc.= Commercial alcohol; Loc. Alc.= Local Alcohol; Inhal.= Inhalant)

Tukey's test for mean differences indicated that in rural schools, the most abused drug was *khat* followed by commercial alcohol, whereas in urban schools majority of students abused commercial alcohol followed by *khat* (Tukey's HSD, $P< 0.05$).

4.14 Risky behaviour modifications brought about by substance abuse among adolescents in public secondary schools in Meru Central District

4.14.1 Sexual experience of students

Over 40% (n=736) of the students involved in this study had at one time or another experienced sexual intercourse. The proportion of students who had experienced sexual intercourse at least once by the time of study was 21.4% (n = 736). The study also showed that 9.5% (n = 736) had sexual intercourse at least once in a month and 5.5% (n =

736) at least once in a week. Nearly 40% (n =294) of the students had sexual intercourse without the use of condoms. Condoms were used by only 43.7% (n= 294) of the students and about 16.3% (n=294) did not commit themselves (Fig.4. 8)

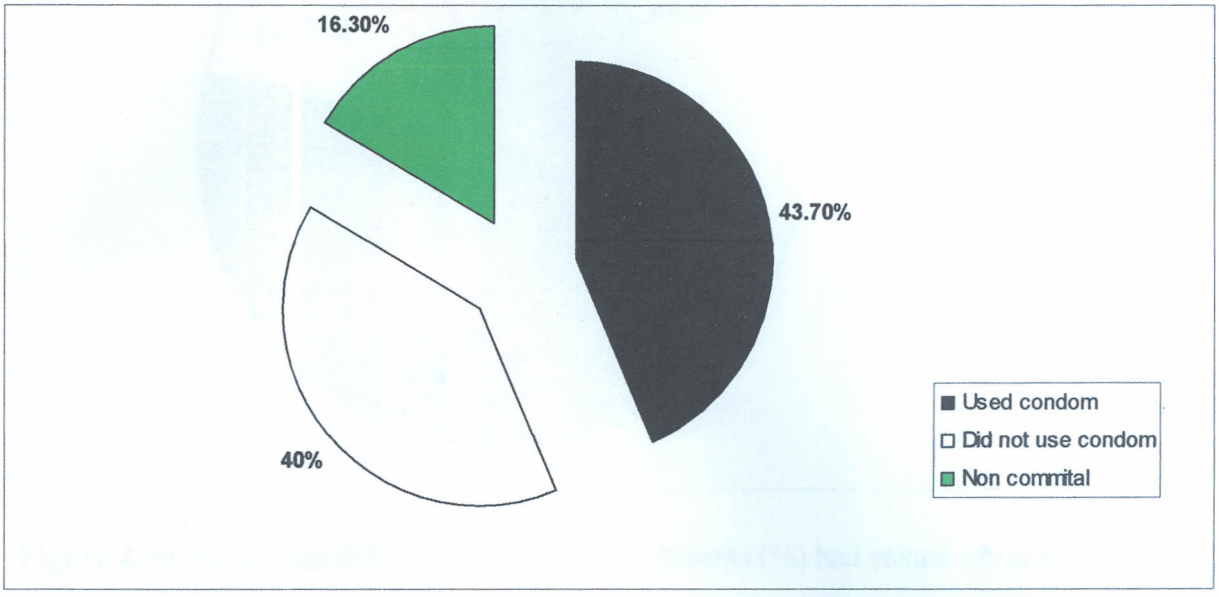


Figure 4. 8: Proportion of students (%) who used or did not use condoms during sexual intercourse

Before having sex, 54.6% (n= 294) of the students talked to their partners about safe sex. By the time of study, 19.5% (n= 294) had one sexual partner while 17.4% (n = 294) had more than one sexual partner. When in school most students (44.6%, n = 294) got opportunity to have sex during inter-school activities like drama and sports and 34.0% (n = 294) had a chance during outings (Fig.4.9).

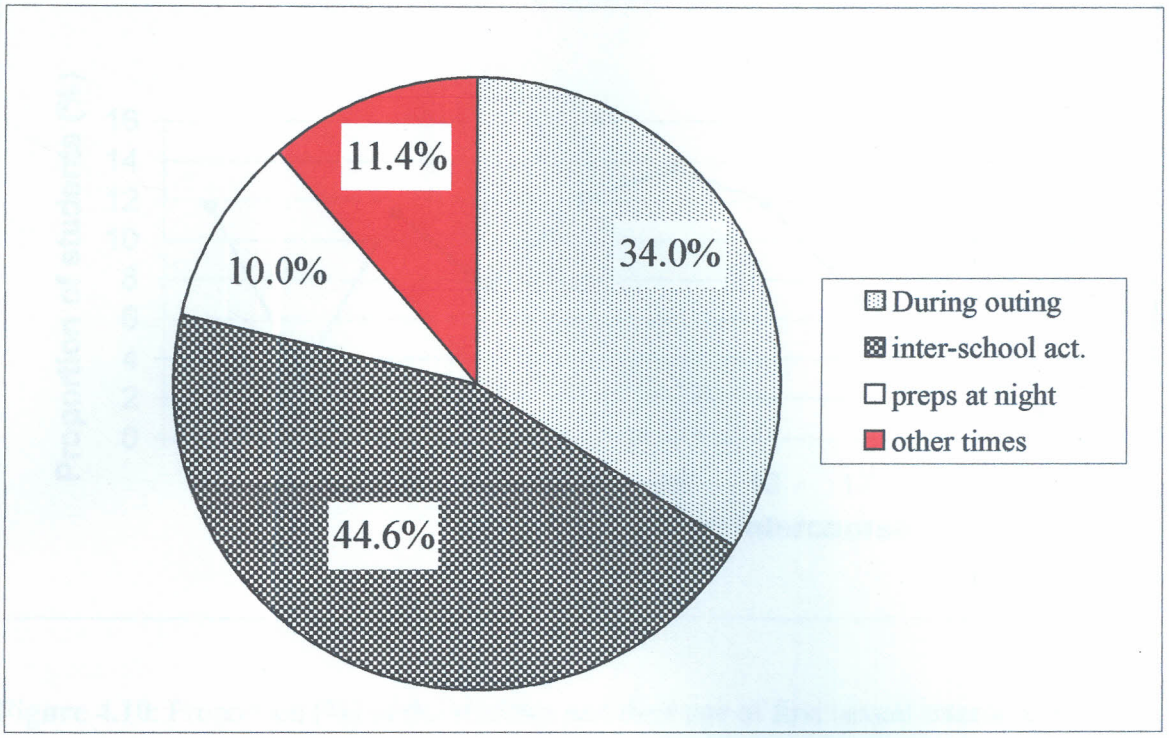


Figure 4. 9: Time when different proportions of students (%) had sexual intercourse

4.14.2 Age at first sexual debut

About 71.5 % (n =294) of the sexually active students had their first sexual intercourse between 10 to 16 years. In this study, it was noted that the highest percentage, 13.6% (n = 294) of the students had their first sexual intercourse at the age of 15 years (Fig.4.10). At this age, 34.9% (n= 294) of the students were in Form three.

Figure 4.10: Proportion (%) of the students and their age of first sexual intercourse

4.14.3 Influence of substance related advertisements on sexual behaviour

Over 60% (n = 736) of the students involved in the study reported that they were influenced by substance related advertisements to think about sex.

4.14.4 Relationship between substance abuse and sexual experience

About 18.5% (n= 294) of the students who had ever gotten involved in sex admitted that they got involved under the influence of substance abuse (Fig. 4.11).

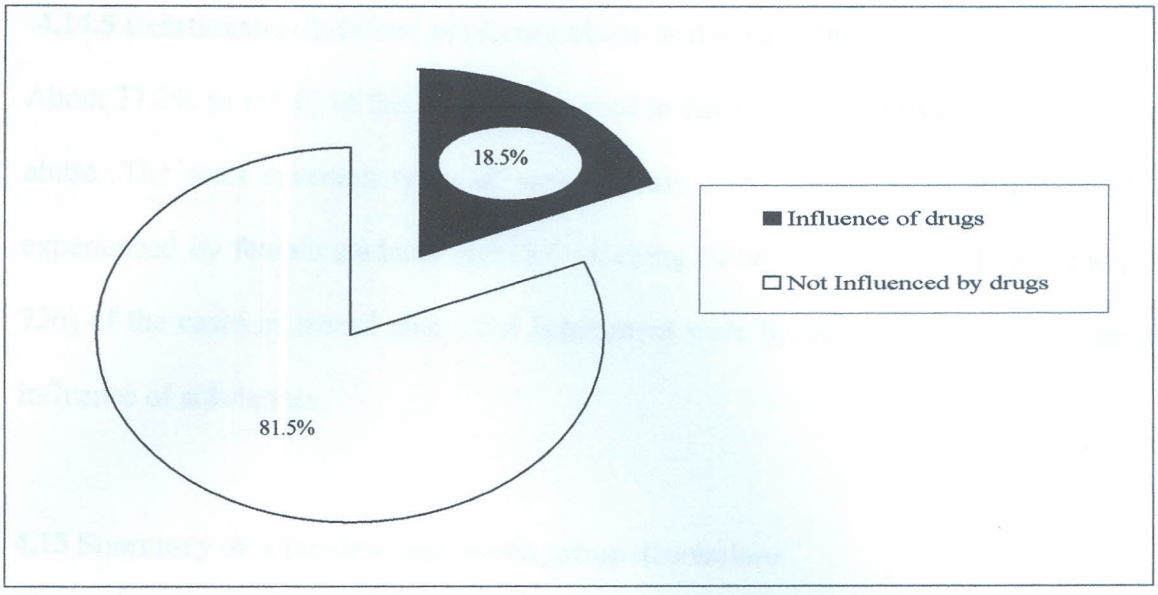


Figure 4. 11: Proportion of students (%) who got involved in sexual intercourse out of influence of substances

Proportion (%) of students who abused various substances was compared to those who had various sexual experiences (Table 4.10). There was a significant association (χ^2 = 2.000, $P < 0.05$) between substance abuse among adolescents and sexual experience.

Table 4.10: Proportion (%) of students with different frequencies of sexual encounters and substance abuse among adolescents in secondary schools

	Proportions of students (%), n= 736	
Frequency of events	**Sexual intercourse**	**Substance abuse**
Once by the time of the study	40	60
More than once	9.5	29.3
Not at all	50.5	10.7
Total	**100**	**100**

Table 4.11: Factors that contributed to substance abuse by students in public secondary schools.

Source of data	Factors mentioned	Frequency (n =8)	Percent
Focus Group Discussions	• Too much pocket money	6	75
	• Availability of substances	8	100
	• Family issues	8	100
	• Peer influence	8	100
	• Poor role modeling	6	75
	• Low awareness of dangers of substance abuse	8	100
Interviews	• Too much pocket money	8	100
	• Availability of substances	8	100
	• Family issues	8	100
	• Peer influence	8	100
	• Poor role modeling	8	100
	• Examination stress	6	75

4.15.3 Risky behaviour patterns associated with commonly abused substances

Teacher counselors and most FGDs in the selected schools reported that cigarettes, *khat*, alcohol and bhang were associated with various risky behaviour patterns among students in secondary schools (Table 4.12).

Table 4.12: Risky behaviour patterns associated with various substances

Substance	**Risky behaviour**
Cigarette	• Addictive, hence risk of getting involved in commercial sex to obtain money for cigarette • Can lead to abuse of other substances • Advertisements which relate smoking with sexual attraction and casual sex
Khat	• Close social groupings/gangs • Promote idleness
Alcohol	• Loss of self control and reduces inhibitions • Violence and high risk of rape • Reckless and unprotected sex • Increased sexual arousal
Bhang	• Violence and high risk of rape • Loss of memory and distorted perception/ thinking • Poor and inconsistance use of condoms

CHAPTER FIVE

DISCUSSION

5.1 Demographic characteristics of the students

5.1.1 Gender and age distribution

The age bracket of both male and female students involved in the study was the same. This is because both boys and girls start primary education at the age of six years (MOEST, 2001). Respondents were students in Forms two to four. Form one students were not included in the study because most of them had either not reported in their various schools or not settled by the time the study was conducted. The proportion of girls represented in the study was slightly higher than that of boys because the number of girls in the schools visited was higher than the boys; hence they ended up having higher representation in the proportional sampling. This could be a good indicator that female gender was well represented in secondary education in the district. The barriers that hinder secondary education of the girl child, such as early marriages, may have been significantly reduced in the region.

Most students in the secondary schools in the region come from Meru Central District. This is mainly due to the fact that the current Form one intake criterion is based on quota system where, 85% of the students in provincial schools come from the local district and 100% of the students in district schools come from the district the school is located (MOEST, 2001). This implies that the type of the community and its values greatly affects the schools. Since the area has high potential in Agriculture such as dairy farming,

growing of tea and coffee among other economic activities, many parents can afford secondary education for both boys and girls. Also, a good number of them may have acquired some education and therefore informed on issues of gender equality. However, this may require further research to find out why there is high level of girl child secondary education in the region.

5.1.2 School categories of the respondents

The number of respondents from rural and urban set ups were statistically the same. This ensured equal representation in both rural and urban schools. The proportion of respondents in boarding schools was higher than in day schools. This imbalance was because most schools in the district were boarding schools. The high number of boarding schools in the district would possibly be due to the historical background of most schools in the district. Most of the well established public secondary schools in the district were started by missionaries or District Education Board (D.E.B) as boarding schools (DDP, 2002). Therefore, most of these schools are still under the sponsorship of the church or D.E.B. However with the introduction of free secondary education day schools are coming up very fast and soon they may be more than boarding schools in the region.

5.2 Students' experience with substances

About two-thirds of the students involved in the study admitted that they had taken either of the substances such as *khat,* cigarette, alcohol bhang or glue. Expressions of concern over the number of adolescents who are engaging in the use of various substances has grown tremendously (Bourne, 2009). A survey conducted in Kenya revealed that 63% of

youth, including adolescents, regularly abused substances (UNODC, 2006). A study undertaken by NACADAA revealed that substance abuse in Kenya is widespread and affects mostly the youth, but also cuts across all social groups (NACADAA, 2007). The same study showed that alcohol, tobacco, bhang and *khat* were the substances most often abused, but the youth were increasingly abusing imported illegal substances such as heroin, cocaine and mandrax. Soft drugs such as alcohol and cigarette are considered as gateway substances because their use often leads to use of addictive substances such as crack and heroin (Bourne, 2009). Substance abuse prevalence among adolescents has sparked widespread concerns that put millions of users at increased risk for ill-health, poor academic performances, delinquency, traffic accidents and illicit sexual practices (Bourne, 2009).

5.3 Commonly abused substances among adolescents in public secondary schools in Meru Central District

The two substances that were taken by a significantly high number of students in the district were alcohol and *khat.* Alcohol was the substance abused by most students followed by *khat* in the district. Research on substance abuse has frequently indicated that alcohol, tobacco and marijuana (bhang) are the substances most frequently used by adolescents across the globe (CSA, 2005). Schools are part of the larger society and what happens in the larger society affects the adolescents in schools as well. A number of other factors make alcohol to be the most widely abused substance among adolescents in schools. Alcohol is a legal substance and therefore sold openly in bars and shops. This makes it easily accessible to students.

A baseline survey by NACADAA revealed that the youth in Kenya mostly abuse four substances in the order: Alcohol, tobacco, bhang and inhalants (NACADAA, 2007). Alcohol has also been cited as the most commonly abused substance in Africa, Kenya included (Watson and Brazier, 2003). This could be because alcohol is legally allowed and socially acceptable in most African countries (Watson and Brazier, 2003).

A number of students in the FGDs reported that commercial alcohol is very popular to students because it is packed in small sachets, which are easy to carry in bags and boxes, hence easy to smuggle into school. They reported that they even carry them in school bus when going for trips or joint activities. Commercial alcohol has also been made cheap, hence affordable to most students with pocket money from parents and guardians (NACADAA, 2007). Majority of the students got a lot of pocket money when reporting to school and thereafter got more money in the course of the term. It was reported that the pocket money was given in addition to having been bought all other personal items required by the students when in school. Therefore the students were left with a lot of money to use the way they found best. This puts them into temptation of buying cheap and available substances such as alcohol and other substances.

Majority of the respondents (over two thirds) stated that substances such as alcohol make them feel relaxed, happy and forget all their problems at home and in schools. This is in agreement with the argument that alcohol is popular to many people because it makes them feel relaxed and less self-conscious (Watson and Brazier, 2003). Adolescents in the focus group discussions cited *khat* as one of the most abused substances. Most students

in focus group discussions also reported that students easily sneaked *khat* into school in bags or boxes. It was also packed in various sizes of bundles, which could easily be carried and hid from teachers. *khat* was readily available in the neighbourhood of schools. It is grown mainly around Nyambene hills in Meru North, a neighboring district. Road network between the two districts is quite good hence supply of *khat* to Meru Central District is efficient. Some students associated *khat,* being a stimulant, with ability to withstand stress and staying awake for long hours. Therefore some students chewed *khat* while in school to stay awake for long hours as they did their studies and to withstand stress that came with academic work in school. Hence *khat* chewing was higher during school time compared to over the holidays.

In all the schools involved in the study the teachers in charge of Guidance and Counseling reported that the top three substances abused by most students in secondary schools in the district were alcohol, *khat* and cigarettes. Advertisements linked to tobacco products portray desirable traits such as confidence, popularity, sexual attractiveness and slenderness. Therefore, young people become the prime targets of such advertisements (UNAIDS, 2007). A number of adolescents in focus group discussions reported that some teachers and some parents also smoke cigarette in their presence and therefore the adolescents tend to think that smoking is okay for them and is a sign of maturity. Hence lack of good role models especially by teachers and parents led to increased rate of substance abuse among adolescents in secondary schools.

In search of identity at adolescence stage, some students smoke and take other forms of substances to identify with their teachers or parents who take these substances in their presence. Young people watch, listen and learn from adults. In situations where parents, teachers, community and religious leaders are involved in wrong activities such as substance abuse, the youth imitate this and see nothing wrong because people they respect behave in a similar manner (Bourne, 2009).

The study also revealed that there is no significant difference in the mean number of students taking substances in schools and the number taking substances over the holidays. However, the number of students taking substances over the holidays is slightly higher than the number taking substances during school time. This small difference could be due to much more control of students during school time compared to over the holidays. Apart from the top three substances abused in public secondary schools in Meru Central District, other substances are also abused. These include bhang, narcotics and inhalants among others. A study conducted in Kenya showed that various kinds of substances are abused by youth in Kenya (Tony, 2000). Therefore students in public secondary schools are part of the larger society that is exposed to all sorts of substances of abuse.

5.4 Student gender and substance abuse

Results indicated that the most commonly abused substance among the boys was *khat*, followed by commercial alcohol and then cigarette. However girls mainly abused commercial alcohol followed by *khat*. Findings from the many surveys and studies conducted on patterns of substance abuse among adolescents, frequently established that there is a tendency for levels of substance use to differ between males and females

(Ndetei *et al.*, 2009). This tendency for one sex to engage in the use of a substance to a greater degree than the other seems however, to be largely determined by the substance in question. Males tended to abuse substances more heavily in most cases. However, in some cases females engaged in use of a particular substance at levels equal to, and sometimes even higher than the males (Bourne, 2009). For instance, the World Youth Report 2005 indicated that in most countries boys are more likely than girls to smoke (Bourne, 2009).

5.5 Substance abuse in different categories of schools

The number of students taking substances in boys' schools was significantly higher than the number in girls' schools and mixed schools. In mixed schools, substance abuse was higher than in girls' schools. In girls' schools no student was found to have taken any inhalant substance. Only one girl in this study admitted to have taken bhang in a month. In African culture boys are socialized differently from girls. As stated earlier, most African cultures show less care for boys than girls (NACADAA, 2006). Therefore, boys are usually left on their own to make decisions with little guidelines. For instance, there is minimal concern about what time boys should arrive home, the type of company they keep and how they spend their time. Teachers and parents in boys' schools, being part of larger society, show less concern over the boys in terms of control and guidance compared to girls. Therefore, boys get more exposed to substance abuse than girls who are monitored more closely. Boys are also given less work at home than girls (Bourne, 2009). Hence most of the times they are idle compared to girls and may use this time to get involved in substance abuse. Therefore, substance abuse appeared to be higher in boys' schools than in girls' schools. Findings from many surveys and studies conducted

on patterns of substance abuse among adolescents, frequently established that there is a tendency for levels of substance use to differ between males and females (Bourne, 2009). Mixed schools have boys who generally abuse substances more than girls. Hence substance abuse was higher in mixed schools compared to girls' schools. In boys' and mixed schools some boys may want to put a show or portray confidence to woo the girls. For instance, alcohol gives courage to young people to make sexual advances which ordinarily they would not try (USAID, 2006). This would also contribute to higher level of substance abuse in both boys' and mixed schools compared to girls' schools.

5.6 Age at which students started abusing substances

The study revealed that most students started abusing substances between 12 and 18 years old. However, some started taking substances as early as seven years. Generally the initial use of substances increased with age up to 15 years. Fifteen years was the modal age at which majority of the students started taking substances. The use of substances usually increases with age (Bourne, 2009). A survey carried out in Kenya showed that substance use begins at a very early age for both students and non-students. Some start substance abuse when in primary school, secondary school or even in tertially colleges (NACADAA, 2007). Early substance use among adolescents impacts on the health and leads to risky sexual behaviour (Bourne, 2009). This leads to increased vulnerability to HIV and AIDS. Early substance use also strongly predicts abuse and dependence into adulthood (Bourne, 2009).

The use of substances almost always increases with age, so among students the highest rate of use is generally recorded in the last two years of secondary school (Bourne, 2009). Adolescence is frequently regarded as a period of physical, emotional and psychological changes. During this period, risk taking increases with age and adolescents tend to explore new behaviour and roles involving risk taking (Bourne, 2009). After the age of 15 years majority of the students may have already been introduced into substance use and already in Form four class where their attention might be taken by preparation for the national examination. This helps to explain the decline of proportion of students starting substance abuse with age.

In U.S.A., the peak drinking years for most people are between ages 16 and 25 years (Atkinson *et al.*, 1987). This implies that most people start substance abuse in their adolescence years. In U.S.A, an average of 14% of substance abusers started use of substances before 13 years (UNAIDS, 2007). This is a time of experimentation and exploration. Low level of awareness on the short and long term dangers of substance abuse contribute to early and high level of substance abuse among the youth (Tabifor, 2000). In Kenyan schools very little is being done to educate the youth on dangers of substance abuse. Most teachers and parents are preoccupied by syllabus coverage and "mean score" in national examinations (Tabifor, 2000). When participants in focus group discussions were asked to state the causes of substance abuse among students most mentioned low level of awareness about dangers of substance abuse. This is why some members in the group discussions had false ideas that use of substances such as *khat* or bhang enables one read more but had no idea of long term effects. The age when people

first use substances is considered an important factor in efforts to control substance abuse (UNAIDS, 2006). Adults who had first used substances at a younger age were more likely to be classified with dependence or abuse than adults who had first used substances at a later age (UNAIDS, 2006).

5.7 Substance abuse in different school terms

The study revealed that majority of the adolescents in secondary schools took substances of abuse in third term compared to first and second terms. During focus group discussions, most participants in all groups associated high prevalence rate of taking substances in third term with examination stress. Majority of students, especially in the Form four took substances to stay awake for long hours as they study for their national examination. *khat* is known to be a stimulant that makes the user to stay awake and alert for a long time. It also decreases fatigue and boredom (Atkinson *et al.*, 1987). Respondents reported that end of the year examinations in third term in other classes other than Form four are also considered to be very important because they are used to promote students to the next class. Therefore, other students in addition to Form fours also try to use substances more in third term to withstand examination stress and stay awake for long hours as they study. Inter-schools activities such as drama and sports also add to use of substances as students are less supervised during such activities. In addition, drug pushers also take advantage of selling substances during such activities.

5.8 Persons who supplied substances to students in schools

When in school most of the students in both boarding and day schools were supplied with substances by other students. It was reported in all FGDs that students find it easier to sell substances to their fellow students because they would cover each other and keep it a secret among themselves. A survey conducted in Kenya revealed that people close to the youth introduce them to substances. Along these lines, one's best friend is the most likely person to introduce one to alcohol, tobacco and *khat* (NACADAA, 2007).

Persons in the neighbourhood of schools took a great part in supplying students with substances. Most students in focus group discussions reported that most shops and kiosks neighbouring schools sell *khat,* cigarettes, alcohol and bhang among other substances. Students sneaked out of school to buy these substances. Neighbours of the school also sold the substances to students, usually through the school fence. In boarding schools adolescents obtained substances mainly during outings or night preps. During the outing students were usually free to move anywhere they wished and in the process they obtained substances. At night preps there was little control by teachers hence these adolescents could easily sneak out of school to go and buy substances. In day schools students could access substances almost daily. This was because they were not under the restrictions of the teachers after leaving school.

5.9 Substance abuse among adolescents in rural and urban schools

Traditionally, substance abuse occurs at a higher rate in urban areas compared to rural set up (NACADAA, 2007). The study, however, revealed that schools in rural areas had

significantly higher prevalence of substance abuse than urban schools. Most of the well established provincial public schools and the well established district schools are located in urban or near urban areas. These schools usually have the best performing students in national examinations in the district and there is a lot of competition among them. For them to out-do their competitors, tight discipline is maintained in these schools. On the other hand district schools (former harambee schools) are poorly established compared to provincial schools and most of them are located in rural areas with students mainly from the local areas. Form one intake in these schools is characterized by students with very low marks in K.C.P.E and poor economic background. These schools usually select students after National schools and Provincial schools have selected the cream of high performing students (MOEST, 2006). This may result to low self-esteem, poor performance in national examinations and frustration. These students may resort to substance abuse to alleviate their frustrations, hence more substance abuse in these rural schools.

Focus group discussions showed that there was a lot of interaction between the schools and local people in rural schools. The local people would freely move into school and students easily gained access to the local environment. This perhaps encouraged flow of substances in schools compared to urban schools where the rules of most schools controlled the interaction of outsiders with students. Since the local people established most schools in rural areas they considered them as theirs and the school administration cannot easily stop them from interacting with their sons and daughters (MOEST, 2006). On the other hand most of the provincial schools in the district were either established by

missionaries or District Education Board (D.E.B). Hence the local people do not own them to an extent of moving in and out freely. This makes it easier for the school administration to keep outsiders from interfering with the running of these provincial schools. These factors create a climate of idleness and frustration among students in the former harambee schools and they easily engage into vices such as substance abuse. This can explain why substance abuse appeared to be higher in rural schools compared to urban schools in the district. However more research is needed to establish other factors that may be contributing to this scenario.

The most commonly abused substance in rural schools was *khat* followed by commercial alcohol while in urban schools more students abused commercial alcohol followed by *khat*. In a rural set up *khat* could have been cheaper and more easily accessible to students compared to commercial alcohol. Commercial alcohol would require more elaborate transport system, which may not be available in a rural set up. On the other hand *khat* is easier to transport even where communication is poor in rural areas because it is light. One can carry a reasonable quantity to sell in a number of schools without need for a vehicle.

Commercial alcohol packed in small sachets was more popular to students in urban schools because they could easily hide them even in the pockets and sneak them in school. It is also affordable to students (NACADAA, 2007). In addition to this, commercial alcohol was easier to consume compared to chewing *khat,* which require more time. Due to closer supervision of students in provincial schools, which are usually

located in urban areas, students prefer commercial alcohol to *khat*. This explains why more students abused commercial alcohol in urban schools compared to rural schools and students in rural schools consumed *khat* more than commercial alcohol.

5.10 Reasons for substance abuse among students

There were various reasons given by students for substance abuse. These were peer influence, mass media, curiosity and availability of substances among others. Peer influence appeared to be the leading cause of substance abuse among adolescents. A quotation by an adolescent read as follows, "I was 13 years old when I was first exposed to substances. My friends started smoking bhang. They told me to take one puff, but I refused. Then they all started laughing at me and because I did not want to be called a coward, I decided to take one puff" (Watson and Brazier, 2003). The influence of peers on adolescents risk behaviour can be subtle. For instance, the group may not compel the youngster to drink or smoke but may allude to him being a baby or "too soft" if he does not participate in the activities (Bourne, 2009). In all focus group discussions students in public secondary schools in the district mentioned peer influence as the main cause of substance abuse among students in public secondary schools. During adolescence values of the peer group become very important as the adolescent search for identify (Atkinson *et al.*, 1987). Therefore the adolescent is inclined to group values. This implies that if the peer group consists of substance abusers, the adolescents conform to the norms of the group to avoid rejection and therefore gain social approval (Myers, 1989).

Brand of alcohol such as Guinness is associated with strength, power and skill. Smirnoff ice is linked with maleness. In addition, initial use of alcohol by young people (especially boys) symbolizes an entry into the adult world. Being able to hold his liquor is a mark of manhood which gains him respect from his peers (Bourne, 2009).

Foreign pop culture, through the media, can also predispose young people in this country to initial use and eventual abuse of substances. This is done when movies and pop music advocate substance use and when young people love or revere stars who use substances. The abundance of television programmes, video shows and internet services in urban areas exposes young people to a global pop culture that links substance use to popularity, sophistication, success, sex appeal, good times, growing up, and independence. For some young people, the linkage not only exposes them to substance use but also tempts them to become involved in casual sex which puts them in the risk of contracting HIV and AIDS (NACADAA, 2007).

The problem of substance abuse in the country is also associated with the introduction of foreign ways of life that have been undermining culture of the indigenous society. On the whole, the culture restricted the use of some substances such as alcohol to senior age groups and to special occasions, often sanctioning the use of alcohol under strict conditions. The conditions spelt out that only elders could consume alcohol. It was consumed only during occasions such as when a baby was born, after the harvest of crops, and during funerals (NACADAA, 2007). Today the consumption of alcohol is no longer restricted to senior age groups or to special occasions. Instead, alcohol is readily

available to adults and to youth that is children, teenagers, and young adults (NACADAA, 2007).

The relatively easy availability of most substances leads to high prevalence of substance use and abuse among the youth. For instance, ingredients for making some alcoholic drinks and tobacco products are grown in Kenya. At the same time, the two widely used substances are grown in the country. These are bhang, which is grown in secret because it is illegal, and *khat,* which is cultivated, used and exported openly because the country legalized it in 1977 (NACADAA, 2007) .*khat* is extensively grown in Meru North District and distributed to neighbouring districts such as Meru Central and other regions in and out of the country (DDP, 2002).

The availability of legal and illegal substances such as cigarettes and alcohol is virtually effortless (NACADAA, 2007). Thus all one needs now is money with which to buy the substances, except when one needs to keep out an eye for the law in relation to illegal substances. Therefore this change encourages the use and the eventual abuse of substances by the youth. On the heels of the change, the country is a major transit point of international trade in illegal drugs, some of which find their way into the country and subsequently to the youth. At the same time, some substances such as bhang that were grown for own uses are now grown for commercial purposes. However, these substances are clandestinely obtained from neighbouring countries such as Tanzania and Uganda (NACADAA, 2007). Moreover they are easily accessible to the Kenyan youth from peddlers, friends, pharmacies, kiosks, teachers, and the police. In this regard, the survey by NACADAA (2003) significantly observed that there appears to be a connection

between substance use on one hand and the production, availability and accessibility of substances on the other. This is apparent in the use of foreign-derived alcoholic drinks which tempt most youth to use more than other substances. This is because their use is legal and they are readily available except in North Eastern Province where because of the predominance of Islam, the use of alcohol by the youth is low, though the use of tobacco by the youth is high.

Respondents gave other reasons for taking substances. Some reported that they took substances to fit in the company of their friends, to forget their problems, to feel 'high', to have fun and to kill boredom. The reasons for substance abuse are usually many and complex (Atkinson *et al.*, 1987). In search of identity at adolescence stage, some students smoke and take other forms of substances to identify with their teachers or parents who take these substances in their presence. This is in agreement with the findings of NACADAA that reported that the greatest initial influence that makes a young person experiment with substances are the family and peer groups (NACADAA, 2007). A family or a community in which adults drink alcohol, smoke bhang or chew *khat* can influence the youth to use substances that they may abuse in the long run. In this connection, substance use by parents is a powerful influence on children's behaviour. This is why some young people use substances believing they will look like adults. (Tabifor, 2000).

The baseline survey conducted by NACADAA (2003) revealed five broad social causes that account for substance use and abuse by the youth:

(i) Law-enforcement agents do not always curb illegal substance use; indeed some police officers collaborate with drug peddlers or at times are drug peddlers.

(ii) Frustration arising from lack of school fees or boredom resulting from want of gainful employment leads some youth to substance use or abuse under the illusion that the youth who use or abuse substances will become bold, confident or courageous.

(iii) Some youth are brought up in homes where parents use or sell substances, which sometimes the youth sell on behalf of the parents. The exposure predisposes some of the youth to substance use and in due course to substance abuse.

(iv) Peer pressure influences youth to use substances under false impressions that some substances stimulate appetite for food, increase strength to perform heavy tasks, give wisdom, or instill courage to commit crime.

(v) There exists official ambivalence towards substance use in the country. Despite the fact that alcohol and tobacco are a cause of ill health, the two substances are a source of tax-income. Although the brewing and use of indigenous alcoholic drinks are mainly illegal, the production and use of foreign-derived alcoholic drinks are extensive and legal. *khat* is a drug whose abuse results in dependence yet the government treats it as a valued export-commodity competing with tea and coffee in importance (NACADAA, 2003).

A part from the above broad causes of substance use and abuse in the country, the baseline survey report identified other causes of substance abuse. These include affluence and poverty. Some youth from rich families abuse substances because they can afford them while those from poor families usually drop out of school for lack of school fees (NACADAA, 2007). Some of these young people may turn to substance abuse out of

frustration and idleness at home. Lack of gainful employment appears to be a cause of substance use even where the youth complete school. The rapid social and economic changes the country is going through also contribute to substance use and abuse. The change is evident in urbanization and education that undermine the indigenous society that controlled the use of alcohol to senior age groups or during special occasions. While one's personality can contribute to initial experimentation with substances, social influences can introduce vulnerable young people to substances where they are freely passed around during festivals. When the youth persistently engage in substance use they evolve a culture of substance abuse. This means that they treat substance use as part of their lifestyle without being conscious of the dangerous trap they have fallen into (NACADAA, 2003).

5.11 Influence of substance abuse on behaviour among adolescents in public secondary schools in Meru Central District

A number of the students involved in this study had at one time or another experienced sexual intercourse. Sexual intercourse accounts for about 90% of HIV infections worldwide (USAID/WHO, 2006). Sexual activity continues to be the main mode of HIV transmission among adolescents in general (Mutie, 2006). Adolescents in secondary schools are therefore not exceptional. Substance use increases the probability that an adolescent will initiate sexual activity (UNAIDS, 2007). This in turn increases the vulnerability to HIV and AIDS.

Substance abuse by young people may also lead to earlier sexual initiation, unprotected sexual intercourse, multiple sexual partners and sexual violence. For instance, in Meru

Youth Friendly Centre an average of 48 young people aged 16 to 25 years report to have experienced rape annually (MoH/GoK, 2009). There are many other rape cases which go unreported among the youth. Most of these rape cases are possibly due substance abuse. Rape increases vulnerability to HIV and AIDS. A significant number of students became sexually active in secondary school. Early sexual intercourse leads to high vulnerability to HIV and AIDS (Tabifor, 2000). This is because early sexual intercourse causes bruises to the delicate vaginal lining that has not matured. This increases the chances of the virus gaining entry across the broken mucosa into the body (Tabifor, 2000).

It has been reported that more than half of young people in Kenya have their first sexual experience before age 16 years (USAID, 2006). The same report noted that at adolescence cross gender friendship becomes more common. This increases chances of heterosexual intercourse. The frequency of sexual intercourse among the adolescents in secondary schools in Meru Central District was significantly high. For example a number of the sexually active students reported that they were having sexual intercourse at least once in a month and some others had it at least once in a week. This high frequency of sexual intercourse exposes the students more to risks of contracting HIV and AIDS. Substance abuse increase frequency of sexual intercourse due to lack of self control.

A number of the sexually active students had sexual intercourse without the use of condoms. Substance abuse may have contributed to this. Unprotected sex leads to high vulnerability to HIV infection. For instance, alcohol drinkers usually fail to use a condom after drinking heavily (USAID, 2006). A confession by alcohol abuser stated as follows:

"The morning after a night of heavy drinking I often wake up with no recollection of my actions of the previous night. It is what I have done for years" (USAID, 2006). Such a person can hardly remember to use a condom during sexual activity. In their pursuit for pleasure, heavy drinkers especially adolescents, are usually "immune" to anti-HIV messages such as proper use of condom (USAID, 2007). Other studies in the general adolescence population show that condom use is less likely when young people are under the influence of substances (Mutie, 2006). The study revealed that some sexually active students did not talk with their partners about the need for safe sex. This implies that condom may or may not be used depending on the inclination of the dominant partner, usually the male.

Many people, including adolescents visit VCT centres in the district. Meru General Hospital alone receives about 200 VCT clients per month while Ripples International serves an average of 554 clients per month. Youth Friendly Centre, located in Meru General Hospital, conducts an average of 136 Diagnostic and Counseling Tests (DCT) for young people (16-25 years) every month. When the young person presents his/her case to the youth counselor in a Youth Friendly Centre, the Counselor may advice the client to go for DCT where HIV test is done. In Meru centre alone, an average of four young people per month are found to have a Sexually Transmitted Infection (STI), which include HIV and AIDS (MoH/GoK, 2009). Some of the reasons for the visits to VCT centres and DCTs may be due to STIs (including HIV and AIDS) probably arising from unprotected sex, which may be as a result of substance abuse.

Multiple sex partners increase vulnerability to HIV and AIDS infection, especially when protective measures are not taken (Mutie, 2006). The study revealed that a high. number of students did not have regular sexual partners. This implied that they kept on changing from one sexual partner to another. This increased the risk of transmitting HIV and AIDS. Substance abuse increases the chances of having multiple sexual partners (NACADAA, 2007). Even though majority of students had sexual intercourse with persons they knew well, some reported that they had sex with strangers. Even though majority of students had sex with people they knew well, this did not mean that they were safe from contracting HIV and AIDS.

One cannot tell HIV status of another person by mere physical outlook (WHO, 2006). This was also reported during focus group discussions. Participants in these groups stated that majority of the students think that only those who have sex with people they do not know contract HIV and AIDS. This implies that they hardly use condoms when having sex with partners they know well. This increases vulnerability to HIV and AIDS. It was noted that some students had sex with people they did not know well. This could have been due to the influence of drugs or forced sexual intercourse (rape) which can be very risky in contracting HIV and AIDS (Mutie, 2006). It was reported that some students experienced some form of sexual abuse or were tricked or raped. These sexual abuses were mainly done by fellow students and in some cases by older persons. A good number of cases of sexual abuse and harassment were by persons who were under the influence of substances. A person's state of consciousness is altered by psychoactive drugs such as *khat,* alcohol and bhang leading to change in perception and mood (Myers,

1989). Drinking of alcohol or smoking cigarette does not cause HIV and AIDS directly. However people who abuse such substances often engage in risky sexual behaviours such as rape that increase vulnerability to HIV and AIDS.

Links between substance abuse and STDS which include HIV and AIDS go far beyond the dangers of injecting drugs (Debruyne *et al.*, 1999). A large proportion of the students got opportunity to have sexual intercourse during inter-school activities such as drama and sports. Others got chance during outings. These are also the times most students obtain substances of abuse as noted earlier. The reason why substance abuse and STDs occur together is a topic of debate among health researchers (Debruyne *et al.*, 1999). However the study revealed that various behaviour modifications are brought about by substance abuse. These behaviour modifications put the abuser of substances at high risk or other people interacting sexually with the abuser.

5.12 Effects of commonly abused substances on behaviour of adolescents in Secondary Schools as reported by the students

Cigarettes, *khat,* alcohol and bhang were identified as commonly abused substances by adolescents in all the schools in the district. These substances have varied effects on the behaviour of adolescents who abuse them.

5.12.1 Alcohol

Majority of the students were exposed to risks of HIV and AIDS by use of alcohol. In focus group discussions students reported that the behaviour modifications exhibited by

students who took alcohol were: loss of self control, reckless and unprotected sex and rape. Alcohol being a depressant slows down activities in the brain centre that controls judgments and inhibitions. It also decreases control over inhibitions and therefore facilitates urges that an individual might otherwise resist (Myers, 1989). After drinking one may feel socially motivated (Debruyne *et al.*, 1999). This can lead to more risky interactions with members of opposite sex hence increased vulnerability to HIV and AIDS. Alcohol makes one more sexually daring and coercive (Myers, 1989). It gives courage to the young people to make sexual advances they would ordinarily not try (USAID, 2006). In a study on effects of substance abuse on behaviour a young man is quoted saying "when I'm a little tipsy then I have the confidence to try to get a girl to go home with me, it helps if the girl is also drunk" (CSA, 2005). Most of the focus group discussions reported that most of the students, who are normally known to be quite and shy, suddenly become bold, talkative and social after drinking. They easily get involved in risky sexual behaviour hence increased vulnerability to HIV and AIDS. Also there is increased probability of multiple sexual partners increasing their vulnerability to HIV and AIDS.

Alcohol sedates the cerebral cortex of the brain, where conscious thinking and learning takes place. Therefore, judgment and reasoning are affected (Debruyne *et al.*, 1999). It reduces the brain's ability to inhibit expression of emotions and reduces awareness. One freely expresses love, joy, sorrow, anger and hate more easily than before (Debruyne *et al.*, 1999). It is a popular substance because it makes people feel relaxed and less conscious. It makes adolescents feel very free. For instance, adolescents may want to

have casual sex which may be unprotected (Watson and Braziers, 2003). An adolescent said, "When I drink I forget about dangers around me, I forget all about condoms. Therefore I just have unprotected sex because of alcohol influence. I know I am vulnerable". Under the influence of alcohol many people act against their own desires and wishes because their awareness of those desires and wishes are gone. For example, against all reason and judgment, one may become sexually aggressive or have unplanned unprotected sexual intercourse (Debruyne *et al.*, 1999).

Alcohol's behavioral effects stem not only from alteration of brain's chemistry but also from users' expectations. For instance, alcohol per se has little effect on sexual arousal but people who believe it promotes arousal are responsive to sexual stimuli when they drink (Myers, 1989). To some people alcohol serves as an excuse to become sexually aroused. This was revealed during focus group discussions. It was reported that some students behave like they are highly sexually aroused when they drink alcohol. This may lead to casual sexual intercourse hence vulnerability to HIV and AIDS. Members of focus group discussions also revealed that a number of students especially girls, are raped by adults under the influence of alcohol. This leads to high risks of HIV and AIDS. The study showed that 31.4% (n = 231) cases of sexual abuse such as rape are caused by persons under the influence of substances. People under the influence of substances such as alcohol may get involved in sexual activities with minors at an early age. This increases vulnerability to HIV and AIDS because the mucosa membrane of these virginal lining tear easily when one has not matured. A study conducted in Kenya revealed that first coitus experience among school girls below 15 years was highest among the Embu

and Meru (44-50%) (Odipo, 2000). Most early sexual intercourse among adolescents is unexpected or unanticipated and thus unprotected. Alcohol abuse contributes greatly to this kind of scenario in adolescents.

5.12.2 *Khat*

The scientific name for *khat* is *Catha edulis.* A number of students in FGDs reported that easy availability of substances such as *khat* contribute to high level of substance abuse among adolescents. *Khat* is an evergreen tree that grows wild as well as being cultivated in the Eastern African highlands of Ethiopia, Somalia, and Tanzania. In Kenya, it is widely cultivated in Meru North district, a neighbouring district of Meru Central district. Respondents in FGDs said that *khat is* easily obtained both in towns and villages, including *kiosks* near the schools. Students used many local names to refer to *khat*, including *Mairungi, Gomba* and *Veve. khat* belongs to the stimulant group of substances, many students abusing it for this effect. The young shoots are chewed while still fresh. *khat* chewing used to be common within Muslim communities who do not take alcohol on religious grounds. However, the use of *khat* has of late spread to other communities, which include school students (NACADAA, 2006).

The respondents knew very little about the relationship between *khat* and vulnerability to HIV and AIDS. Most reported that *khat* chewing leads to impotence in men. However qualitative data from focus group discussions revealed that chewing *khat* stimulate someone to have wild desires such as sex. Many Yemenite *khat* users believe that *khat* chewing increases their sexual desire and excitement (NACADAA, 2006). This in turn

increases vulnerability to HIV and AIDS. It was noted that students who chew *khat* usually handle and chew it as a group. Such a group may influence its members into risky sexual behaviour through talks that raise sexual emotions (NACADAA, 2006). The participants in the focus group discussions reported that it was easier to make sexual advances after one has chewed *khat* than when one has taken nothing. It was also reported that *khat* can lead some students into other risky sexual acts such as group sex or rape which increase vulnerability to HIV and AIDS.

khat contains various active ingredients that are related to amphetamines which cause stimulation, clarity of thought and euphoria (NACADAA, 2006). The most important active ingredients in *khat* are cathinone, cathine and norephedrine but the main one is cathinone (NACADAA, 2006). *khat* reduces fatigue and suppresses hunger and sometimes, libido. Heavy use can result in dependence, physical and mental problems resembling those produced by amphetamines (NACADAA, 2006). Abuse of *khat* leads to family problems such as negligence of the partner (wife) since a lot of money and time is spent on chewing*k*. This may lead to family quarrels and even encourage prostitution on the part of the wife due to loneliness and frustration. T Eventually this may lead to divorce and or HIV and AIDS infection (NACADAA, 2006). Parents also end up by not being good role models to the youth, which include adolescents in secondary schools. Poor role modeling may expose adolescents to risky sexual behaviour, hence increased vulnerability to HIV and AIDS. Use of *khat* tends to lead to loss of productivity among the users. The users spend a lot of time chewing the substance; consequently they waste a lot of their time that could be used in doing something productive. This may also result

to increased poverty which increases spread of HIV and AIDS especially among the adolescent girls, who may get involved into sexual activities for pay to earn their living. School girls from poor families (resulting from *khat* abuse) may even get involved in commercial sex to earn pocket money if their parents are unable to provide.

5.12.3 Bhang

Focus group discussions revealed that a person under the influence of bhang loses memory. Thus one can hardly remember to carry or use condoms during sexual activities. This increases vulnerability to HIV and AIDS. It distorts one's perception and judgment (NACADAA, 2006). The study revealed that bhang was significantly abused by more boys compared to girls. A study conducted in 1992 among adolescents in schools in Kenya showed that male sex partners did not use condoms frequently during sexual intercourse (UNODC, 2004). Use of substances such as bhang can contribute to this failure by males to use condoms regularly during sexual intercourse. About 23.7% (n = 174) of the respondents in the study felt that bhang influenced many adolescents into rape and unprotected sex. This exposes the rapist and the victim to risks of contracting HIV and AIDS.

5.12.4 Cigarette

Most respondents reported that nicotine in tobacco is an addictive substance such that the students can do anything to buy cigarette. Adolescents use tobacco thinking that it makes someone "cool" and boys or girls who smoke have more friends (Mckean, 2005). The study indicated that students who may not have money could easily give in to sexual

favours to get money to buy cigarettes. This includes practicing commercial sex that exposes the adolescents to risks of HIV and AIDS. Respondents in focus group discussions reported that the adolescents who smoke cigarettes present themselves as "cool" and mature. This attracts adolescents of opposite sex to the smokers because they appear mature and "cool". This can lead to intimacy and then casual sex hence increased vulnerability to HIV and AIDS. The participants in FDGs reported that advertisements also portray smokers as attractive and sexy. Therefore young people are lured into smoking and promiscuous sex. Tobacco companies address young people directly because they must attract them in order to replace more than two million adult smokers who die annually worldwide due to tobacco related illnesses (Debruyne, 1999)

Evidence suggests that smoking could be a risk factor for HIV infection (UNAIDS, 2007). Other studies suggest that nicotine may be associated with faster progression to AIDS and or neurological complications of AIDS (UNAIDS, 2007). This is because smoking weakens the immune system making the body more vulnerable to diseases (NACADAA, 2006).

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions

The study covered all categories of public secondary schools in Meru Central District. These were boarding schools, day schools, boys' schools, girls' schools and mixed schools. The survey revealed high prevalence of substance abuse among the adolescents in public secondary schools in district. Students in secondary schools abused both legal and illegal substances. The most commonly abused substances by the students were identified as alcohol (especially commercial alcohol), *khat*, cigarette and bhang. There was no significant difference in substance abuse among students over the holidays and when in school. However, substance abuse was slightly higher over the holidays compared to school time. Alcohol and *khat* were taken by a significantly high number of students during school time while commercial alcohol and local brew topped during the holidays. Adolescents in boys' schools abused substances more than those in girls' schools and mixed school. However, the prevalence of substance abuse in mixed schools was higher than in girls' schools. It was found that boys generally abused substances more than girls in public secondary schools.

The prevalence of substance abuse was higher in rural schools than in urban schools. This is contrary to other studies. This study revealed that majority of the students started substance abuse and sexual activities at age 15 years. Third term was identified as the term most students abuse substances due to examination pressure. There was

overwhelming evidence that pointed towards the association of substance use and risky sexual behaviour. An individual under the influence of substance abuse becomes compromised in the practice of safe sex leading to high vulnerability to HIV and AIDS. The survey revealed various risky sexual behaviours associated with substance abuse. These were multiple sex partners, casual sex, group sex, rape, early sex, increased sexual desires and unprotected sex. Substance abuse also leads to removal of inhibitions such that young people under substance abuse were more daring in making sexual advances than those not under the influence of substances. The effects of substance abuse on behaviour are best understood as a product of an interaction between psychopharmacology and social aspects of substances (WHO, 2007). Pharmacological properties of a drug can alter the way individuals perceive and experience their behaviour and their surrounding. Psychoactive substances such as alcohol, bhang and *khat* may result to increased sexual desire; safe sex is then given a low priority and decision-making skills are impaired. Among boys and girls the age at first sexual debut is positively associated with the age of initial use of drugs. Therefore early sex is a factor that increases vulnerability to HIV and AIDS.

Beliefs associated with drug abuse such as alcohol, affect sexual behaviour. Some adolescents believed that when one takes alcohol, sexual drive is increased. Although alcohol is not a stimulant, the belief makes one have modified behaviour that lead to risk of contracting HIV and AIDS. The survey showed that sexual activities are common among adolescents in secondary schools, both during the holidays and when in school. It was revealed that the acquisition, use and effects of various substances expose the

adolescents to high risks of HIV infection. In general the study noted that substance abuse leads to high vulnerability to HIV and AIDS among students in public secondary schools.

6.2.1 Recommendations

In a bid to control substance abuse and HIV and AIDS among adolescents in public secondary schools in Kenya the following recommendations were made:

(i) It is necessary to strengthen and intensify Guidance and Counseling services in secondary schools to deal with substance abuse and HIV and AIDS challenges.

(ii) There is need to train and develop personnel to handle substance abuse among adolescents in secondary schools and assist those already involved in substance abuse.

(iii) It is necessary to develop up-to-date information resources on types, effects and magnitude of substance abuse among adolescents in secondary schools and the relationship between use and abuse of various substances to HIV and AIDS.

(iv) Adolescent friendly counseling centres should be established in all health institutions to assist adolescents who abuse substances and are sexually active.

(v) Realistic policies and legal frame works should be developed to address the control of legalized substances such as alcohol, cigarette and *khat* among adolescents in secondary schools

6.2.2 Suggestions for further research

(i) There is a need to carry out a survey based on substance abuse in relation to HIV and AIDS in primary schools because some students in secondary schools seemed to have been exposed to substance abuse and sexual relations before they reached secondary school age.

(ii) Private secondary schools were not included in this study. Therefore it would be important to have a study covering these schools.

(iii) More research is needed to establish the factors that lead to increasing substance abuse by adolescents in rural secondary schools.

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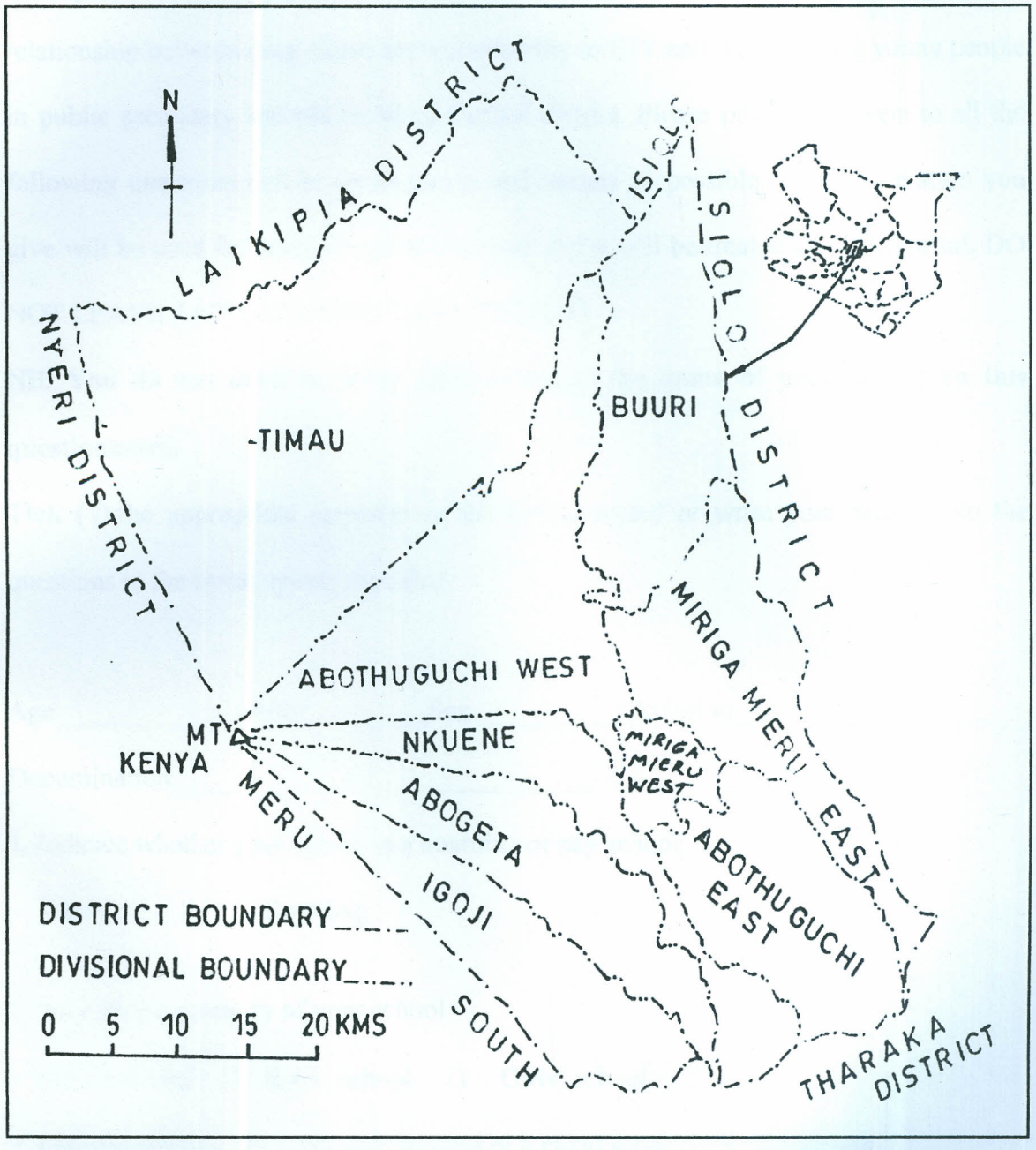
Appendix I

Map of Meru Central District



Source: Survey of Kenya, 2008

Appendix II

Student Questionnaire

The purpose of this questionnaire is to assist in carrying out a research on the relationship between drug abuse and vulnerability to HIV and AIDS among young people in public secondary schools in Meru Central district. Please provide answers to all the following questions and be as **accurate** and **honest** as possible. Any information you give will be used for academic purposes only and it will be treated as **confidential.** DO NOT LEAVE ANY QUESTION UNANSWERED.

NB. **You do not need to write your name or the name of your school on this questionnaire.**

Tick (√) the appropriate response in the box provided or write your answers to the questions in the blank spaces provided.

Age _____Form _____Sex _____Religion_____

Denomination_____

1. Indicate whether your school is a boarding or day school.

   Day . Boarding .

2. Indicate the category of your school

   Mixed school ☐ Boys' school ☐ Girls' school ☐

3. Indicate whether your school is located in **a rural set-up** or **urban set-up**.

   Urban ☐ Rural ☐

NB. Urban set-up or urban schools in Meru Central district will only be those schools located within the radius of about 5km in Meru town, Nkubu Town or Mitunguu Town, all other schools will be treated as rural schools.

4. Have you ever taken or experimented on any substance/drug like *khat*, cigarette, alcohol, bhang, glue etc? -

Yes ☐ No ☐

5. If the answer to question 4 is yes, indicate the **type of substance(s) /drug (s)** you have taken and the **frequency** with which you have been taking it. Use the table below.

	Frequency (Number of times)			
Drug/substance taken	In a day	In a week	In a month	In a year
(a) Cigarette				
(b) Commercia alcohol (beer/spirit)				
(c) Local alcohol (e.g. *busaa/chang'aa*)				
(d) *Khat*				
(e) Bhang (*cannabis*)				
(f) Narcotics(cocaine, heroine, morphine)				
(g) Inhalants (e.g. glue, petrol)				
(h) Others (state)				

6. What mainly influenced you into taking the substances/drugs you have stated in the **table** above?

(a) Friends (peer influence)

(b) Media adverts e.g. TV, magazines, billboards etc

(a) Curiosity ☐ (d) Others _____(specify)

7. At what age did you take any form of drug for the **first time**? _____ years.

8. In which term of the school do most students take drugs more?

1st term ☐ 2nd term ☐ 3rd term ☐ All terms are the same ☐

9. What **time (s)** and **place(s)** do students usually take drugs (e.g. smoking, taking alcohol, khat etc) when in school?

(a) **Time(s) taken** _____

(b) **Place(s) taken**_____

10. What causes/ makes the students take drugs?

(a) To fit into the company of their friends ☐ (b) To have fun and adventure ☐

(c) To kill boredom ☐ (d) to "forget" their problems ☐

(e) To 'feel high' ☐ (f) others _____(Specify)

11. State the effects you have **liked** and **not liked** when you take the drugs.

(a) **Effects liked** _____

(b) **Effects not liked**_____

12. Who supplies drugs to students when in school?

(a) Other students ☐ (b) school workers ☐

(c) Parent(s) /guardian ☐ (d) teachers ☐

(e) Neighbours of the school ☐ (f) other ways (state) _____

13. State **the time** most students obtain drugs (e.g. cigarettes, *Mirra,* alcohol etc) when in school. (a) Break time ☐ (b) lunch time ☐ (c) during outing ☐

(d) at night during preps ☐ Other times (state)_____

14. About how much money do you carry to school as pocket money per term?

(a) Below ksh 500 ☐ (b) ksh 500-1000 ☐ (c) ksh 1000-1500 ☐

(d) ksh 1500-2000 ☐ (e) above ksh 2000 ☐

15.What is the occupation of your parents/guardian?_____

6. Name the city, town, or market centre nearest to your home of your resident

a. City_____ b. Town _____

c. Market centre_____ d. Other_____

17 Indicate the drug taken by your parents/guardian

a. Alcohol ☐ b. cigarettes ☐

c. Chewing khat ☐ d. Other _____(specify)

18 (a) Do your parents/guardian sell any form of drug? Yes . No ☐

(a) If yes in (a) above state, the drug(s) sold_____

19. Do adverts in TVs, radios, magazines, billboards e.t.c, on drugs like cigarette or alcohol influence you in any way to think of having sex?

Yes ☐ No ☐

21. (a) Have you ever had any sexual intercourse?

Yes ☐ No ☐

(b) If yes, at what age did you have your first sexual intercourse? _____years

(c) Was it of your own free will? Yes ☐ No ☐

22. How often do you have sexual intercourse?

a. Never . b. Only once in my lifetime . c. once a week .

d. Once in a month . e. Other_____(specify)

23. How many sexual partners have you ever had in your **lifetime** or you have **currently?**

(a) In your lifetime: None ☐ One ☐ Two . Three or more ☐

(b) Currently: None ☐ One ☐ Two ☐ Three or more .

24. Have you ever been pregnant or gotten someone pregnant? Yes ☐ No ☐

25. Have ever contracted any sexually transmitted disease (STD)? Yes ☐ No ☐

26. Do you use a condom during sexual intercourse?

Yes ☐ No ☐ Not Always ☐

27. Do you talk to your sexual partner about safe sex before having sex?

Yes ☐ No ☐ Not always ☐

28. When do most students get opportunity to have sex when in school?

(a) During outing ☐

(b) During inter -school activities like drama, games etc. ☐

(c) At night during preps ☐ (d) other times (state)

_____

29. Have you ever had sex with a stranger or a person you do not know well?

Yes ☐ No ☐

30. Do you have a regular sex partner? Yes ☐ No ☐

31. (a) Have you ever been drunk or taken any form of drug by the time you had sex?

Yes ☐ No ☐

(b) Was your sex partner under the influence of any drug? Yes ☐ No ☐

32. If yes in no. 31 what influence do you think the drug had in you?

33. Have you ever experienced any form of sexual abuse such as unwanted sexual touch (e.g. touching private parts or breast), tricked into sex or forced sex (rape)?

Yes ☐ No ☐

34. State the type of sex abuse you have ever experienced? _____

35. Do think the person who abused you was under the influence of any drug?

Yes ☐ No ☐

36. State any risky behaviour, associated with the following drugs, which can lead to HIV and AIDS.

(a) Cigarettes _____

(b) *Khat* _____

(c) Alcohol _____

(d) Bhang _____

37. Which drug, in your experience, has the most risks in vulnerability to HIV and AIDS?

_____

38. Give reasons for your response in no. 36 above.

_____

39. From your personal experience how does drug abuse increase chances of contracting HIV and AIDS _____

40. Have you ever suspected yourself being HIV positive?

No Yes

If yes, give reasons for the suspicion.

_____

41. Can you tell if someone is HIV positive by looking at him /her?

Yes ☐ No ☐

42. (a) What are the main ways of preventing HIV and AIDS? _____

_____

(b)Which is the most effective way? _____

43.What are your suggestions on how to control drug abuse in your school?

_____

44. Give your suggestions on how the spread of HIV can be controlled in your school?

_____

_____

Appendix III

INTERVIEW SCHEDURE FOR TEACHERS IN CHARGE OF GUIDANCE AND COUNSELLING

1. What is the set up of your school?

(a) Rural . (b) Urban .

NB: Urban centres are only Meru Town, Nkubu and Mitunguu

2. State the type of your school (a) Day school . (b) Boarding school .

3. Category of your school

(a) Mixed school . (b) Boys' school . (c) Girls school

4. State the population of students in your school _____

5. What kind of drugs / substances are commonly abused by your students?

_____

6. What factors lead to drug abuse by the student?

_____

7. About how many cases of drug abuse have you come across among your students in the last one year? (State common drugs such as alcohol, cigarette, *khat* etc).

_____

8. Is there any risky behaviour shown by adolescents which can lead to transmission of HIV and AIDS and you would associate such behaviour with drug abuse?

Yes . No .

State examples of such behaviour _____

_____

9. According to your experience with young people in schools comment how the following drugs / substances can contribute to transmission of HIV and AIDS among the adolescents.

Cigarettee_____

Alcohol (local & commercial alcohol) _____

_____

Bhang (Cannabis) _____

Khat _____

10. How many cases of STDs have you come across for the last one year in your school?

11. Out of the cases you have stated in 10 above, about how many cases would you associate with drug abuse? _____.

12. Are you aware of adolescents who have suffered from HIV and AIDS related illnesses in your school? Yes . No .

13. If yes in 12 above about how many? _____

14. Would you associate these cases in no. 13 with drug abuse in any way?

Yes . No .

15. Which term of the school do you have most students getting involved in drug abuse?

_____

Appendix IV

FOCUS GROUP DISCUSSIONS

GUIDING QUESTIONS

Composition of the group _____ **Date of discussion**_____

1. Set up of the school (Rural or Urban) _____

2. Type of school (Day or Boarding) _____

3. Category of the school (boys, girls or mixed) _____

4. Are there students known or suspected to be taking drugs in your school?

Yes □ . No □ .

5. What types of drugs are commonly abused by students in your school?

_____

_____

6. Where and when do students obtain these drugs?

(a) Where? _____

(b) When?_____

7. Who distributes drugs to students when in school? (Teachers, School workers, outsiders, parents etc)_____

8. What factors contribute to abuse of drugs by students?_____

_____

_____

9. Briefly describe the behaviour of students who abuse drugs.

_____

10. Is there any relationship between drug abuse and vulnerability to HIV and AIDS among students? (Yes or No)._____

11. If yes to no. 10 above, state briefly how drugs such as cigarettes, alcohol, *khat*, and bhang, among others, can increase vulnerability to HIV and AIDS.

Cigarette_____

Alcohol_____

*Khat*_____

Bhang_____

12. Which term of the school do most students abuse drugs?_____

State the reasons_____