

**ENVIRONMENTAL AND DEMOGRAPHIC FACTORS
INFLUENCING DRUG AND SUBSTANCE ABUSE AMONG
SECONDARY SCHOOL STUDENTS
IN KISUMU TOWN EAST, KENYA**

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REG. I57/CE/12148/04

DEPARTMENT OF PUBLIC HEALTH

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF MASTER OF PUBLIC HEALTH IN THE
SCHOOL OF HEALTH SCIENCE OF KENYATTA
UNIVERSITY**

DECEMBER 2012

DECLARATION

This thesis is my original work and has not been presented for a degree in any university or any other institution of higher learning.

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To my dear mother Mrs. Dorina Aoko Nyatuoro and the late father Mr. Boaz Nyatuoro Ombija.

ACKNOWLEDGEMENT

Glory and honour be to the Almighty Father for the opportunity to pursue this course at Kenyatta University. Blessed be your name Lord God for the providence of sound health, mind and all the unfathomable daily blessings.

Many individuals have partially contributed to this work. My sincere gratitude goes to my supervisors Dr. Daniel Akungah, Dr. Wilson Otengah and Dr. James Ayugi for their tireless guidance and counsel throughout the process of carrying out this study. Their invaluable suggestions and criticisms contributed to the completion and success of this work.

Gratitude goes to all principals, teachers and students of the secondary schools I visited, who kindly accepted to participate in this study. They provided valuable information that enriched this study greatly.

I also extend my sincere thanks to my colleagues Mr. Jacob Owiti and Jared Opanga for their moral support, encouragement and constructive criticisms at every stage of the study. I would not forget to thank Ms Tabitha Wanjiru for assisting me in analyzing the data.

Finally, yet importantly, deep appreciation is extended to my dear wife, Grace and my children Olivia, Felix, Collins and Calvins for their encouragement and support throughout the study period.

GOD BLESS YOU ALL

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
CADC	Community Anti-Drug Coalition of America
CASA	Centre of Addiction and Substance Abuse
DEO	District Education Officer
DU	Drug Users
HIV	Human Immune Deficiency Virus
IDP	International Drug Prevention
INCB	International Narcotics Control Board
IQ	Intelligence Quotient
KDH	Kisumu District Hospital
NACADA	National Agency Campaign Against Drug Abuse
NGO	Non-Governmental Organization
NSDUH	National Survey on Drug Use and Health
SAMHSA	Substance Abuse and Mental Health Service Administration
SDFSC	Safe and Drug Free School and Community

SPSS	Scientific Programme for social science
PDM	Provincial Director of Medical Services
PPS	Proportional to population Size
UNDCP	United Nations Drug and Crime Prevention
UNICEF	United Nation's Children Education Fund
UN	United Nations
UNODC	United Nation's Office on Drug and Crime
USA	United States of America
WHO	World Health Organization

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ABSTRACT

Drug abuse is a major public health problem among the youth worldwide especially in developing countries. The accessibility, affordability, and consumption of abused drugs by the youths have attracted great concern among public health personnel. The impact of drug abuse in human health and well-being is substantial and its contribution ranges from medical, social, family, legal and economic problems which are created by its uncontrolled use. Thus, drug abuse-related problems among the youth cannot be ignored. Evidence from around the world reveals that there is an upward trend in the misuse of psychoactive drugs among the youth. There is limited documented information on the extent of drug abuse among secondary school students Kisumu Town East, Kenya. The main objective of this study was to investigate environmental and demographic factors influencing drug and substance abuse among secondary school students in Kisumu Town East, Kenya. The findings of the study would be used to guide policy in the control and prevention of drug abuse in secondary schools. Descriptive cross-sectional study design was used in the study. Stratified sampling was used to determine the number of boys' schools, girls' schools and mixed schools to be selected. A total of eight schools were sampled proportionately in the ratio of 1:1:6 (boys, girls and mixed) respectively. The study population in this study was students in public secondary schools in Kisumu Town East, Kenya. Systematic random sampling was used to select respondents proportionate to population size, the cluster and the school selected. A total of three hundred and twenty nine students were sampled for this study. Among the respondents, one sixty seven were girls while boys were one hundred and sixty two. Data collection was done through administration of structured questionnaire. Cross tabulation was used to show interrelationship between the dependent and independent variables. Chi-square test was used to test the existence of relationships between the variables and odds ratio used to determine the strength of the risks on exposure ($p < 0.05$ was considered statistically significant). The study found out that demographic factors influencing drug and substance abuse were gender (Odds ratio=1.90), mothers marital status at birth ($p=0.03$), number of siblings ($p=0.01$) and area of residence ($p=0.02$). Some family environmental factors influencing drug and substance abuse were mother's educational level and leisure time ($p=0.01$) family health (Odds ratio=2.70 and expectation from parents (Odds ratio=0.30). Some school environmental factors which influenced drug and substance abuse were distance to the nearest wine and spirit shop (Odds ratio=2.22), guest speakers (Odds ratio=0.62), school achievement ($p=0.01$), class repetition (Odds ratio=1.67), satisfaction with school (Odds ratio=0.45) and non students abuse in school (Odds ratio=1.89). The study recommended that the Ministry of Education should introduce clear policies on drug abuse prevention in learning institutions and formulate strategic plans which can promote academic achievements in schools as a strategy in fighting drug abuse in schools.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Drug and substance abuse is a phenomenon that is as old as mankind. People have used herbs, roots, barks, leaves and all kinds of plants to relieve pain and help control diseases (Kimanthi, 2003). When drugs are properly administered, they are a medical blessing to human beings. Unfortunately, some are not used for medical purpose. It is therefore regrettably noted that some drugs produce enticing side effects such as euphoria: a sense good feeling, elation and power. Later, whatever starts as a means of relaxation develops into a serious problem of abuse (Muchiri, 2005). Substance abuse, especially tobacco smoking is a risk behaviour and has been singled out to be the main preventable cause of death in the world (Astrom, 2003).

Evidence from around the world, reveals a continuing upward trend in the misuse of drugs (Naskar *et al.*, 2004). Whenever a report on drug abuse is released it is almost certain that there is increase in the volume of drugs being consumed. For instance, World Drug Report of 2010 shows that drug use is shifting towards new drugs and new markets (United Nation's Office on Drug and Crime (UNODC), 2010). It reveals that drug crop cultivation is declining in Afghanistan (for Opium) and the Andean countries (coca), and that the drug use has stabilized in developed countries. However, there are signs of an increase in drug use in developing countries and growing abuse of amphetamine-type stimulant and prescription drugs around the world.

During the last decade alone, the number of cocaine users in Europe doubled, from two million in 1998 to 4.1 million in 2008. By 2008, the European market (\$34 billion) was almost as valuable as the North American market (\$37 billion). There is indication that the shift in demand has led to a shift in trafficking routes, with an increasing amount of cocaine flowing to Europe from Andean countries via West Africa, causing regional stability (UNODC, 2010). The number of clandestine laboratories involved in the manufacture of amphetamine-type stimulants is also reported to have increased by 20% in 2008, including in such countries where such labs had not been detected before. Cannabis remains the world's most widely produced and used illicit substance. It is grown in almost all countries of the world and is smoked by 130-190 million people at least once a year according to International Narcotics Control Board (INCB) (2003) and UNODC, (2010).

Despite the increase in drug and substance abuse, related problems are immeasurable and varied. World Health Organisation (WHO) (2010)'s report estimates that about 76.3 million people struggle with alcohol use disorders contributing to 1.8 million deaths per year. United Nations reports that around 185 million people over the age of 15 years were consuming alcohol by the end of 20th century (World Drug Report, 2009).

The situation in Africa is worse. In fact, one of the most affected countries is South Africa (INCB, 2003; WHO, 2011). The menace is on the rise and the drugs that are increasingly becoming popular are methaqualone (quaaluded), cocaine, marijuana (known as dagga in South Africa) and heroin. Despite effort by the South African government to control and prevent the problem, heroin use nearly doubled in the year 2011. It is referred to as "sugar"

and affects at least 70% of households. It is also sold under names like “Plazana” and “Kwape”.

In 2008, between 8 and 25% of South Africans were being treated for heroin abuse or addiction. Because of the high numbers, many people are calling on the government to step in and take control. But, because of popularity, profit and availability, it is hard for the government to control or to stop it completely with limited resources and funds. Therefore, the country is facing alcohol problems with the most affected between 18 to 22 years of age. South Africa has one of the highest numbers of children born with fatal alcohol syndrome (WHO, 2011).

Kenya has not been left behind in the fight against drug abuse either. In 1994 Narcotic Drug and Psychotropic Substances (control) Act was legislated to fight drug and substance abuse. The government has since established Anti- narcotic unit offices strategically deployed at the exit and entry points to control drug trafficking but its success is very minimal if not in vain (NACADA, 2004; Gikonyo, 2005). In 2010, a bhang plantation was destroyed inside a forest in Magarine district after police got a tip-off from members of public. Highway police officers also are always on surveillance to track traffickers or peddlers along the highway. However, the volumes of illicit drugs continue to rise with devised packaging methods (Nyassi, 2010).

The Government of Kenya established National Agency for Campaign Against Drug Abuse (NACADA) in 2001 to assess and to get the factual and accurate information on drug and

substance abuse. This body trains people, church leaders, Non Governmental Organisations (NGOs) and any other organisation involved in the campaign against drug abuse. This has yielded very minimal results as the same body reports that the high prevalence of alcohol and tobacco is due to positive attitude Kenyans have on licit drugs (NACADA, 2007). The report states that at least 13% of people from all provinces except North Eastern province are current consumers of alcohol and that the median age of those who use packaged alcohol is 11 years while that of bhang users is 14 years.

The latest move by the Government of Kenya is the enactment into law of the “Alcoholic Drinks Control Act, 2010”, commonly called “Mututho” law. This law prohibits establishment of any alcohol sale point within a radius of 300 meters from any learning institution. It also prohibits sale of alcoholic drinks to any person below 18 years and restricts time for opening bars and restaurants to 5 p.m during weekdays and from 2p.m. during public holidays and weekends. This law attempt to promote an environment free from all that may influence school – going students to abuse drugs. None the less, all conditions of Alcoholic Drinks and Control Act have not been adhered to strictly and cases of drug abuse are still on upward trend and death from alcohol and other drug abuse related problems continues to bite (Nyassi, 2010; Otieno, 2012).

Most of the environmental school – based interventions against drug abuse vary from school to school. According to Orifa (2005), schools use strategies like the use posters, inspection of bags when students come into school compounds, punishments to those found with drugs, stringent rules to teachers not to smoke in school nor come to school drunk.

Drug and substance abuse cases cut across the population strata. However, at high risk and hard hit are the youth and those in their early childhood (NACADA, 2004). Most commonly abused drugs are alcohol, tobacco, miraa (Khat) and marijuana (bhang) (NACADA, 2007). According to Siringi (2003), a large number of students across all age groups have been exposed to alcohol, tobacco, miraa (Khat), glue sniffing, bhang (marijuana) and even hard drugs like heroin and cocaine.

Ngesu (2008) examines drug abuse in Kenyan schools and strategies for intervention. Majority of respondents (80%) agree that alcohol is the most abused drug followed by miraa, kuber and then bhang. The report cites the following as some of the reasons for abuse of alcohol. First, unlike other drugs, alcohol does not have drastic effect on personal health. Second, alcohol is readily available and consumed in bars and other entertainment places and third, it is more acceptable in society. Fourth, alcohol is easily sneaked into schools without being detected and finally, people in alcohol advertisement are very happy enjoying their drinks. Orifa, (2004) states that deaths associated with alcohol abuse are as a result of a complex interaction between the drug, the individuals and the setting.

Nyanza is not an exception when it comes to drug abuse problem in Kenya since NACADA (2010)'s report states that nearly all provinces experience rampant consumption of alcohol among the youth. According to this report at least 13% of people from all provinces except North Eastern are current consumers of alcohol. Whenever bhang is impounded in Nyanza by the law-enforcement officers, it is almost certain to be along Migori – Kisii highway

(Otieno, 2012). According to Otieno (2012), bhang impounded along this road between 2010 and 2011 is estimated at sh50 million. It is also believed that most of bhang consumed in Kenya is from Tanzania because the authorities there have not been tough on the growers and traders. Nyanza is the most affected being at the border between Kenya and Tanzania.

The high number of out patient psychiatric cases in Nyanza could be attributed to bhang use. In 2011, out patients psychiatric cases alone (in patients excluded) were 4137 (Provincial Director of Medical Services (PDMS)'s office, 2012). According to the director, Dr. Lusi, about 90% of these cases were from Kisumu district hospital. Statistical information from Kisumu district hospital indicates increase in mental and behavioural disorders due to multiple drug use and use of other psychoactive substances (Kisumu District Hospital (KDH)'s office, 2012). In 2010, cases of mental and behavioural disorders due to multiple drug use and use of other psychoactive substances among secondary school age (15-24 years) admitted in the hospital were three. One of the patients died from other psychotic disorders. In 2011, similar cases admitted increased to ten (233% increase). The number of deaths from psychotic disorder steadily remained at one.

Despite the efforts made by the Government of Kenya through the Ministry of Public Health and Sanitation, Ministry of Education Science and Technology and other law enforcement agencies such as the police, the provincial administration and NACADA, drug abuse is an escalating problem in the Kenyan society especially among the youth and particularly the secondary school age group. Previous prevention measures have not been successful. Therefore, there is need for new effective preventive strategies which necessitated this study.

1.2 Statement of the problem

Despite, the strategies which have been put in place by the Government of Kenya through the ministry of Public Health and sanitation, Ministry of education, and other law enforcement agencies such as police, provincial administration and NACADA group, the aspect of drug and substance abuse is still an escalating problem in the Kenya society especially among the youth. Several strategies have been put in place to address the problem but have not yielded good results. The trend shows continuous increase of drug abuse among school going youth. Regrettably, researchers have indicated that use of drugs by school going youth decreases their academic performance, lowers their Intelligence Quotient (IQ) and makes them vulnerable to crime. Drug abuse also exposes them to health risks among other myriad problems (Boyd, 2005; NACADA, 2007; Nyassy, 2010).

The extent of alcohol among students in Nyanza has a prevalence rate of 26.9%, tobacco 5.2%, bhang 2.4%, Miraa 4.2% and inhalants 2.8% (NACADA, 2004). According to NACADA's report (2007) at least 13% students are current consumers of alcohol. The report indicates that the median age of first use of changaa and cigarettes is 9 years and 10 respectively. One half of these have tried chewing or sniffing tobacco, traditional liquor and miraa. The median age of use of packed alcohol is 11 years while that of the bhang is 14 years.

While people of all ages are at risk, the age bracket of between 16-26 years face a greater risk of getting into the tangle of drug abuse due to growth and developmental changes especially

during the transition period from childhood to adulthood (Kiambuthi, 2005). It is a fact that cases of students engaging in drug abuse is on the rise despite the dangers of drug abuse.

Statistical information from Kisumu District Hospital indicates an increase in mental and behavioural disorders due multiple drug use and the use of other psychoactive substances (KDH office, 2012). In 2010, those between the age of 15-24 years who were admitted in the hospital with mental and behavioural disorders due to the use of such drugs were three. One patient among them died from psychotic disorders. In 2011, psychiatric cases related to multiple drug use and other psychoactive substances within secondary school age (15-24) years increased to ten. The percentage increase is 233%. Deaths that arise from drug and other substances abuse continue to increase yearly in Kisumu town (KDH, 2012).

However, it remains unclear why students engage in this risk behaviour. This study therefore aimed at investigating the environmental and demographic factors influencing drug and substance abuse among secondary school students.

1.3 Justification of the study

Few studies have been done on secondary school going students in Kisumu town. Therefore, there is limited documentation on drug and substance abuse among the secondary school students and no or limited success in mitigation measures.

Statistical information shows steady trend of increase in psychiatric cases: mental and behavioural disorders due to multiple drug use and other psychoactive substances in Kisumu

district hospital. In 2010, three patients in secondary school age bracket (15-24 years) were admitted in the psychiatric department while in 2011, ten cases (a 233% increase) were admitted (KDH's, 2012). This justifies the need for this study, which was designed to investigate environmental and demographic factors associated with the drugs and substance abuse among the secondary school students in Kisumu town, Kenya.

The outcome of this study would be important in guiding policy and developing prevention strategies to control of drug abuse in secondary schools and among other youth in Kenya.

The findings would also help school administrators and counsellors to put in place mechanisms for addressing possible environmental and demographic factors which promote drug abuse among the youth. Besides, the study was intended to bridge the information gap that exists regarding the environmental and demographic factors associated with drug and substance abuse among secondary school students in Kenya.

The study also intended to reveal some of the schools and family factors which may influence abuse of drugs. It was envisaged that the implementation of the recommendations of the study would lead to a decrease in drug abuse prevalence rates among secondary school students and other students.

1.4 Objectives of the study

1.4.1 General objective

The general objective of the study was to investigate environmental and demographic factors influencing drug and substance abuse among Secondary School students in Kisumu Town East, Kenya

1.4.2 Specific objectives

- i)** To identify the demographic factors that influence drug and substance abuse among Secondary Schools students in Kisumu Town East, Kenya.
- ii)** To assess family environment related factors that influence drug and substance abuse among secondary school students in Kisumu Town East, Kenya.
- iii)** To establish school environment related factors that influence drug and substance abuse among secondary school students in Kisumu Town East, Kenya.

1.5 Research questions

- i)** What demographic factors influence drug and substance abuse among Secondary school students in Kisumu Town East, Kenya?
- ii)** What family environmental factors influence drug and substance abuse among secondary school students in Kisumu Town East, Kenya?
- iii)** What school environmental factors influence drug and substance abuse among secondary school students in Kisumu Town East, Kenya?

1.6 Null hypothesis

There are no demographic and environmental factors that influence drug and substance abuse among secondary school students in Kisumu Town East, Kenya.

1.7 Significance of the study

The findings of this study would be useful to the Ministry of Public Health and Sanitation, Ministry of Internal Security, Ministry of Education and Office of the President in guiding programs targeting drug abuse prevention among the youth. The study has provided useful information to the policy makers on possible ways of dealing with drug and substance abuse in learning institutions. In addition, the study would also be of interest to school administrators and counsellors in helping them design ways of reducing the problem of drug and substance abuse in schools.

1.8 Delimitation and Limitation

The study was limited to finding out the family-school environmental and demographic factors affecting drug and substance abuse among secondary school students in Kisumu city, Kenya. The findings of this study therefore would neither be generalized to students in other level of education like primary schools, private secondary schools, post secondary institutions, nor secondary school students who were learning outside Kisumu city at the time of the study. In addition, the study relied solely on self-reporting, therefore, due to fear of victimization the respondents may have under reported.

1.9 Assumptions of the study

The study assumed that the information given by the correspondents were their true perception, experiences and behaviour. The study also assumed that abuse of alcohol and other substances mainly depended on family, school and demographic factors.

1.10 Conceptual framework

1.10.1 Theoretical statement

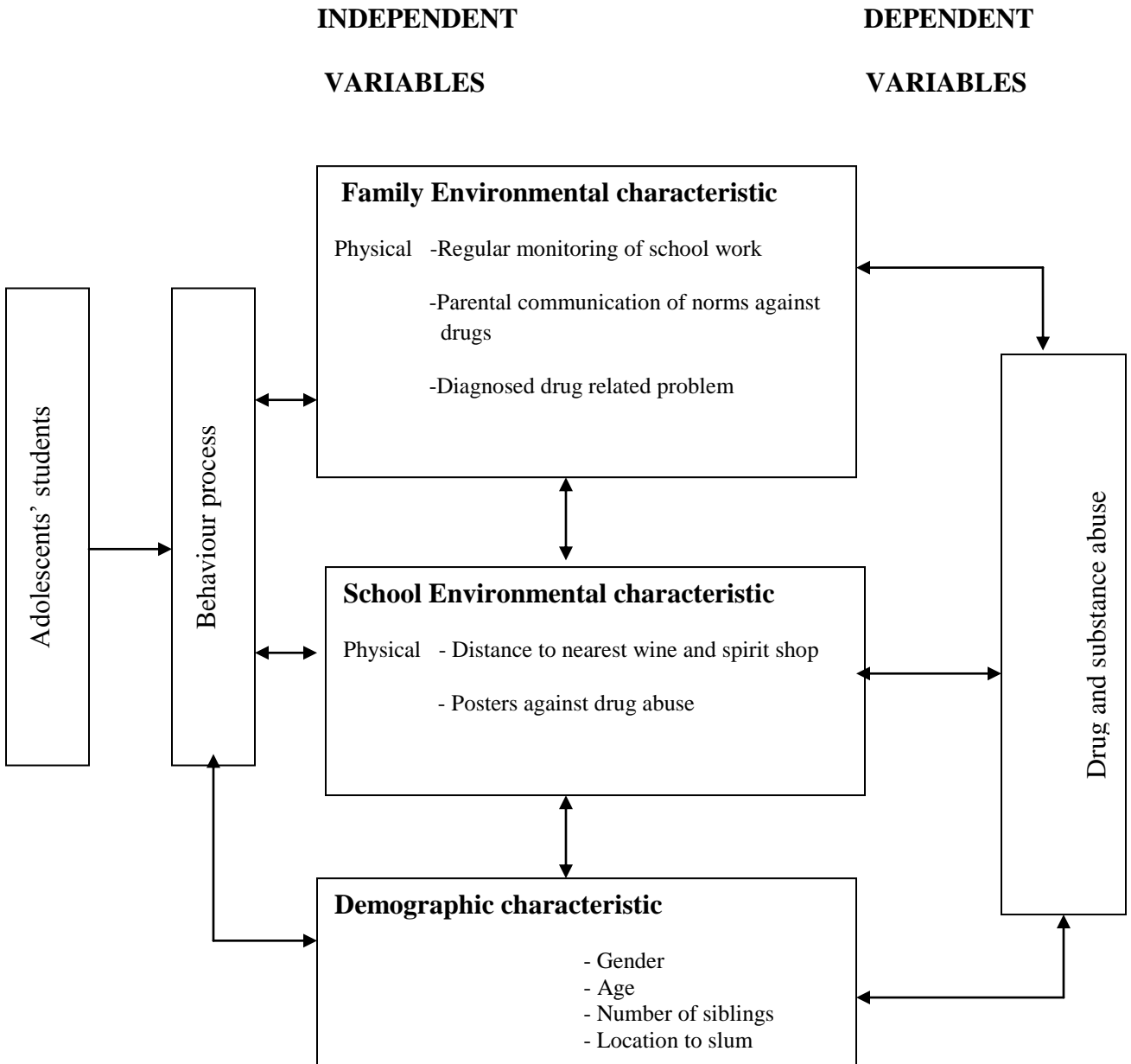
This study was based on mainly two theories: Psycho-social theory by Ausebel (1961) and Social cognitive theory by O'leary (1992). These theories posit that environment and demographic factors as well as psychological factors interact to determine behaviour.

As applied to this study, these theories indicate that abuse of alcohol and other substances by secondary school students depends on demographic characteristics; gender, number of siblings and area of residence. Family environmental factors that precipitate into abuse of drugs are as result of observation of situation within the micro-environment. Individual students in secondary schools are subjected to internal or external reactive forces which may provide positive reinforcement leading to promotion of drug abuse. However, it may give negative reinforcement leading to reduced risks. In this study, the following influence chances of engaging in drug abuse: mother's marital status at birth, mother's educational level, place to spend leisure time, family health status related to drug abuse , communication of the norm and academic expectations of parents.

It also purports that school environment is a modifier to student behaviour through interactive approach with both internal and external factors are involved. These factors depend on each other. For school environment, some of the factors that were found to influence drug abuse in this study were school performance, distance to the nearest wine and spirit shop, guest speakers, type of punishment, class repetition, satisfaction and school academic achievement.

1.10.1 Conceptual framework

Family and school environmental factors and demographic factors influencing drug and substance abuse in Kisumu Town East, Kenya



Source: Author (2012)

Fig.1.1 Conceptual framework

Although drug and substance abuse (dependent variable) is mainly affected by environmental and demographic factors (independent variables) as shown in the fig.1.1, the literature review reveals other (extraneous) factors affecting drug and substance abuse. These include: parent abusers, older siblings influence, lack of parental love, family feuds, myths, media as well as curiosity from the family environment. School environment influence is mainly from peer influence, student poor performance, drug dealer/peddlers accessibility as well as non strict teachers.

1.11 Operational definition of terms

Abuse: Usage level that have short-term acute personal or social consequences.

Alcohol: Organic chemical compound known as ethyl or ethanol, found in alcoholic beverages.

Alcoholism: A variety of a disorder associated with the chronic use of alcohol, usually over time, in the amount that has affected the user physiologically, emotionally and socially.

Drug abuse: This is the sporadic or persistent excessive use of any substance for any reason other than its acceptable medical use. Such use is normally unacceptable to the society and dangerous to the individual as well as society.

Drug abuser: Any student that takes alcohol or other substances for non-medical reasons.

Drug: Any substance that when absorbed into a living organism may modify one or more of physiological functions in the organism. This covers both licit substances (alcoholic drinks, tobacco or cigarettes, miraa, inhalants and prescription medicaments) and the illicit substances (bhang, cocaine, heroin etc).

Environment: This constitutes both physical and non physical factors that modify behaviour of an individual due to interactive mechanism.

Environmental factors: Refers to family and school factors which the student reacts with and which modify the behaviour.

Illicit drug: A chemical drug that is potentially dangerous and has been outlawed by government, like marijuana, heroin and ecstasy belong to this category

Khat (*miraa*): A stimulant that contains cathine and cathinone as active ingredients. It produces cerebral stimulation and often used to promote social interaction as well as releasing emotional tension with possible adverse effects including sleeplessness, constipation and gastritis

Non-abusers: Individuals who do not use substances such as alcohol, khat, tobacco etc.

Slum: Low economy class region characterized by poor sanitation (toilets shared by two or more families found out side living rooms, flying toilets e.t.c)

Smokers: Individuals who smokes cigarettes.

Smokeless tobacco: This is the use of tobacco through the following methods: as snuff, plug, dipping tobacco, chewing tobacco, and more recently anus.

Student: Any individual attending secondary school during the 2011.

Psychoactive substance: Any chemical substance that alters normal function of the brain and results in mental behaviour change.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter deals with the literature associated with environmental and demographic characteristics and their association to drug abuse. These are broadly covered under the following subheadings. Global picture of drug and substance abuse, situation of drug and substance abuse in sub-Saharan Africa, Kenya's drug and substance abuse situation, drug and substance abuse among secondary school students in Kenya, demographic factors and drug and substance abuse, family environmental factors and final school environmental factors.

2.1 Global picture of drug and substance abuse

Current evidence reveals a continuing upward trend in substance abuse worldwide (World Drug Report, 2004). The report by WHO (2004) estimates that 1.1 thousands million people, representing a third of the world population above the age of 15 years, use tobacco principally in the form of the manufactured cigarette. Out of these smokers, 800 million live in developing countries, of which 700 million are male. Smoking is therefore a major habit in developing countries. In fact, the same report shows that tobacco causes 4 million deaths annually, besides prenatal morbidity and mortality.

In fact during the last decade alone, the number of cocaine users in Europe has doubled, from two million in 1998 to 4.1 million in 2008. By 2008, the European market (\$34 billion) was almost as valuable as the North American market (\$37 billion). This indicates that the shift in demand led to a shift in trafficking routes, with an increasing amount of cocaine flowing to

Europe from Andean countries via West Africa, causing regional stability (UNODC, 2010). The number of clandestine laboratories which involved in the manufacture of amphetamine-type stimulants is also reported to have increased by 20% in 2008 including in such countries where such labs had not been detected before. More over cannabis has remained the world's most widely produced and used illicit substance and is grown in almost all countries of the world. It is smoked by 130-190 million people at least once a year (INCB, 2003: UNODC, 2010).

In deed, problems escalated by drug abuse are immeasurable and varied. A report by WHO (2010) estimates that about 76.3 million people struggle with alcohol use disorders which contributes to 1.8 million deaths per year. The report states that around 185 million people over the age of 15 years were consuming alcohol by the end of 20th century (World Drug Report, 2009).

While tobacco smoking rates are high in developing countries, a report released by National Survey on Drug Use and Health (NSDUH) (2007) on smokeless tobacco use, initiation and relationship to cigarette smoking (2002 to 2007) shows that smokeless tobacco use remained relatively stable in the range of 3.0 to 3.3 percent between 2002 and 2007 among persons aged 12 or older. However, there was increase among certain sub-populations, in particular, among adolescent males (NSDUH, 2007). The same report reveals that among those who have used both smokeless tobacco and cigarettes in their lifetime, 31.8 percent started using smokeless tobacco first, 65.5 percent started using cigarette first, and 2.7 percent initiated use of smokeless tobacco and cigarette at about the same time.

The report also points out that smokeless tobacco contains 28 cancer-causing agents and has been linked to oral cancer and increased risk of death from cardiovascular diseases. Therefore, it is important to understand that smokeless tobacco use is not a health alternative to cigarette smoking (NSDUH, 2007).

Developing countries are burdened by economic, political and social problems, civil strife and war, poverty, HIV/AIDS, crime and corruption (INCB, 2003; World Bank, 2004). In fact, the reports show that in some of these countries, these problems are closely related to drug abuse. Despite enormous efforts which have been put in place in some of the African countries to control the problem, it has persisted (UNODC, 2006). Most of these countries have been known to be hubs of drugs. Africa remains a major supplier of cannabis, which is one of the most widely abused drugs (INCB, 2003). More so, African coastal regions are overburdened with the problem of drug proliferation and Kenya is not an exception. The abuse of psychotropic substances is widespread because of inadequate systems of licensing and inspecting trade in such substances.

The relationship between drugs and HIV/AIDS cannot be overlooked as was highlighted in an International conference on AIDS held in Durban South African in July 2000 (INCB, 2002). More than 100,000 injecting drug users in New York have been infected with HIV, and more than 50,000 cases of AIDS are reported among injecting drug users, their sexual partners and their children in New York City (Tarlais and Marmur, 2000). Alcohol's contribution to the global burden of disease is significant and growing in some regions to the

point that in parts of central and Eastern Europe, alcohol use is contributing to an unprecedented decline in male life expectancy (WHO, 1999). This follows a report by UNCDP (1998) that shows that 23.1 million drug related deaths occurred among men while 5 million deaths occurred among females in Australia, Italy, Sweden, United Kingdom, and USA. World Drug Report (2005) shows that the main drugs used globally are heroin and cocaine. Approximately 200 million people, which accounts for 5% of the world's population aged between 15 and 64 years-old, had used drugs at least once in their lives (UNODC, 2005).

Environment has been revealed by some studies as a contributor to drug abuse. In Denmark a study done on a cohort of Danish Men born in 1953 shows that childhood social environment determines drug and alcohol abuse (Merete, 2008)

2.2 Situation of drug and substance abuse in Africa

For a long time, sub Sahara Africa remained at the margins of drug and substance abuse (INCB, 2001). According to this report, it was not until the early 1990s that the problem became serious, with, for example, the seizure in Nigeria (in late 1993) of nearly 300kg of heroin from Thailand. The perception was that the region was being used as a transit hub for international criminal organizations. This wasn't the truth as hundreds of drug couriers, mainly Nigerians, swallowing heroin and cocaine filled condoms, had been arrested around the world since the early 1980s.

According to Interpol, in 1999, 22% of cannabis seized in the world originated in Africa. Seizures of marijuana from East and Central Africa increased approximately 15% in the 1990s. Based on seizures both in the West African countries and in the international market, the leading country appears to be Nigeria with 17 tonnes seized in 1999, Ghana 4.3 tonnes, Senegal 7 tonnes and Ivory Coast 1.6tonnes. In East Africa, police have on a number of occasions destroyed several hundreds of hectares, particularly in the Rift Valley and in Mount Kenya national park. Kenya is singled out as the only Africa countries where opium poppy crops have also been proven (INCB, 2001).

According to UNDCP (2002), although marijuana is illegal, its consumption is widespread in Africa. There are more than 25 million users constituting of 5.8% of the adult population; the world average is 3.4% of the adult population. In Africa, 61% of people treated for drug abuse and who often display serious psychological disorders are cannabis users. Two-thirds of these are youth.

In 2001, the situation had reached serious level that African countries represented at the International Narcotics Convention held in Vienna in late March 2001 asked the UN to make an exceptional effort in the fight to curb the vice on behalf in the region (INCB, 2001). The sub-Sahara is not a production centre for chemical drugs intended for the international market unlike the other continents but the cultivation of cannabis for local market is developing exponentially everywhere. It has come to the point where it constitutes a threat to food production in the region.

Sub-Saharan Africa is thus a not negligible consumer market for virtually all drugs supplied by a host of small rings. Traffickers also use its land, water and air routes to transport hashish and heroin from Southwest Asia in particular and cocaine from Latin America to Europe and the United States (INCB, 2001, INCB, 2002). But, African history of cannabis shows that world wars influenced its present use and functions. In Ghana and Nigeria was used by soldiers who had fought with British troops in Burma and had become accustomed smoking marijuana in their camps in India. In those countries where it was introduced long ago, it is still used for therapeutic and ritual purposes.

An alarming report by WHO shows that 8.8 percent of students of 10-14 years in Lesotho have used alcohol. The report further reveals that the effects of drug abuse on the students include impaired judgment leading to poor academic performance, poor health, and absenteeism (WHO, 2001). Another study is carried in Kampala Uganda using cross – sectional survey design among 2,789 high school students aged between 13 and 15 years. It finds out that 17.6% (n=148) of them tried smoking before the age of 10 years (Mpabulungi, 2004). The report reveals that the students use drugs to feel good and get stimulated.

A more complex case of the geopolitics of cannabis in sub-Saharan Africa is the government's use of the struggle against cannabis to strengthen its control over a region which intends to escape it (INCB, 2001). The report further states that traffickers enjoy from politicians and state officers such as the police force who are poorly equipped and poorly trained and are powerless to combat drug trafficking. Poorly paid police officers and customs officials can easily be bought.

Perhaps acquisition of HIV/AIDS among drug users in sub-Saharan Africa may be due to lack of proper judgment under the influence of drugs leading to unprotected sex and shared injecting needles (UNDCP, 2002).

In South Africa, the drugs that are increasingly becoming popular are methaqualone (quaaluded), cocaine, marijuana (known as dagga in South Africa) and heroin (WHO, 2011). The report indicates that heroin use has nearly doubled in the year 2011. It is referred to as “sugar” and affects at least 70% of households. It is also sold under names like “Plazana” and “Kwape”. In fact in 2008, between 8 and 25 % of Africans were being treated for heroin abuse or addiction.

However many people are now calling on the government of South Africa to step in and take control, but because of popularity, profit and availability, it is hard to control or to stop completely with limited resources. Unfortunately, the country is also facing alcohol problems. It has one of the highest numbers of children born with fatal alcohol syndrome. The most affected are those between 18 to 22 years (WHO, 2011).

2.3. The Kenyan situation of drug and substance abuse

The exact situation of drug abuse in Kenya is difficult to tell but estimation is possible. Drug trafficking and abuse are considered criminal offense under the Narcotic Drugs and Psychotropic Substance Control Act of 1994. The Kenya police through its anti-narcotic unit offices are strategically deployed at entry and exit points. But, up to now, minimal success has been achieved to eradicate it. Therefore, being a developing country, Kenya has not been

spared the pestilence of drugs and it is abundantly clear that the country is a transit point for hard drugs from Columbia heading to European capitals (Mwaura, 2003).

Nation-wide studies have shown that the use of hard drugs is not yet widespread among the general Kenyan population but the use of the licit alcohol and tobacco is quite high in the general population (UNCDP, 1999; NACADA, 2007). An overwhelming majority of smokers of tobacco smoke daily (90%), whereas 70% of miraa users have it daily (NACADA, 2007). Perhaps, this risk behaviour is enhanced by social acceptability, easy availability and the results of sales promotion through uncontrolled advertisement (UNCDP, 1999; NACADA, 2004). This has led to positive attitude held by Kenyans towards consumption of licit drugs such as cigarettes (73%), packaged liquor (72%), traditional brew (09%), other tobacco products (63%) and miraa (54%) (NACADA, 2007). There is widespread attitude that if a drug is legal, then it is alright to use. In contrast, illicit drugs have particularly, shown low acceptability rating. No wonder, alcohol consumers were found to be at least 13% of people from all provinces in Kenya except North-Eastern (NACADA, 2007).

Studies have shown that drug abuse varies with demographic characteristics such age and gender (NACADA, 2004; Kiambuthi, 2005; Otieno, 2009). Other studies have however reported conflicting result that only age affects drug abuse (Orifa, 2005; Wanjala, 2006).

Commonly abused drug and substances in Kenya are alcohol, marijuana, tobacco and khat (miraa) (NACADA, 2004; Kiambuthi, 2005; Otieno, 2005; Gikonyo, 2010). But, heroin,

cocaine, mandrax and hashish also exist but show low rating (NACADA, 2004). The reason given for the low prevalence of illegal (illicit) drugs is, “it is criminal to be in its possession”.

WHO (2001) reports that 14% of secondary school students in Kenya have used alcohol while, NACADA (2007) indicate that one in every three Kenyan high school students takes alcohol. Another 8.3% smoke cigarettes while almost one in every ten (9.1%) chew miraa and about 3%, smoke bhang. The report also indicates that students take hard drugs including heroine, cocaine, mandrax and tranquilers (NACADA, 2007). According to Gilicio (2001), one in every 15 learners in Kenya take illicit especially bhang. The report further shows that 50% of learners in schools are aware of illicit drug but only 6% of them know the harmful effects of the drugs (Galicio, 2001).

NACADA (2004) is a nationwide survey on drug abuse among students. The study reveals that the frequency and type of drugs abused vary from province to province. The extent of alcohol among secondary schools students in Nyanza has a prevalence rate of 26.9%. Western has the highest rate at 43.3%, Nairobi 40.9%, Central 26.3%, Rift valley 21.9%, Eastern 17.2% and North Eastern trails with 1.6%. On the other hand, prevalence rate of tobacco among students per province are: Nairobi 19.5%, Central 12.2%, Coast 10.5% while Nyanza has the lowest 5.2%.

Effects of drug abuse are dangerous and varied (UNDCP, 1999; NACADA, 2007). In fact, according to NACADA’s rapid assessment survey of 2007, seven in every ten people aged 15-64 years with multiple partners are likely to be substance abusers. More so, users of

bhang/hashish, heroin and cocaine are more likely to have multiple sexual partners compared to users of alcohol, bhang and miraa. Therefore, in a country like Kenya where HIV/AIDS is a national disaster, risky sexual behaviour promoted by drug abuse only make the HIV/AIDS epidemic worse. The population becomes less economically productive, chronic absenteeism increases and crime and violence rates go up (UNDCP, 1999; NACADA, 2007).

Although the problem cuts across the whole population strata (NACADA, 2004), studies have shown that the hardest hit group are the youth of age 13 to 26 years (Galicio, 2001; Siringi, 2003). These are the critical years in human development; physical, psychological or intellectual level and they are vulnerable to experimentation (Otieno, 2005; NACADA, 2004). These are likely to be secondary school students who are in their transition period as they begin independent life (Bence *et al*, 2000; Muchiri, 2005). But, those who are more at risk are those in urban areas due to existence of more predisposing factors (IDP, 2001; NACADA, 2004; Gikonyo, 2005).

2.4 Drug abuse among secondary school students.

Several studies have been done in Kenya targeting secondary school students. Schools have experienced several problems associated with drug abuse including poor health, examination failure; drop out from schools, suicides, unplanned pregnancy, arson, violence, strikes and truancy, (Ndegwa, 1998; Mugenda, 2003; Orifa, 2004; NACADA, 2004). Other studies also show that drug abuse results in impaired mind, less endurance, absenteeism and poor health. It also leads to low achievement and hopelessness but the studies indicate that poor academic performance does not result in drug abuse (Tabifor, 2000; Orifa, 2004). NACADA (2004)

also states that drug abuse renders the affected population less economically productive and leads to failure in school, (NACADA, 2004).

Types and prevalence of abused drugs vary with regions (Ominde, 1999; NACADA, 2007). It is a common phenomenon in urban areas due to many predisposing factors which are available (IDP, 2001; NACADA, 2004). Perhaps, the environment may be the principal factor that influences drug abuse.

The education sector has put in place some measures to eradicate drug abuse in schools without any research done to establish the impact of the activities. The programs used are as per the discretion of the head of the institution (Orifa, 2005). Common strategies used by schools include general guidance and counselling sessions, song, drama, poem, debate and speeches. Verbal warning, corporal punishment, parental involvement and suspension are also used to discourage drug use (Ndegwa, 1998; Orifa, 2004; NACADA, 2004). Other approaches used by some schools include use of photos, posters and guidance and counselling of identified abusers, (Orifa, 2004; NACADA, 2004).

While some schools prefer the use of verbal warnings, corporal punishment, parental involvement and suspensions to discourage drug abuse (Orifa, 2004; NACADA; 2007), some are futile and less effective. In fact, studies have revealed that despite harsh methods used, if there is no clear policy used then incidences of drug abuse will continue to increase in schools. It is negative attitude, low expectation of students, disorderly climate in schools as well as lack of clear policy on drugs abuse in schools that increase the risk of drug abuse

(Ndetei et al., 2009). Never the less, most students have shown that guidance and counselling is their preferred choice as a measure to be used in schools, though research has shown that it is less effective (Kiambuthi, 2005).

Kiambuthi (2005) conducts a study on factors contributing to drug abuse in some selected public secondary schools in Kiambu. Orifa (2005) also carries out another study on types of drug abuse and methods of prevention in mixed secondary schools in Kiambu district. These studies show that age and gender affect drug abuse. However, Gikonyo (2005) and Wanjala (2006) reported conflicting result that only age influence drug abuse but not gender. But, Muchiri (2005) reports that gender affects drug abuse but not age. On the other hand, Otieno (2009) carries out a study in Kisumu and reports that gender, age and peer pressure affects drug abuse. Therefore, it is not clear which of these results is correct.

Studies have been done on the effect of area of residence on drug abuse. Some studies have shown that area of residence affects drug abuse (Otieno, 2005). The study reveals that students from high economic regions are more at risk than those from low economic regions. Other studies show that area of residence show no association with drug abuse (Muchiri, 2005) but the study reveals that drug abuse is more prevalent among the students from urban areas than those from rural.

Different studies have reported different results about the effect of religious affiliation on drug abuse. Some studies have shown that the religious beliefs and attitude significantly influences the drug use habit. Muslim youth have the least use compared to Christian ones

(NACADA, 2004; Muchiri, 2005). But according to Gikonyo (2005), more Muslims tend to abuse drugs.

Family background has been associated with drug abuse. Studies have shown that parents' education level, occupation and mother's marital status affect drug abuse in a family (Wambua, 2002; Kiambithi, 2005). These studies show that incidents of drug abuse are higher among students with mothers with tertiary education than those with less education.

Some studies have shown that there is no clear cut correlation between drug abuse and level of education of abusers' parents for both genders (Orifa, 2004). According to Orifa, the correlation is seen among the girls. 14.8% of girls who abuse drug abusers are from homes in which neither of parents had attended college compared to 10.6% from homes where at least one parent attended college. The study finds out that fathers' education has no effect on drug abuse (Kiambuthi, 2005; Ndetei, 2009).

Parental supervision on school work reduces the risk to drug abuse (Wanjala, 2006). Several studies have indicated that single parentage particularly unmarried mother's increases the risk of drug abuse among children (Merete, 2005, Gikonyo, 2005). Gikonyo (2005) further reports that children from unmarried mothers formed the highest number of drug abusers (75.6%) followed by widows (19.5%) and separated parents (4.9%). NACADA (2004) concurs with Gikonyo. Other studies have however found out that there is no relationship (Atrom *et al.*, 2003).

School environment has been indicated by Wanjala (2006) being related to drug abuse by students. Several studies have reported that availability and accessibility of drugs contribute to the abuse of drugs (Otieno, 2005; Kiambuthi, 2005; Gikonyo, 2005). Therefore, distance to the peddler or shop from the school affects drug abuse (NACADA, 2004). Otieno (2005), indicates that availability of drugs such as miraa, tobacco, alcohol, marijuana in the school locality and which are sold cheaply encourage students to engage in drug abuse. Kiambuthi (2005) reports it to be more serious in day schools and in situations where the public easily walks into school to sell their commodities. Other studies show that achievement in school and satisfaction with the school affect drug abuse more than the distance to drug peddlers (Harwood, 2000; Orifa, 2004; Merete, 2005).

2.5. Demographic characteristics and drug and substance abuse

2.5.1 Gender, Age and drug and substance abuse

Societies perceive drug abuse differently, some take it as a male issue therefore acceptable to male but not female (NACADA, 2004). While in some societies, it is perceived that it is a preserve for elders (NACADA, 2004; Otieno, 2005). However, studies have shown that it affects both male and female equally (NACADA, 2004) hence, considered as a non-gender issue.

Kiambuthi (2005), reports that among the sampled students from selected public secondary schools in Kiambu district, almost half of them 36.5% have abused drugs. The study indicates that male students have a higher prevalence of drug abuse (55.0%) than their female counterparts (18.0%). The finding contradicts Sutherland *et al.*, (2008) which shows that smoking is more prevalent among girls. Nevertheless, some studies have shown that only

illicit drugs show higher prevalence among the male (NACADA, 2007; Sutherland, 2008). According to Wambua (2004), gender influences the type of drug abused. Some studies have indicated that females tend to use conservative drugs such as alcohol and tobacco (Ruto, 2000; NACADA, 2003; Wambua, 2004).

Orifa (2005) carries out another study on types of drug abuse and methods of prevention in mixed secondary schools in Kiambu District. The study shows that age and gender affect drug abuse. However, Gikonyo (2005) and Wanjala (2006) report conflicting result that only age influence drug abuse but not gender. But, Muchiri (2005) reports that gender affects drug abuse but age does not. As Kiambuthi and Orifa do agree, both age and gender affect drug abuse. Otieno (2009) who carries out a study in Kisumu and reports that gender, age and peer pressure affect drug abuse.

Substance abuse has permeated all strata of society with the youth being the most affected. Most users fall between 16-26 years of age with experimentation beginning much earlier, even at 4 years (Gaccicio, 2001). Majority of the students are at adolescent stage. This is a stage of transition from childhood to adulthood. It is a momentous period of life fraught with changes, difficulties and special problems. It is described as a period of “storm” and “stress”, “turbulent and the unstable” a time of self – discovery and self – assertions and this leads to experimentation (Oketch, 1997). These are actually critical years in human development; at physical, psychological or intellectual levels. When young people indulge in drug abuse at this stage, their future is bleak and so is the country’s, (Kaguthi, 2001).

By 2003, 92% of the youth between 16 – 26 years age had experimented on drugs (Otieno, 2003). By nature, young people are risk-takers and also adventure seekers. They easily fall prey to the wrong notion that drugs are answers to feelings of depression, poor performance and hopelessness (Tabifor, 2000; Orifa, 2004). Some studies have shown that certain age groups are more likely to use drugs than others (Orifa, 2004; Kiambuthi, 2005). In England, Sutherland (2008) indicates that prevalence of regular substances such as alcohol and cigarette use rises from 30.4% at age 11 years to 83.9% at 16 years. This study shows that girls prefer spirits more than boys. The study indicates that prevalence among the girls increases with age contrary to that among boys which shows decline with age. Also, according to Kiambuthi (2005), drug abuse is slightly higher (39.8%) for students' aged between 15-17 years than 18 and above (31.7%).

Although some studies shows that age is significant in drug abuse (Orifa, 2005; Gikonyo, 2005; Wanjala, 2006; Sutherland, 2008; Otieno, 2010), others have disagreed (Kiambuthi, 2005; Muchiri, 2005).

2.5.2 Family size, area of residence and drug and substance abuse

There are different views about the size of family and its association with abuse of drugs. There are predisposing factors that influence abuse of drugs among children in households where both parents smoke. Young children are reported to have a 72% risk of respiratory illness. They learn from what they see and imitating what their parents do (Pudo, 1998). According to NACADA (2007), the presence of drug users in the home are closely associated with the likelihood of abuse of alcohol among children aged 10 – 14 years.

NACADA, (2004) and Asma, (2003) report that family size influences abuse of drugs. The study outlines other reasons for involving in drug abuse which include lack of communication of the dangers of drug abuse to the children, copying or imitating parents who are abusers. However, it can not be overemphasized that parents that have little time with their children and children from broken families are greatly affected by the problem of drug use. It is a spontaneous alternative to loneliness (Kimanthi, 2003).

Other studies have given a different view that drug use among adolescents arises from generation gap or from feeling of alienation from parents (Orifa, 2004). According to Gikonyo (2010) there is no association between the size of the family and drug abuse. The study indicates that majority of drug abusers are from families of four children (29.3%) followed by three children (24.4%) while the least had families of five children and those families with one child (12.2%) respectively.

In many researches, individual's occupation and level of education have been used as indices for socio – economic status which in turn determine place of residence. As some of the past surveys have indicated, there is clear cut relationship that exists between drug use among the youth, level of education, occupation and place of residence. Low economic region generally tend to be occupied by people of low education and lowly rated occupations contrary to high income areas.

One of the earliest and most influential studies is by the New York University psychologist, Isidor Chein (1950) which offers an analysis of the urban drug crisis. The study focuses on heroin addiction among adolescent males in New York City – a group greatly over represented in the statistics on addiction. His co-workers collected data from courts and hospitals in Manhattan in the years 1949 – 1955 as well as surveying other social and medical agencies throughout the city. The results show that the areas with the highest concentration of addiction (epidemic areas), are occupied by a high proportion of blacks and Puerto Ricans. The residents are people earning low nominal incomes and men who work in low status occupation. The areas are also characterized by low education attainment and a large number of disrupted families.

A study by Otieno (2005) concludes that drug abuse is more common among students from low economic background but this contrast with other findings which indicate that it is more prevalent among students from rich families.

Nevertheless, it is important to note that other reasons which studies show to influence drug use include availability of wine and spirit shops, alcohol dens, presence of large number of peddlers, peer pressure (friends) and media (Muchiri, 2005; Kiambuthi,2005). According to NACADA (2004), media gives confusion and contradictory information to youth which tend to associate drug use with success. Therefore, given these predisposing factors, an individual child may be initiated to drug abuse despite the place of residence.

2.6 Family Environmental factors and drug and substance abuse.

2.6.1 Educational level of the parents, occupation, religious affiliation and drug abuse.

Family background is important in the life of a child as it provides the environment for learning process. Parents, according to Ndiragu (2001) are one's first teachers and counsellors long before the child joins formal school and peer groups. More so, the mother provides the basic skills which are quite significant as determinants of the child's behaviour.

According to Kiambuthi (2005), incidences of drug abuse are higher among students with mothers who have attained tertiary education (University 83.3%) than those with less education. However, some studies have shown that there is no clear cut correlation between drug abuse and level of education of parents among the boys (Orifa, 2004). But, according to Orifa, the correlation is seen among the girls. 14.8% of drug abusing girls are from homes in which neither of parents has attended college compared with 10.6% from homes where at least one parent has attended college. Therefore it could be concluded that educational level of the mother only influences drug abuse by the girls but not the boys.

As some of these findings seem to support the belief that majority of the drug abusers hail from illiterate parents, others have shown contradictory findings; that there is no association of drug abuse with the mother's level of education (Lo, 2009). Even though many findings have indicated that mothers who are well educated increase the risk behaviour (Kiambuthi, 2005; Naskar, 2004), Lo (2009) has shown that less education increases the risk behaviour, particularly for tobacco ($r=0.139$).

Studies have shown that social economic status is associated with drug use and abuse (Muchiri, 2005). Occupation affects social economic status. Naskar (2004) reports that occupation of parents is associated with drug abuse among children. Naskar notes that drug abusing children with fathers whose occupation is agriculture have the highest prevalence (71%) followed by business (62.7%). The least are from fathers in technical jobs (45.1%). Other studies have contradicted this: that there is no statistical association between parent's occupation and drug abuse (Gikonyo, 2005).

Several surveys have indicated that religious beliefs and attitudes are association with drug use and abuse. There are more drug addicts who are Christians those who are Muslims (Muchiri, 2005; Mitchell, 2003; Gikonyo, 2003). However, according to Kiambuthi (2005), more atheists abuse drugs than Muslims and Christians are the least abusers. The study shows the following rates: atheist (100%), Muslims (60%) while Christians (35.2%). But, Christians have different beliefs and habits in their subgroup. Majority of Kenyans belong to this group (NACADA, 2004).

2.6.2 Mother's marital status at birth, Parental supervision of school work, Leisure time and drug abuse

Several studies have indicated that marital status affects drug abuse. Single parentage, particularly unmarried mothers, increases the risk of drug abuse among children (Merete, 2005, Gikonyo, 2005). Gikonyo (2005) further reports that children from unmarried mothers form the highest number of drug abusers (75.6%) followed by widows (19.5%) and separated

parents (4.9%). Although many studies show that single parentage increases the risk of drug abuse by children, some have also indicated no relationship (Atrom *et al.*, 2003).

It is an obligation of the parents to supervise performance of their children in schools but this is not always the case as some parents leave supervision of academics in the hands of teachers once a child is admitted in school. Substance Abuse and Mental Health Service Administration Studies (SAMHSA) (1999) and Orifa (2004) have shown that supervision of academic progress lowers risk of drug abuse. According to SAMHSA (1999), lack of parental supervision of child's school progress increases risk for cigarette use. Never the less, others have shown that supervision of school academic progress increases risk of drug abuse (Muchiri, 2005). Therefore there is no clear cut association between drug abuse and parental supervision of academic progress.

Some researchers believe that youth are initiated into drugs during their leisure time. This may be during the holidays or during their free time (Ndegwa, 1998; INCB, 2003; NACADA, 2004; Otieno, 2005). The environment in which one spends leisure time majorly contributes in modification of behaviour (Merete *et al.*, 2005). However, environment for leisure is varied: home, school, friends or youth club (Muchiri, 2005; NACADA, 2007).

2.6.3 Parental communication norm, parental academic expectation and drug abuse

Studies have indicated that youth are initiated to drug abuse due to lack of knowledge about harmful consequences to health (INCB, 2003; Otieno, 2005). NACADA (2007) reports that friends (peers), availability of drugs in the nearby environment (compound or the

surrounding community) and presence of users in the home are closely associated with the likelihood of having ever consumed alcohol among children age 10 – 14 years. More so, when a parent abuses drugs, then a child will be more at risk because of the positive attitude held by the parent. Consequently, the child imitates and gets initiated into drug use (Gikonyo, 2005; NACADA, 2007).

According to NACADA (2004), communication gap between parent and the child increases risk of drug abuse. However, SAMHSA (1999) reveals that parental communication of norms is a protective factor for alcohol use but not for marijuana use.

Drugs produce many effects in users including distortion of memory, perception and sense (US Department of Education, 1986). It has also been associated with a variety of negative consequences including increased risk of serious drug use later on in life, school failure and absenteeism as well as drop out (Bosire, 2000; Orifa, 2004).

Perhaps, parent's expectation generally depends on the performance of the child. For students who perform well in school, their parents have high hopes and parents may even express their feelings verbally or non-verbally about their expectations. The expectations when expressed may have impact on psychological state of the child which may also turn out to have negative effects such as social or psychological problem which may lead to drug abuse by the child (Muchiri, 2005). Otieno (2005) indicates that students who perform poorly in academic work tend to be at high risk to abuse drug.

NACADA (2007) reports that the following parental factors may contribute to drug abuse risks: level of parental supervision, parents who are abusers being imitated and expression of positive attitude to drug abuse by the parents.

2.6.4 Diagnosed drug related disease and drug abuse

A study published in British Medical journals (2003) stated that in households, when both parents smoke, young children have a 72% increased risk of respiratory illness. This also makes their young children to learn from what they see by imitating what their parents and others in community do. In fact, other studies have also reported that majority of those who abuse drugs especially cigarette and alcohol come from homes where parents were themselves taking the same drugs (Thurunju, 2002; Muchiri, 2005).

Negative effects on health of those who abuse drugs include liver cirrhosis and psychosis (Astrom, 2000; Kibui; 2008). Other diseases that can develop among the users of marijuana are sinusitis, pharyngitis, bronchitis and emphysema within a year of beginning use (INCB, 2003). NACADA (2004) reveals that marijuana can cause memory lapse and lead to decreased physical endurance. Perhaps, drug related diagnosed health problems could have impact on members of the family in relation to the use of that drug negatively or positively. In fact, it has been reported that cases of diagnosed drug related problems affect drug abuse (Merete *et al*, 2008) but this has not been established.

2.7 School environmental characteristics and drug abuse.

2.7.1 Distance of the nearest wine and spirit shop, School satisfaction, Academic achievement, Repetition of a class and drug abuse.

Several studies have reported that availability and accessibility of drugs contribute to the abuse of drugs (Otieno, 2005; Kiambuthi, 2005; Gikonyo, 2005). According to NACADA (2004), the main explanation why people are tempted to use illegal drugs is the ready availability of drugs. According to Otieno (2005), availability of drug peddlers cheaply selling Miraa, tobacco, alcohol and marijuana locally in shops encourage students to engage in drug abuse. Kiambuthi (2005) reports it to be more serious in a school situation where the public or day scholars easily walk into school and sell their commodities, drugs included. Some studies have reported mushrooming of wine and spirit shops and dubious kiosks that make drugs easily available to the youth (Kiambuthi, 2005; NACADA, 2004).

In Kenya, some of the most commonly cited effects of drug abuse in school are poor health, exam failure; drop out from schools, truancy and violence (Ndegwa, 1998; NACADA, 2003; Orifa, 2004). Considerably, these effects would lead to poor performance at the end of secondary course (Orifa, 2004).

The reasons for drug abuse among students cited by Kenya Secondary School Heads Association (2009) and Okanga (2009) include ignorance of harmful effects of drug abuse, lack of parental guidance, imitation of heroes or role models and failure in schools. However, Merete (2005) and Harwood (2000) reports that failure in school increases the risk of drug abuse. It is important to note that satisfaction with school reduces the risk of drug

abuse (Merete *et al.*, 2005). Though, some views puts it that satisfaction and good performance reduces the risk to drug abuse.

Repeating a class has been viewed differently by people. Schools have used it as a means of promotion to performance. The minister of education science and technology when releasing Kenya Certificate of Secondary Education result (2011) referred to repetition of student to perform better as an “Orthodox” method used by schools to achieve good performance. Effects of repetition of a class on a student may include suicide, drop out, truancy and lower self esteem of the student (Otieno, 2010).

SAMHSA (1999), reports a study done in USA with findings that repeating a class in school increases youth’s risk of cigarette use in grade 7 – 8 but not in grade 9 – 12. However, some studies have shown that drug abuse leads to poor performance in academics which may then result in repetition of a class or grade (Kiambuthi, 2005). Other findings have also shown that by nature, youth are risk-takers and are adventurers. Therefore, they easily fall prey to the wrong notion that drugs are answers to feeling of depression and hopelessness (Tabifor, 2004). These views are conflicting and therefore, there is urgent need to investigate if there is association between repeating a class and drug abuse.

2.7.2 School drug policy and drug abuse

Approaches and strategies used in control of drug abuse in schools vary from one school to another. In many schools, the most common methods include drug preventive programmes such as creation of awareness of drug abuse dangers through guest speakers, general

guidance and counselling sessions, integration of the topic in some relevant subject, use of songs, drama, poems, debate and speeches (NACADA, 2003; Orifa,2004). Other schools prefer the use of verbal warnings, corporal punishment, parental involvement and suspensions to discourage drug abuse (Orifa, 2004; NACADA; 2007). However, some are futile and less effective.

Of late, there is increased use of approaches such as guidance and counselling, talk on drugs, use of photos, posters, and play as prevention strategies (Orifa, 2004; NACADA, 2007). Most students have shown that guidance and counselling is their preferred choice as a measure to be used in schools, though research has shown that it is less effective (Kiambuthi, 2005). In fact, studies have revealed that despite harsh methods used, if there is no clear policy used, incidences of drug abuse will continue to increase in schools (Ndetei et al., 2009).

The literature reviewed above reveals that few studies have been done on drug and substance abuse in Kenya. This confirms the real situation that exists regarding limited documentations on drug abuse in Kenya. Very few studies have been done on secondary school going students. The few studies which have investigated environmental and demographic factors associated with drug and substance abuse have contradicting results and can not be relied on. Therefore this study is justified. The outcome of this study would be important in guiding policy and developing prevention strategy in the control of drug abuse in secondary schools among the school going students and other youth in Kenya. The study bridges the

information gap that existed regarding the environmental and demographic factors associated with abuse of drugs and other substance among secondary school students in Kenya.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter deals with procedures for collecting and analyzing data for this study. It begins with a detailed description of the study area and then proceeds to research design of the study. Variables used are identified and described (independent and dependent variables). It then proceeds to describe the inclusion and exclusion criteria and the study population. Sample size determination, sampling procedure and research instruments are then given. Finally, management of data from the study and considerations on ethical issues associated with the study are stated.

3.1 Area of the study

The study was conducted in Kisumu Town East which is metropolitan and cosmopolitan city. It is a port city and a centre of Western Kenya region. It is at 1,131 metres (3,710 ft) above the sea level with a population of 355,024 (KBS, 2009 census). The sex ratio is 1:1 and it is the third largest city in Kenya. Kisumu town is the headquarters of Nyanza province as well as Kisumu East district. Kisumu East has 33 registered public schools secondary schools (Kisumu District Education Officer (DEO)'s office, 2010). There are four girls' schools, four boys' schools and twenty five mixed schools.

The 33 schools were considered for selecting sampled schools for the study. Eight schools were selected for this study in the ratio of 1:1:6 (boys, girls and mixed schools) from their clusters according to sex.

3.2 Research design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It is the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and analysis of data. A good design is often characterized by adjectives like flexible, appropriate, efficient, economical, and so on. Generally, a research design, which minimizes bias and maximizes the reliability of the data collected and analyzed, is considered a good design (Kothari, 2004).

This study adopted descriptive research design which determines and reports the way things are. It also attempts to describe the outcome as a result of reaction in form of behaviour. The design was descriptive-cross sectional survey (Mugenda and Mugenda, 1999). This research design was chosen because of its flexibility in the field. It allowed questionnaires to be issued and collected there and then by the researcher. According to Mugenda and Mugenda (1999) survey research is probably the best method available to social scientists and other educators who are interested in collecting original data for the purpose of describing a population, which is too large to be observed directly. The design saves time and money.

The design was favourable to the researcher because the researcher issued questionnaires to the students to be filled by the students in his presence but in the absence of their teachers which the researcher believed could have enhanced confidence of the respondents. This design successfully enabled the researcher to achieve the goal as it was chosen mainly to enable the researcher to collect and analyze data within a short period of time.

3.3 Study Variables

3.3.1 Independent variables

The independent variables used for this study were family environmental characteristics which include supervision of school work, diagnosed health problems related to drugs, parental school expectation and parental communication of norms against drugs. Also included are mother's marital status at birth, father's occupation, school leisure time and religious affiliations. Others are school environmental characteristics: distance to nearest wines and spirits shop, inspection of drugs, posters in school on drug abuse, school achievement, repetition of a class and demographic characteristics; gender, age, number of sibling and location.

3.3.2 Dependent variable

The dependent variable was drug and substance abuse (alcohol, tobacco, bhang, khat, cocaine, and heroin)

3.4 Study population

The target population for the study was secondary school students within Kisumu Town East, Kenya.

3.5 Inclusion criteria

The study included all public schools in Kisumu Town East, Kenya in forms one to form four. The students must have been in the schools' registers for not less than ninety days (one term) for them to be eligible. Only those who consented participated in the study.

3.6 Exclusion criteria

The study excluded pre-primary schools, primary school and learners in tertiary institutions in Kisumu Town East. The study also excluded secondary school students who were studying in schools outside Kisumu as well as those students who had been in the school for a period less than 90 days (less than one term). The study also excluded those students who did not consent to participate.

3.7 Sample Size Determination

The sample was determined using the formula provided by Fishers *et al.*, (1998) for determining sample size from a population greater than 10,000.

$$n = \frac{z^2 pq}{d^2}$$

Where:

n = the desired sample size (if the target population is greater than 10,000)

z = the standard normal deviation at the required confidence level

p = the proportion in the target population estimated to abuse drugs

q = 1 – p (The proportion of the population without the characteristic)

d = the level of statistical significance set at 0.05.

p = 27 % (prevalence rate of alcohol abuse for Nyanza, NACADA, 2007)

$$n = (1.96^2 \times 0.27 \times 0.73) / (0.05)^2$$

$$n = 303$$

In this study however, 329 respondents were used so as to cater for cases which could be lost due to natural attritions, lost questionnaires or those not filled due to unknown reasons.

3.8 Sampling procedure

Studies have shown that prevalence of drug and substance abuse in urban places is high due to the existence of many predisposing factors (NACADA, 2007). This made the researcher to choose Kisumu Town East Kenya as the study area. Secondary school students were considered for the study as it is the group purported to be mostly affected by drug abuse (Nevadomsky et al., 1981).

In the study different sampling techniques were used to sample school and the students. The researcher considered it as part of statistical practice concerning the selection of a subset of individuals from a large population to be studied. This is used for making prediction based on statistical inference (Ader et al., 2008).

The sampling method is suitable when the cost is too high, and the population is dynamic in that the individuals making up the population may change over time. Therefore, the researcher picked on it because of the following reasons. First, the cost is lower, data collection is faster and the data is smaller. It is possible to ensure homogeneity and to improve the accuracy and quality of data.

Schools were categorized into three sub-groups (strata) according to sex (Boys, Girls and mixed schools). Stratified sampling was used to select schools in the ratio 1:1:6 (boys schools, girls school and mixed schools) respectively. Kisumu Town East had four boys' schools, four girls' schools and twenty five mixed schools. A total of 8 schools were sampled

for the study. Stratified sampling was used because population embraced a number of distinct categories.

Systematic random sampling was used to select students from the selected schools according to each schools share of students (PPS). However, for schools with more than two streams only two streams were selected using simple random sampling to avoid bias. Pieces of paper were labelled using 'yes' or 'no' and those who picked "yes" participated. The researcher had to explain this before picking of the papers. This exercise was done immediately after classes during games time.

Registers were used to select students. The number of respondents to be interviewed was determined prior to the date of the interview depending on population size of the selected classes. Selection of girls and boys in mixed schools was proportional to the sex ratio. The participants filled their questionnaires in classrooms under researcher or research assistant's supervision. The questionnaire was then collected using an envelope at the end of the exercise. A total of three hundred and twenty nine students were used in this study.

3.9 Construction of research materials

In order to determine the environmental and demographic factors linked to drug and substance abuse, a standardised questionnaire was designed. The questionnaire was used to collect information related to environmental characteristics both at the family sub region and school sub region. They included mother's marital status at the time of the respondent's birth, educational level of the respondent's mother, distance to wine and spirit shop, school

satisfaction and achievement and place for leisure-time. Finally, it also explores some demographic characteristics which may be related to drug abuse such as age, gender and number of siblings. The questionnaire had both open-ended and close-ended questions for response. The respondents provided self-reporting information on their observations.

3.10 Pilot study

Pre-testing of the data collection instruments was done before the actual field research was carried out, to determine the validity and reliability of the research instruments. This was through a pilot study. The research instruments were pre-tested to a selected sample which was similar to the actual sample used in the study. Pre-testing was conducted in sampled schools in Kisii town, one school per cluster to take care of heterogeneity which exists in different clusters. As Mugenda and Mugenda (1999) caution, subjects in the actual samples were not be used in the pre-test. This pilot study enabled the researcher to modify and fine tune the research instruments.

3.11 Validity

The researcher sent the research instrument to supervisors for appraisal at the Kenyatta University. The supervisors appraised and ascertained that it could elicit adequate information to achieve the objectives and to test the hypothesis of the study. The respondents filled the questionnaire in the presence researcher or the research assistant.

3.12 Reliability

The level of precision in this study was assured through the type of questions. Respondents filled their questionnaire in a secluded room, sat wide apart from one another and there was no talking during the process. They were assured confidentiality, no victimization and only those who were willing participated. The condition was suitable and could illicit correct information for the study by self-reporting.

3.13 Data collection techniques

The researcher applied for a permit from the Ministry of Education, Science and Technology. After obtaining the permit, the researcher approached the District Education Officer and Medical Superintendent Officer for an introductory letter to the schools where the research was to be carried out. The researcher visited the schools that had been selected for introduction, consent and booked the date and time for the data collection. The researcher visited the schools on agreed dates and time. The researcher was granted permission in all the schools which had been selected for the study and the teachers-in-charge of guidance and counselling were given the responsibility to assist the researcher during that period. Teachers in charge of guidance and counselling collected class registers from class teachers of the streams selected for the study. The researcher assured the respondents of the confidentiality of any information that they would give. The respondents filled the questionnaire in a class set for the process. The researcher supervised the process and collected the questionnaire in a packet at the end of the exercise.

3.14 Data analysis

The collected data were analyzed using Statistical Package for Social Sciences (SPSS). Chi-square test was used to determine relationship between the variables and ($p < 0.05$) was considered statistically different. Cross-tabulation was used to show interrelationship between the dependent and independent variables and odds ratio to estimate the strength of the risks in 2x2 contingency tables. The data was presented descriptively and through the use of frequency tables and bar charts.

3.15 Logistical and ethical considerations

The researcher sought permission for carrying out the study from the Graduate School of Kenyatta University and the Ministry of Higher Education and Technology and Principals of the representative school. The researcher had the first obligation to the subjects by getting their informed consent consistent with the principle of individual autonomy. The information given by the subjects was treated with a lot of privacy and confidentiality. The result is owned by the Kenyatta University and can be accessed at the university.

CHAPTER IV: STUDY FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter deals with the presentation, interpretations and explanations of the study findings. The study findings are discussed in relation to previous studies. The specific objectives of the study were to investigate family environmental, school environmental and demographic factors influencing drug and substance abuse among secondary school students in Kisumu Town East, Kenya. In this study a total of three hundred and twenty nine questionnaires were given out and three hundred and fifteen were received back fully filled. This was a response rate of 97%.

4.1 Drug and substance abuse among the study population

Results from figure 4.1 show that about 42% of the respondents interviewed had taken drugs for non-medical purposes while about 58% of the respondents had never abused drugs. This finding indicated that secondary-school going students were involved in drug and substance abuse.

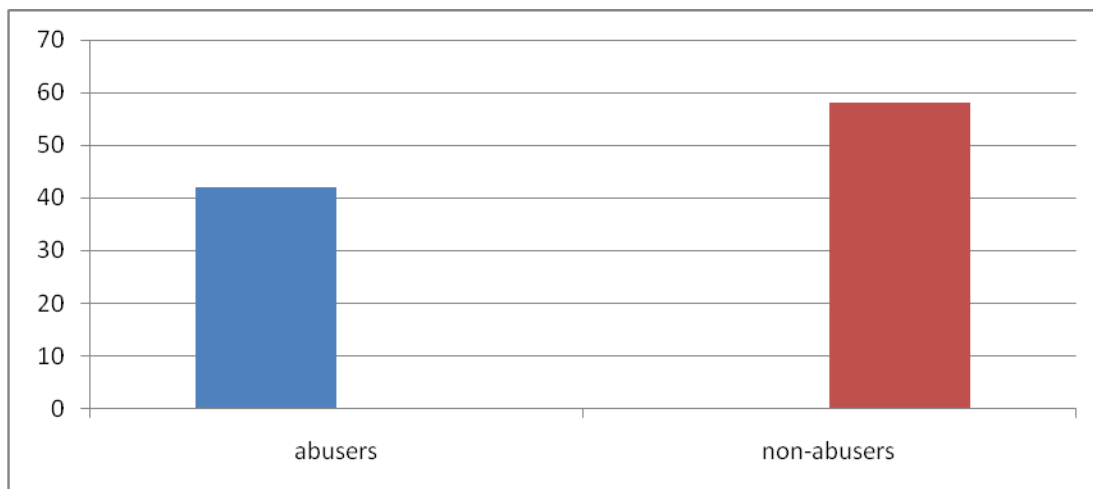


Figure 4.1 Drug and substance abuse among the study population

Results in figure 4.2 show that alcohol (54%) was the drug most abused by most of the respondents followed by marijuana/bhang (21%), khat/miraa (17%) and tobacco (7%). Other hard drugs like cocaine, heroin and mandrax had the lowest percentages.

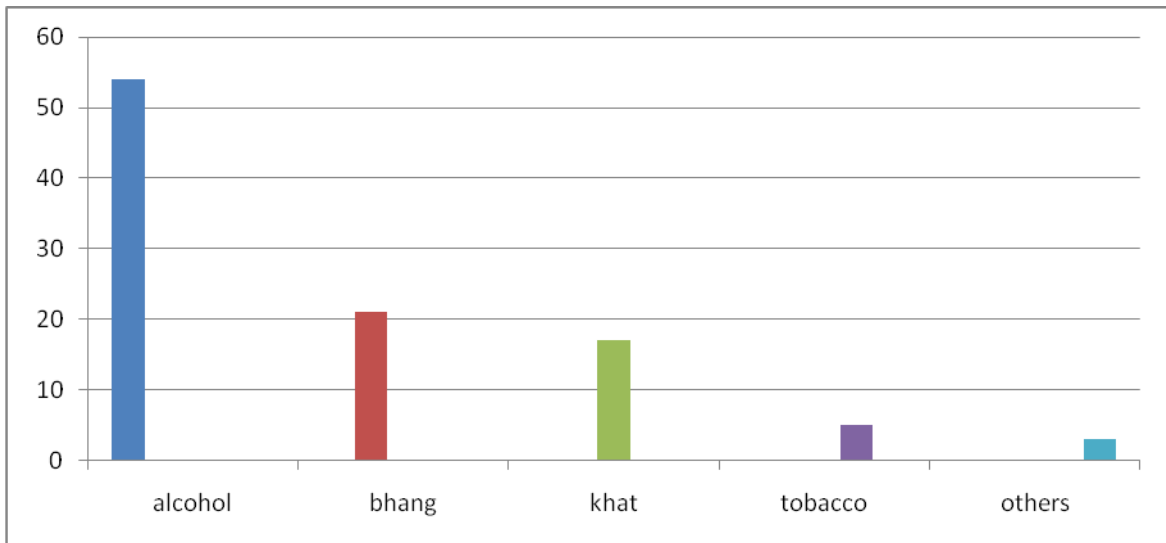


Figure 4.2 Drug commonly abused among the study population

4.2 Demographic factors and drug and substance abuse among the study population

4.2.1 Gender and drug abuse

Table 4.1 Gender versus drug and substance abuse

Gender	Drug abusers	Non-drug abusers	Odds ratio 95% confidence level		
			Value	Lower limit	Upper limit
Males	74(49%)	76(51%)	1.90	1.20	2.99
Female	56(34%)	109(66%)			
Total	130(41%)	185(59%)			

Table 4.1 shows the results of the link between gender of the secondary school going teenagers and drugs abuse. The results indicate that males were 1.90 times more likely to abuse drugs as opposed to the female. This implies that male students in secondary schools show significant higher risk to substance abuse than the females.

4.2.2 Age and drug abuse

Table 4.2 Age versus drug and substance abuse

Age	Drug abusers	Non-drug abusers	χ^2 statistic
13-15 years	15(21%)	55(79%)	$\chi^2 = 3.309$ $df=2$ $p>0.05$
16-18 years	104(46%)	123(54%)	
>19 years	3(17%)	15(83%)	
Total	122(39%)	193(61%)	

The study sought to find out the link between age of the learners in secondary schools in their teenage and drug abuse. The findings are presented in table 4.2. The results indicate that the largest proportion (46%) of the respondents in the age category of 16-18 years were drug and substance abusers. 21% of the students interviewed in the age bracket of 13-15 years had abused drugs while 17% of the students in the category of 19 years old and above had abused drugs. This reveals a reduction in drug abuse risks with increase in age. The proportions ($\chi^2 = 3.309$; $df = 2$; $p>0.05$) indicate that there is no significant statistical difference between drug abuse and age. This implies that there is no relationship between age and drug abuse.

4.2.3 Number of siblings and drug abuse

Table 4.3 Number of siblings versus drug and substance abuse

No. of siblings	Drug abusers	Non-drug abusers	χ^2 statistic
1-4 siblings	67(38%)	109(62%)	$\chi^2 = 111.152$ $df = 2$ $p < 0.05$
5-8 siblings	49(44%)	64(56%)	
>9 siblings	14(54%)	12(46%)	
Total	130(41%)	185(59%)	

The researcher sought to find out the link between the number of siblings in a family with a learner in secondary school and chances of a student indulging in drug and substance abuse. The findings are presented in table 4.3. The results show that those respondents who had few siblings (38%) were at lower risk of drug and substance abuse. At high risk (54%) were those who had more than 9 siblings. The results indicate that a significantly larger proportion of respondents with more than 9 siblings had abused drugs compared to their counterparts who had fewer siblings. The proportions ($\chi^2 = 111.152$; $df = 2$; $p < 0.05$) are statistically different. This implies that there is association between number of siblings and drug and substance abuse.

4.2.4 Area of residence and drug abuse

Table 4.4 Area of residence versus drug and substance abuse

Area of residence	Drug abusers	Non-drug abusers	χ^2 statistic
High socio-economic areas	56(34%)	111(66%)	$\chi^2 = 69.445$ $df=2$ $p < 0.05$
Middle socio-economic areas	41(41%)	59(59%)	
Low socio-economic areas	33(67%)	15(33%)	
Total	130(41%)	185(59%)	

In this study the researcher sought to investigate the link between the areas of residence where the teenagers in secondary school live and drug abuse among them. The findings of this are presented in table 4.4. The results show that those respondents who were living in high socio-economic areas (34%) were at lower risk of drug and substance abuse. At higher risk (67%) were those students from low socio-economic areas; almost two times those from high socio-economic areas. The proportions are statistically different ($\chi^2 = 69.445$; $df = 2$; $p < 0.05$). This indicates that there is a significant relationship between area of residence and drug and substance abuse.

4.3 Family environmental factors and drug and substance abuse among the study population

4.3.1 Mother's educational level and drug abuse

Table 4.5 Mother's educational level versus drug and substance abuse

Mother's educational level	Drug abusers	Non-drug abusers	χ^2 statistic
None	6(55%)	5(45%)	$\chi^2 = 153.492$ $df = 3$ $p < 0.05$
Primary	24(51%)	23(49%)	
Secondary	51(50%)	52(50%)	
Tertiary	49(32%)	105(68%)	
Total	130(41%)	185(59%)	

The researcher sought to find out the link between mother's educational level and drug abuse among their teenage children in secondary schools. The findings are presented in table 4.5. The results show that those respondents whose mothers had received no formal education (55%) were at a higher risk of drug and substance abuse as compared to those respondents whose parents had received tertiary education (42%). The proportions are statistically different ($\chi^2 = 153.492$; $df = 3$; $p < 0.05$). This shows that there is a significant relationship between mother's educational level and drug and substance abuse.

4.3.2 Religious affiliation and drug and substance abuse

Table 4.6 Religious affiliation versus drug and substance abuse

Religious affiliation	Drug abusers	Non-drug abusers	χ^2 statistic
Protestants	58(47%)	65(53%)	$\chi^2 = 2.520$ $df = 3$ $p > 0.05$
Catholics	61(39%)	96(61%)	
Muslims	10(53%)	9(47%)	
None	8(50%)	8(50%)	
Total	137(43%)	178(57%)	

In the study, the researcher was interested in finding out the link between religious affiliation of the teenagers attending secondary schools and the risk behaviour of drug abuse. The findings are presented in table 4.6. The results show that 47% of the drug abusers were Protestants, 39% were Catholics, 53% were Muslims and 50% had no religion affiliation. The proportions are statistically not different ($\chi^2 = 2.520$; $df = 3$; $p > 0.05$). This implies that religious affiliation had no association with drug and substance abuse.

4.3.3 Father's occupation and drug abuse

Table 4.7 Father's occupation versus drug and substance abuse

Father's occupation	Drug abusers	Non-drug abusers	χ^2 statistic
Professional	58(40%)	87(60%)	$\chi^2 = 4.18$ $df=3$ $p>0.05$
Technical	21(36%)	38(64%)	
Farmers	31(55%)	25(45%)	
Others	32(37%)	55(63%)	
Total	110(35%)	205(65%)	

The study sought to investigate the link between father's occupation and drug abuse among their teenage children in secondary school. The findings of this are presented in table 4.7. The results show that those respondents whose fathers were farmers (55%) were at higher risk of drug and substance abuse. Those whose fathers were professionals (40%) were at lower risk of abusing drugs. The proportions ($\chi^2 = 4.18$; $df = 3$; $p > 0.05$) are not statistically different. This implies that there is no relationship between father's occupation and drug and substance abuse among their children in secondary school.

4.3.4 Mother's Marital Status

Table 4.8 Mother's Marital Status versus drug and substance abuse

Mother's Marital Status	Drug abusers	Non-drug abusers	χ^2 statistic
Married	109(40%)	164(60%)	$\chi^2 = 428.274$ $df=2$ $p<0.05$
Unmarried	14(64%)	8(36%)	
Unknown	7(35%)	13(65%)	
Total	130(41%)	185(59%)	

In this study, the researcher sought to investigate whether there is a link between mother's marital status at the time of birth of their secondary school going teenage children and the possibility of indulgence in drug abuse among these learners. The findings are presented in table 4.8. The results reveal that there is an association between mother's marital status at the time of birth of the child and drug abuse. More children (64%) whose mothers were unmarried at the time of their birth had abused drugs than their counterparts whose mothers were married (40%) at the time of their birth. The proportions ($\chi^2 = 428.274$; $df = 2$; $p < 0.05$) are statistically different. This finding shows that there is a relationship between mother's marital status and drug and substance abuse by their children.

4.3.5 Supervision of school work and drug abuse

Table 4.9 Supervision of school work versus drug and substance abuse

Supervision of school work	Drug abusers	Non-drug abusers	χ^2 statistic
Never	27(57%)	22(43%)	$\chi^2 = 1.060$ $df=2$ $p>0.05$
Rarely	33(45%)	40(55%)	
Often	70(37%)	119(63%)	
Total	130(41%)	185(59%)	

This study sought to investigate whether there is a link between supervision of school work by the parents of the learners in secondary schools and their chances of indulgence in drug abuse. The findings are presented in table 4.9. The results reveal that those children whose parents monitored their school work more often (37%) were at lower risk of abusing drugs as compared to their counterparts whose parents did not monitor (57%) their. The proportions ($\chi^2 = 1.060$; $df=2$; $p>0.05$) are not statistically different. This implies that there is no relationship between supervision of school work and drug and substance abuse.

4.3.6 Expectations from parents and drug abuse

Table 4.10 Expectations from parents versus drug and substance abuse

Expectations	Drug abusers	Non-drug abusers	Odds ratio 95% conf. Level		
			Value	L. Limit	U. Limit
University education	124(40%)	184 (60%)	0.30	0.12	0.97
Others	6(43 %%)	8(57%)			
Total	127(40%)	188(60%)			

The researcher also sought to link parental expectations of education after secondary education for their children and the possibility of the teenagers indulging in drug abuse. The results indicate that a high parental expectation lowers the risks of drug abuse among these learners by 70% (table 4.10). This implies that parental expectation of education after secondary education for their children in secondary school significantly reduces substance abuse among these students.

4.3.7 Communication against drug abuse and drug abuse

Table 4.11 Communication against drug abuse versus drug and substance abuse

Communication against drug abuse	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	98(40%)	148(60%)	0.77	0.45	1.33
No	32(46%)	37(54%)			
Total	130(41%)	185(59%)			

The researcher in this study was interested in establishing the link between parental communications of the norms of drug abuse to their secondary school going teenage children. The results indicate that parental communication lowers the risk of drug abuse among these teenagers by 23% (Table 4.11). This implies that when parents talk to children in secondary school about drugs, there is a reduction in substance abuse among these students. Nevertheless, there was no significant relationship between parental communications and drug abuse. In fact, there is indication that it reduces drug abuse but in some instances promotes it.

4.3.8 Family health and drug abuse

Table 4.12 Family health versus drug and substance abuse

Family health	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	40(60%)	27(40%)	2.70	1.55	4.72
No	90(36%)	158(64%)			
Total	130(41%)	185(59%)			

Table 4.12 shows family health with regards to drug related problems diagnosed in hospital among members of a family and the possibility of a secondary school student from such a families indulging in drug abuse. The results indicate that members of families with diagnosed cases are 2.70 times more likely to abuse drugs as opposed to those with no cases of drug related problems. This implies that in a family with diagnosed cases of drug related problems, a secondary school student from such a family in shows significantly higher chances of substance abuse among.

4.3.9 Leisure time and drug abuse

Table 4.13 Leisure time versus drug and substance abuse

Leisure time	Drug abusers	Non-drug abusers	χ^2 statistic
Youth club	35(53%)	31(47%)	$\chi^2 = 47.292$ $df = 4$ $p < 0.05$
Home friends	22(34%)	36(66%)	
Home family	29(32%)	53(69%)	
Meet friends	37(42%)	50(58%)	
At school	6(27%)	16(73%)	

Investigation in this study was done to find out if there is a link between group with whom the teenagers in secondary school spend their leisure time when they are out of school and their indulgence in drug abuse. The findings are presented in table 4.13. From the table, those at higher risk of drug abuse were students who visited youth clubs during their free time (53%). On the other hand, those who passed their free time in school (27%) were at a lower risk of abusing drugs and substances. The proportions ($\chi^2 = 47.292$; $df = 4$; $p < 0.05$) are statistically different. This shows that there is relationship between a group with whom the learners in secondary school spend their leisure and drug abuse.

4.4 Family environmental factors influencing drug and substance abuse as reported by respondents

The respondents were asked which family environmental factors they thought influenced drug and substance abuse. Results in table 4.13 indicate that a larger proportion (27%) of the respondents cited parents abusing drugs as the major factor influencing drug and substance abuse at home. Older siblings who were already engaged in drugs also influenced younger siblings (14%).

Table 4.14 Family environmental factors influencing drug and substance abuse as reported by respondents

Factors	Frequency (%)
Parents abusing drugs	27
Older siblings influence	14
Lack parental love	12
Mistreatment	11
Stress	10
Family feuds	10
Lack role models	9
Myths and media influence	8
Curiosity	7

4.5 School environmental factors and drug and substance abuse among the study population

4. 5.1 Distance to the nearest wines and spirit shop

Table 4.15 Distance to the nearest wines and spirit shop versus drug and substance abuse

Distance wines shop	Drug abusers	Non-drug abusers	Odds ratio 95% conf. Level		
			Value	L. limit	U. limit
Less than 200 m	105 (43%)	142 (57%)	2.22	1.09	3.92
More than 200 m	20 (30%)	47 (70%)			
Total	125 (40%)	190 (60%)			

Table 4.15 shows the results of the investigation of the link between distance to the nearest wines and spirit shop from secondary schools and the possible indulgence of the teenage learners in drug abuse. The results indicate that with a distance of less than 200m to the nearest wines and spirit shop, secondary school going students are 2.22 times more likely to abuse drugs as opposed to a distance more than 200m. This implies that location of wines and spirit shops within the radius of less than 200m significantly increases chances of secondary school learners engaging in substance abuse.

4.5.2 School policy on drug and substance abuse

Table 4.16 Existence of School policy on drug and substance abuse versus drug and substance abuse

School policy	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	62(36%)	108(64%)	1.48	0.669	3.28
No	61(42%)	84(58%)			
Total	123(40%)	192(60%)			

This study sought to compare schools with enforced drug policy to schools without a clear drug policy with regard to students indulging in drug abuse. The results indicate that schools with drug policy promote the risk of drug abuse among the learners by 1.48 as opposed to those with no clear policy (Table 4.16). Nonetheless, it also reveals that drug policy in secondary schools reduces the risk among the teenagers. This implies that there is no significant relationship between school drug policy and drug and substance abuse among students.

4.5.3 Invitation of guest speakers on drug and substance abuse in school

Table 4.17 Invitation of guest speakers on drug and substance abuse in school versus drug and substance abuse

Guest speakers	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	102(39%)	158(61%)	0.62	0.25	0.97
No	28(51%)	27(49%)			
Total	130(41%)	185(59%)			

Table 4.17 shows the results of the investigation of the link between guest speakers on drug abuse in secondary schools and the chances of the students engaging in drugs. The results indicate that having guest speakers in schools lowers the risk of drug abuse among the learners by 38%. Indeed, the implication is that when guest speakers are invited to school to speak on drug abuse, there is significant reduction in drug and substance abuse among these students.

4.5.4 Availability of Posters in school and drug abuse

Table 4.18 Availability of Posters in school versus drug and substance abuse

Posters	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	93(40%)	138(60%)	0.86	0.52	1.43
No	36(43%)	48(57%)			
Total	129(41%)	186(59%)			

The researcher sought to assess whether there is a link between posters in secondary schools showing dangers of drug abuse and the chances of the students indulging in drug abuse. The results indicate that use of posters lowers the risk of drug abuse among the learners by 14% (Table 4.18). Nevertheless, it also increases risk of drug abuse by 43% as shown in the table above. Therefore, there is no significant relationship between posters in school and drug and substance abuse among secondary school students.

4.5.5 Types of punishment

Table 4.19 Types of punishment versus drug and substance abuse

Punishment	Drug abusers	Non-drug abusers	χ^2 statistic
Counselled	94(47%)	107(53%)	$\chi^2 = 538.526$ $df=3$ $p<0.05$
Canning	11(42%)	15(58%)	
Ignore/others	8(40%)	12(60%)	
Suspension	20(25%)	59(75%)	
Total	133(41%)	193(59%)	

In this study the researcher sought to assess whether there is a link between types of punishment given to students involved in drug abuse and their chances of indulgence in drug and substance abuse. The findings are presented in table 4.19. From the results, suspension was the best punishment that helped reduce drug abuse in schools since only a small percentage (25%) engaged in drug abuse. However, canning seemed to be the most ineffective method as drug abuse cases were high (52%) in schools where that method was employed. The proportions ($\chi^2=538.526$; $df=3$; $p<0.05$) are statistically different. This shows that there is a relationship between punishment given and drug and substance abuse.

4.5.6 School's academic performance and drug abuse

Table 4.20 School's academic performance versus drug and substance abuse

School performance	Drug abusers	Non-drug abusers	χ^2 statistic
Good	37(29%)	89(71%)	$\chi^2 = 144.261$ $df = 2$ $p < 0.05$
Average	83(47%)	94(53%)	
Below average	10(45%)	12(45%)	
Total	130(41%)	185(59%)	

The researcher in this study sought to find out whether there is link between school academic performance and indulgence in drug abuse among learners in that school. The findings are presented in table 4.20. The results indicate that there were more drug abusers (83%) in school which performed below average. In schools which performed well, very few cases of drug abuse (29%) were reported. This shows that school performance significantly influences drug and substance abuse. The proportions ($\chi^2 = 144.261$; $df = 2$; $p < 0.05$) are statistically different. This shows that there is relationship between school performance and drug and substance abuse.

4.5.7 Abuse of drugs by non student in school verses drug and substance abuse

Table 4.21 Non-students abusing drugs in school versus drug and substance abuse

Non-students	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	47(53%)	42(47%)	1.89	1.15	3.10
No	83(37%)	143(63%)			
Total	130(42%)	185(58%)			

Table 4.21 shows the results of the study that sought to link abuse of drugs by non-students in school compound in secondary schools to that of the learners. The results in this study indicate that abuse of drugs by non-students in the school compound increases the risk of drug abuse among the learners in secondary schools. Learners in school where non-students abused drugs in the compound were 1.89 times more likely to abuse drugs than students in schools where none among the non-students abused drugs. This implies that when non-students abuse drugs in secondary school compounds, there is significant increase in substance abuse among these students.

4.5.8 Class repetition and drug abuse

Table 4.22 Class repetition versus drug and substance abuse

Class repetition	Drug abusers	Non-drug abusers	Odds ratio 95% conf. level		
			Value	L. limit	U. limit
Yes	49(50%)	49(50%)	1.67	1.03	2.7
No	81(38%)	135(62%)			
Total	129(41%)	186(59%)			

Indeed this study sought to investigate if there is a link between class repetition among the teenage learners in secondary schools and the habit of drug abuse. The results indicate that repeating a class by the learners in secondary schools increases the risk. The learners who repeated classes were 1.67 times more at risk of drug abuse than those who did not repeat any classes (table 4.22). This implies that when students are made to repeat a class in secondary school, there is significant increase in substance abuse among those students.

4.5.9 Satisfaction/ liking school versus drug and substance abuse

Table 4.23 Satisfaction to school

Satisfaction school	Drug abusers	Non-drug abusers	Odds ratio at 95% conf. level		
			Value	L. limit	U. limit
Yes	111(39%)	172(61%)	0.45	0.19	0.87
No	19(39%)	13(61%)			
Total	130(41%)	185(59%)			

The study investigated if there is any link between satisfaction with the secondary school the teenagers are attending and the habit of drug abuse. Table 4.23 shows the findings which indicate that satisfaction with the school lowers the risk of drug abuse among the learners by 55%. This implies that when a student is satisfied with the secondary school h/she is attending (likes the school), there is significant reduction in chances of engaging in substance abuse among such students.

4.6 School environmental factors influencing drug and substance abuse as reported by respondents

Respondents were asked which school environmental factors they thought influenced drug and substance abuse. Results in table 4.6 indicate that a larger proportion (68%) of the respondents cited peer pressure as the major cause of drug and substance in schools. Other factors which were cited by few respondents included teachers abusing drugs and teachers not being strict with students.

Table 4.24 School environmental factors influencing drug and substance abuse as reported by respondents

Factors	Percentage (%)
Peer pressure	68
Teachers abusing drugs	8
Not strict teachers	6
Bad performance	4
Drug dealers	4

4.7 Discussion of the findings

4.7.1 Demographic factors affecting drug and substance abuse

In this study, demographic factors found to be influencing drug and substance abuse were gender, number of siblings and area of residence as indicated in tables 4.1, 4.3 and 4.4 respectively but not age as indicated in table 4.2. The study has revealed that more males (49%) than females (34%) had abused drugs. This is in agreement with Kiambuthi (2005); Wambua (2004); Ruto (2000) and NACADA (2003). All these studies show that gender influences drug abuse and that there are higher incidences of drug abuse among males than females. This could be attributed to high tendency of being risk takers, being adventurous, curious and a culture of experimenting among the males (Kiambuthi, 2005).

There is no association between age and drug abuse. However, the findings of study reveal that the largest proportion of the respondents (68%) in the age category (16-18) years were drug and substance abusers. This is in agreement with a study by Kiambuthi (2005) which showed slightly higher incidences (39.8%) for students between 15-17 years than for those who were 18 years and above. The findings are not in agreement with others whose findings have shown that age is significant in influencing drug abuse (Otieno, 2010; Sutherland, 2008). As indicated in table 4.2 age is not an issue and does not influence drug abuse.

The number of siblings show close association with drug and substance abuse. This study shows that those respondents who had fewer siblings (38%) were at lower risk of drug abuse compared to those with larger number of siblings such as more than 9 siblings (54%). This is in agreement with a study by NACADA (2003) but not in agreement with Gikonyo (2005).

According to Gikonyo, there is no clear association between size of family and drug abuse. Never the less, the study shows that number of sibling is an issue as indicated in table 4.3. This result could be attributed to culture variant exposure among the youth. The larger the number the more varied exposition experiences shared among the siblings which could promote drug abuse as a habit due to curiosity and experimentation (Gikonyo, 2010).

Area of residence and drug and substance abuse show close association as indicated in table 4.3. It reveals that respondents from high socio-economic areas have a lower risk of drug abuse (34%) compared to areas of low socio-economic status (slums) with (67%). This is in agreement with Otieno (2005) who obtains 57.6% of abusers to be in low socio-economic areas (slums) and 42.4% of drug abusers in high socio-economic areas.

4.7.2 Family environmental factors affecting drug and substance abuse

The study found that mother's educational level is closely associated to drug abuse as is indicated table 4.5. It has reveals that students whose mother's had no formal education (55%) were at a higher risk compared to those whose mothers had attained tertiary education (42%). This is in agreement with Gikonyo (2005) which shows that the majority of drug abusers come from those families where a parent had completed secondary education. Kiambuthi (2005) also indicates that there are higher incidences of drug abuse among the mothers with tertiary education (83.3%) than those with less education. This could be attributed to changes in norms in the society and cultural practices. May be the culture changed together with accessibility to the drugs within the neighbourhood with regards to larger number of peddlers at the time the research was being carried out. These could have

magnified the menace due lack of sensitization in the families with low education. Mothers in the families with mothers who are educated sensitize their children about the harm that drugs inflict on the body (Ojo, 2008).

This study also found strong association between mother's marital status at the time of birth of a child and drug abuse as indicated in table 4.8. The findings reveal that more children (64%) whose mothers were unmarried at the time of their birth had abused drugs than their counterparts whose mothers were married (40%) at the time of birth. This is in agreement with Merete (2005) and Gikonyo (2005). Children born from mothers who are not married are at a higher risk of drug abuse (75.6%) followed by single parents (19.5%) and the least are those who are married. This is in agreement with Gikonyo (2005) but not in agreement with Nasker (2004).

The study found no relationship between religious affiliation and drug abuse as indicated in the table 4.6. This is in agreement with Gikonyo (2005) and Kiambuthi (2005) which show that there is no close relationship between religious affiliation and drug abuse. However, Muchiri (2005) is not in agreement with this result. This could be attributed to changed morals and beliefs among the followers of different religions.

A close association exists between family members previously diagnosed with drug abuse related problem and drug abuse among secondary school students as indicated in table 4.12. The study shows that more students (61%) whose had had a member of their family (either parent or sibling) diagnosed with drug abuse related disease were at a higher risk of abusing

drug as compared to their counterparts who had had none of their family members diagnosed with drug abuse related illness. This is in agreement with studies by Astrom (2000) and British Medical Journal (2003) but not in agreement with Kibui (2008). This association could be attributed to higher chances of a student imitating that member of their family which is in agreement with Muchiri (2005).

Parental supervision of school work regularly shows association though not significant as indicated in table 4.9. The study reveals that those students whose parents monitored their school work more often (37%) were at a lower risk as compared to their counterparts whose parents never monitored their school work (54%). Therefore, monitoring class works regularly makes a child to be more vulnerable to drug abuse. This is not in agreement with Orifa (2004).

Parental expectation on the child is associated with drug and substance abuse as indicated in table 4.10. The study reveals a significant relationship. Majority of parents with high expectation that their children should join university after form four lowered the risk of their children engaging in drugs by 70% as opposed to those parents who were expecting their children to join other forms of training. This is in agreement with Muchiri (2005) and NACADA (2007) which show that high school expectation lowers the risk to drug abuse. But it is not in agreement with Bosire (2000), which gives other reasons.

Leisure time and drug abuse has close association with drug abuse as indicated in table 4.13. The study shows that most students who passed their leisure in youth clubs were drug

abusers (53%) with fewer non – drug abusers (47%). However, students who had their leisure time in school had lower risks of drug abuse. This study is in agreement with study by NACADA (2004) which posits that where one spends leisure time affects drug abuse. This study is also in agreement with Merete (2005) which associates youth clubs with drug abuse.

4.7.3 School environmental factors affecting drug and substance abuse

This study has shown that distance to the nearest wine and spirit shop, school policy, guest speakers and availability of posters in schools show association with drug abuse as indicated in the tables. Others are class repetition academic achievement at school and a student's satisfaction with (liking of) the school.

This study reveals that there is close association between distance from wine and spirit shop and drug and substance drug abuse as indicated in table 4.15. Areas within 200m from the nearest shop had a slightly higher percentage of abusers (37%) as compared to those with shops beyond 200m (33%). This is in agreement with studies done by Kiambuthi (2005), Otieno (2005) and NACADA (2004) which show that availability and accessibility promotes the risk of drug abuse.

Strict school policy on drug abuse shows association with engagement in drug abuse as indicated in table 4.14. There were fewer drug abuse cases in schools with policies on drug abuse (33%) compared to cases where there was no clear policy on drug abuse (44%). This is in agreement with other studies which have shown that a school's clear policy on drug abuse reduces the risk of drug abuse as reported by NACADA, 2007; Ndetei, 2009 and Orifa, 2004.

However, this is not in agreement with Kiambuthi (2005) who reported that some policies used may be clear but not effective.

Invitation of guest speakers shows close association with drug and substance abuse as indicated in table 4.16. There were more drug abusers (51%) in schools where the school administrators did not invite guest speakers with fewer cases of drug abuse in those that invited guest speakers (39%).

School satisfaction and achievement shows close association with drug abuse as shown in table 4.23 and table 4.20 respectively. More drug abusers were present (61%) in school in which the students do not like (dissatisfied) while like comparatively low (39%). This shows that liking school reduces risk drug abuse. School academic performance this study has indicated that more drug abusers (83%) in schools which performed below average while those schools where schools academic performance is good there are few cases of drug abusers (29%). Therefore, satisfaction (liking) to school where a child learns and school's good academic performance lowers the risk to drug abuse.

Class repetition shows association with drug abuse as indicated in table 4.22. This study shows that more drug abusers (50%) were those who had repeated at least a class during education life while for those who had not repeated class, the proportion of drug abusers were lower (38%). This reveals that repeating a class increases risk to drug abuse.

Types of punishment shows a relationship with drug abuse cases as shown in table 4.19. More drug abusers (52%) are schools where the mode of punishment is canning/ ignoring

while fewer drug abusers (25%) are from schools where suspension is the mode of punishment given to those found guilty with cases involving drugs abuse.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter covers summary and recommendations of this study. It has also recommends areas for further research.

5.1 Summary of the findings

Demographic factors that were found to influence drug and substance abuse in the study were gender, number of siblings and area of residence. More males than females abused drugs. A significantly larger proportion of students from families that had more than nine siblings were at a higher risk of engaging in drug and substance abuse than those with fewer siblings. Respondents from low socio-economic areas also had a higher percentage of drug abusers. However, age was found not to significantly influence drug and substance abuse.

Family environmental factors that were found to influence drug and substance abuse were mother's educational level, mother's marital status at the time of the respondent's birth, father's occupation and class repetition. Others were communication against the norms of drug and substance abuse, where one spends his/her leisure time, members of the family who were already diagnosed with drug-abuse related diseases and satisfaction with (liking for) the school. Other factors such as parental supervision of school work, high expectations from parents and religious affiliation did not significantly influence drug abuse among the study population.

School environmental factors which influenced drug and substance abuse were non-students who were involved in drug abuse openly within the school compound, school's performance, and distance to the nearest wine and spirit shop and school policy against drug abuse. Invitation of guest speakers and punishment given to students caught in drug abuse also influenced chances of engaging in it, but not availability of posters.

5.2 Conclusion

New environmentally based effective strategies are needed. The strategies need a multi-ministerial approach which should include Ministry of Education, Ministry of Public Health and Sanitation, Ministry of Special Programmes, NACADA, NGOs and other church leaders. Effective and sustainable programmes should be initiated to promote a drug free environment for the youth. The programmes should be those that would help minimize characteristics that may promote abuse of drugs and enhance those characteristics that discourage drug abuse in schools and at family environmental level.

5.3 Recommendations

1. The Ministry of Gender, Children and Social Development in collaboration with Ministry of Education should initiate comprehensive programmes that may engage the youth outside school more particularly the male gender. Activities such as tree planting, sporting activities and voluntary programmes like cleaning the environment should be initiated and encouraged as well as general construction jobs which may minimise idleness.

2. The ministry of Special Programmes, NGOs, village elders and area resource persons ought to sensitize members of the community on their role to raise small sized families which they are able to provide for for better living standards.
3. The ministry of education should promote and fund programmes such as youth polytechnic in villages. This will lower the burden of illiteracy among the citizenry. These will also provide opportunities to pursue further education.
4. The ministry of Special Programs in collaboration with religious leaders should initiate programs that are inherent in promotion of morals and virtues in the community. This may lead to few cases of premarital sex as well as teenage pregnancies.
5. The ministry of Public Health and Sanitation and NACADA should initiate programmes for the school counsellors and administrators, to train them and sensitize them on the need to investigate family background of student in relation to drug abuse.
6. The government of Kenya through the Ministry of Internal Security in the Office of the President should be committed in the control of bars and wine and spirit shops within a radius of 300m as stipulated in Alcoholic Drink Control Law, 2010.
7. School administrators should be strict on school drug policy.
8. The Ministry of Education should introduce clear policies on drug abuse prevention to all learning institutions making them to have programmes such as having regular visits for guest speakers in schools. All schools ought to have strategic academic plan for the whole year and copies be submitted to the Ministry of Education, certified by

the district quality assurance officer at the district level, this may enhance good academic achievements.

9. Ministry of Education should have strict policy that student level of satisfaction be investigated on admission, reasons identified and counselling done where necessary. A questionnaire should be used yearly to test different dimensions such as discipline, academics and relationship with teachers and students among others.

5.4 Recommendation for future research

The researcher would recommend the following research gaps be filled in an effort to reduce drug and substance abuse among youths:

1. A similar study should be done in a rural setting since this study concentrated only on an urban setting.
2. A similar study should be done in other institutions of learning like primary and universities/colleges.
3. A similar study should be done in all other districts/ cities in Kenya.

REFERENCES

- Asma, A., Wamen C. W. and Riley, L. (2003).** Social demographic factors of public who use tobacco in randomly selected primary schools to Nairobi, Province, Kenya. *East Africa Medical Journal* vol. 80. no. 5 pp. 235-241.
- Astrom, A. N., Ogwell, A. E. and Hangeforden. (2000).** Tobacco use by youth surveillance from the Global Youth Tobacco.WHO no. 78.
- Bence, M., Brandon, R., Lee, I. and Tran, H. (2000).** *Impact of peer substance use on middle school performance in Washington*, University of Washington: Washington.
- Boyd, C. J., McCabe, S. E. and Teter, C. J. (2005).** *Asthma inhaler misuse and substance abuse: A random survey of secondary school students*. NIH public access. Found at <http://www.pubmedcentral.nih.gov/articlerender.fegi>.
- Brown, S. A. Taperts, S. F. and Granholm. (2000).** *Neurocognitive function of adolescent: Effects of protracted alcohol use*. Alcoholism: Clinical and experimental research, vol 24 (2), Wisconsin-Madison.
- Center Addiction and Substance Abuse (CASA). (2003).** *Girls unique pathway to addiction*. Columbia University Press: Columbia. Found at info@girlsincnworegon.org" and at www.girlsincnworegon.org.
- Centers for Disease Control and Prevention. (2005).** *Annual smoking-attributable*. John Hopkins University Press Publishers. Funded by the Bristol-Myers Squibb Foundation, U.S.
- Drugs and Crime (UNODC). (2006).** *Drug war facts: World Report, Vienna Austria*, UNODC, pp. 5-6 found at <http://www.drugwarfacts>.
- Edward, G. and Arif. (1998).** *Introduction to drug problems in the socio-cultural context*. (Eds). A basis for policies and programme planning. WHO off set publication no.73. Geneva, p. 18.
- Fatoye, F. O. and Marakinyo, O. (2002).** Substance use among secondary school students in rural urban communities' Southwestern Nigeria. *East African Medical Journal*, vol.79, no.6, pp. 299-305.

Fishers, H. and Marley, F. (1998). Qualitative and quantitative research analysis p. 37.

Gay, L. R. (1981). *Educational research: Competence for analysis and application* London: Toronto Publishing Company, Columbus.

Galicio, H. (2001). Drug abuse in Kenya in Kenya, Nairobi: Uzima Press, Nairobi.

Gikonyo, M. W. (2005). *Drug abuser and parental knowledge on factors predisposing the youth to drugs and substance abuse in Nairobi.* (Unpublished thesis). Department of Public Health, Kenyatta University.

Greenblatt, J. C. (2000). *Pattern of alcohol use among adolescent and association with emotions and behavioral problems.* Rockville, MD: Substance Abuse and Mental Health Service Administration, Office of Applied Studies Substance Abuse and Mental.

Haworth, A. (2002): A Preliminary report on self-reported drug use among students in health and administration.

International Drug Prevention (IDP). (2001). *A publication of NGO Anti- narcotics coordinating center.* vol. 1 no. 2. Anti-narcotic co-ordinating center.

International Narcotic Control Board (INCB). (2003). Narcotic drug report of Africa, United Nation, pp. 2-10.

Jedrzejczak, M. (2005). Family and environmental factors of drug addiction among youth recruits.

Johnson, L. D., O'Malley, P. M. and Bachman, J. G. (1998). *National survey on result on drug use from the monitoring the future study,* vol 1: secondary school students, Rockville: U.S. Department of Health and Human Services, Public Health Services, National Institute of Drug Abuse.

Johnston, T. (2000). Adolescent drug abuse in Kenya: Impact on population communication Africa.

Jones, D. L., Heflinges, C. A. and Sauders, R. C. (2007). The ecology of adolescent substance abuse service utilization. *America Journal of Community Psychology,* vol 40 pp. 345-358.

- Kamonjo, B. N. (1997).** *The correlations, prevalence and attitudes towards drug use and abuse among 1st, 2nd and 4th year students at Kenyatta University.*(Unpublished thesis). Department of Education, Kenyatta University.
- Kisumu District Hospital (KDH). (2011, 2012).** Psychotic disorders, mental and behavioural caused by multiple drug use. Psychiatric department, Kisumu district hospital.
- Khan, M. H., Saeed, A., Rashid, H., Nadia, N. and Halima, S. (2004).** Characteristics of drug abuse admitted in drug abuse treatment centers at Peshawar, Pakistan, Gomal. *Journal of Medical Science*, vol. 2, no. 2.
- Kiambuthi, K. N. (2005).** *Factors contributing to drug abuse in some selected public schools of Kiambu District.* (Unpublished M.Ed. thesis). Department of Education, Kenyatta University.
- Kibui, M. (2008).** *Factors influencing drug abuse, health and academic performance among KMTC students in six medical training colleges.* (Unpublished thesis). Department of Public Health, Kenyatta University.
- Kimathi, M. M. (2003).** *Level of drug abuse in selected secondary schools in Kitui district.* (Unpublished thesis). Department of Education, Kenyatta University.
- Kothari, C. R (1985).** *Research methodology, methods and techniques.* New Delhi: Wishwa, Prakashan.
- Lo, L. (2007).** *Familial and family-school environmental influence on substance abuse: An ecological model* [vol.@Spring](#). Regents of the University of Minnesota. Found at [www.psych](#). Umniedu/sentient.
- Mbogo, S. (2003, October 10).** Kenya united as key channel for U.S.A. bound narcotic. *The Daily Nation*.
- Merete, O., Merete, N. and Ann-Marie, N. A. (2008, July 1).** Childhood social environment and risk of drug and alcohol abuse in a cohort of Danish men born in 1953 Mortality, years of potential life costs and productivity losses United States. *Morbidity and Mortality Weekly Report*.

- Muchiri, J. K. (2005).** *Factors influencing the prevalent and correlate of drug abuse by students of secondary schools in Gatundu Division, Thika District, Kenya.* (Unpublished thesis). Department of Education, Kenyatta University.
- Muganda, . (2004).** *Drug: Increasing abuse in Kenya:* Found at www.cyc.act.org/features/ft.Kenya.html.
- Mugenda, C. (2003, October 27).** Alarm over drugs unrest in school blamed on drugs. *The Daily Kenya.*
- Mugenda, O. & Mugenda, A. (1999).** *Research methods: Quantitative and qualitative approaches.* Nairobi: ACTS Press.
- Mugendi , C. J. (1998).** Corruption and drugs in Kenya. *Africa Recovery Journal* vol.3.
- Mwakera, M. (2011, April 5).** Pubs hit hard by alcohol law. *Daily Nation.*
- Mwenda, E. (2007).** *Kenya: Teens addicted to drugs.* East African Standard Publishers, Nairobi.
- NACADA. (2004).** *Youth in peril: Alcohol and drug abuse in Kenya.* Final national baseline survey in substance abuse in Kenya, Nairobi, pp. 2-36.
- NACADA. (2007).** *Rapid situation assessment of drug and substance abuse in Kenya.*
- Naskar N. N., Roy, M. and Bhattacharya, S. K. (2004).** A study of some family-school environmental factors on drug abuse among the undergraduate medical students in Calcutta. *India Journal of Community Medicine* vol. 29, no. 2.
- National Institute on Drug Abuse. (2010).** *Formative years. Pathways to substance abuse among girls and young ages 8-22.* New York: Columbia University Press.
- Ndegwa, C. M. (1998).** *Drug problem in our schools.* (Unpublished report for Kenya). National Committee for Drug Education.
- Ndetei, D. M., Khasukhala, L., Mutiso, V., Ongecha, F. and Kokonya, F. (2009).** *Patterns of drug abuse in public secondary Nairobi schools in Kenya.* (Unpublished thesis). Psychiatry Department, University of Nairobi.

- Ngare, P. and Koros, K. (2008).** *Kenya: Post-poll chaos, drug abuse blamed for school revolts.* (Unpublished report). Nairobi University.
- NSDUH Report. (2007).** *Smokeless tobacco use, initiation, and relationship to cigarette smoking.* Office of Applied Studies, Substance Abuse and Mental Health Services Administration Publishers.
- Nyassy, D. and Kihara, G. (2008, December 28).** Kenya risks losing an entire generation to drugs. *Sunday Nation.*
- Odek-Ogunde, M. L., Owiti, F. R. (2002).** *Emerging injecting drug use problems in Kenya, Report by international conference AIDS, In Cont AIDS.* Department of Psychology, United States International University- Africa, Nairobi, Kenya.
- Ogunde, O. M. (1999).** Prevalence of substance use among students of a Kenya University. *East Africa Medical Journal*, vol. 76, no. 6 pp. 301-305.
- Ojo, O. O., Lawani, A. O., Adedigba, M. A. and Nwhate, S. O. (2008).** Influence on smoking behaviour of adolescents and young adults in a Nigerian University. *African Journals of Drugs and Alcohol Studies.*
- Okanga, D. (2009, November 12).** Six candidates arrested at restaurant in Iten. *The Standard.*
- Ombati, C. (2011, April 11):** Drug suspects buying their way to freedom. *The Standard.*
- Orifa, N. (2004).** *Drug abuse and methods of prevention in mixed secondary school, Kiambere District, Kenya.* (Unpublished thesis). Department of Education, Kenyatta University.
- Otieno, A. (2005).** Prevalence of drug abuse and factors associated with drug abuse among secondary students in Kisumu pre-urban and urban; (Unpublished thesis). Department of Public Health, Maseno University.
- Otieno, A. and Ofulla, A. (2009).** Drug abuse in Kisumu town, Western Kenya. (Unpublished report).vol. 9 no. 3.

- Patton, G. C. (2002).** Cannabis use and mental health in young people: Cohort study Adolescent girls in Kenya: A comparison of interviewing methods. *British Medical Journal*, vol 325 pp. 1195-1198.
- Provincial Director of Medical Services (PDMS), (2012).** The statistical information of Psychiatric patients, out patients sections in Nyanza .
- Rogers, A. and McCarthy, A. (1999).** *Drugs, education prevention and policy*. Vol. 6, no. 1, United Kingdom: University College of London.
- Siringi, S. (2003, June 23).** Kenya alarm over drugs: NACADA sites rampant. United Nations Office on Drug. *The Daily Nation*.
- Sutherland, I. and Paul, W. (2008).** Patterns of alcohol, cigarette and illicit.
- NSDUH. (2002, 2003, and 2004):** *Substance abuse and mental health service. Administration report*. Office of National Studies, NH SDA series H-22, DHHS Publication no. United States: SMA, Rockville. MD.
- UNAIDS. (2000).** The rapid assessment and response guide on psychoactive substance use and especially vulnerable young vo. 6, pp. 222-227.
- UNODC. (2004).** *World Drug Report*. Geneva: United Nation Office on Drug and Crime.
- Urell, B. (2008).** *What environmental factors increase the risk of addiction?*
- Wambua, S. M. (2002).** *Analysis of the factors that influence drug abuse among the students in primary teachers college in Central Province*. (Unpublished M. Ed. thesis). Department of Education, Kenyatta University.
- Wanjala, E. N. (2006).** *The causes of drug use among secondary school students in Kenya. A case study of secondary schools in Nairobi*. (Unpublished thesis). Department of Education, Nairobi University.
- Weru, G. and Gathura, G. (2010, December 25).** New alcoholic law spoils party for drinkers as holiday season begins. *Sunday Nation*.
- WHO. (2001).** *Technical report series no. 273*.

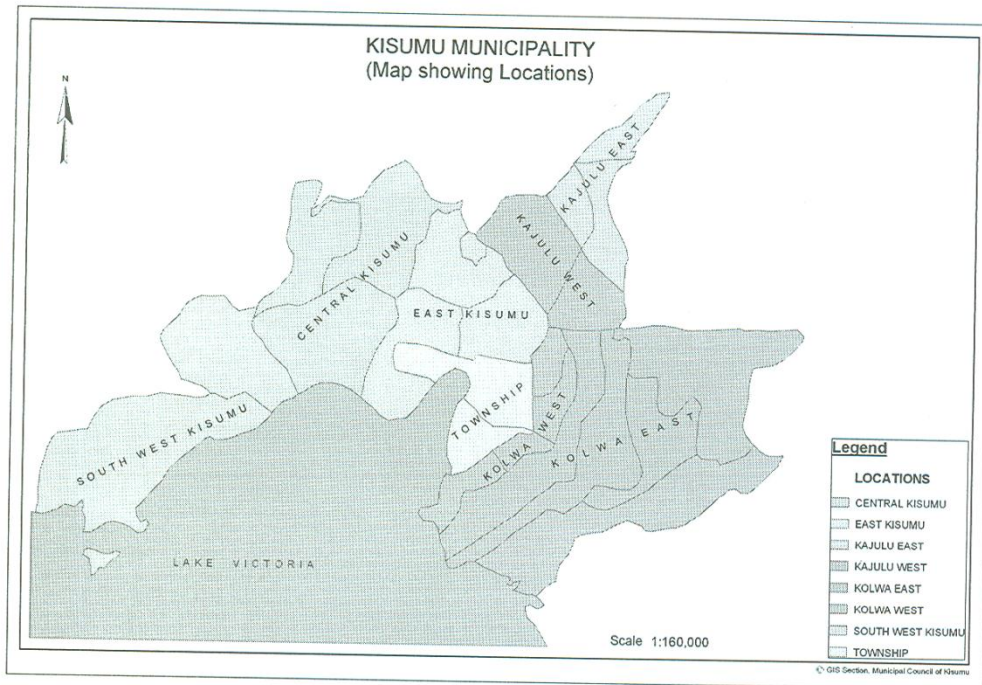
WHO. (2004). Expert committee on drug dependence.

World Bank. (1999). *Curbing the epidemic governments and the economics of tobacco control.* U.S.A.: Washington DC, pp. 1-17.

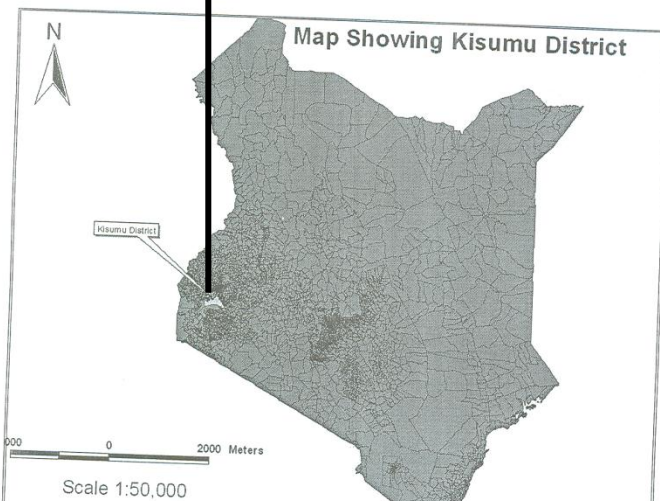
World Drug Report. (2004). *U.N. Office for Control of Crime and Prevention.* Great Britain: Bolt Press.

World Drug Report. (2004). *U.N. Office for Control of Chronic and Prevention.* Great Britain: Balth Press.

Appendix 1: Map of Kisumu Municipality



THE STUDY AREA – KISUMU MUNICIPALITY



Appendix 2: Research Instrument

RESEARCH INSTRUMENT

INDIVIDUAL SURVEY QUESTIONNAIRE TO STUDENTS

Instructions and confidentiality

I am, Mr. Joshua Otieno Nyatuoro, a student at Kenyatta University pursuing this research for my degree from School of Health Science. For the purpose of fulfilment of my degree I kindly request you to fill the questions as required to the best of your knowledge and be sincere. The information given by you will be confidentially treated and only be used for the said purpose

Please put a tick (√) in the box next to the correct response.

QUESTIONNAIRE TO STUDENTS

A. DEMOGRAPHIC CHARACTERISTICS

Age

Gender male female

What is the number of siblings in your family?

1 – 4

5 - 8

9 and above

4. (i) What type of house do you live in?

Permanent house

Semi permanent

Mud – walled

(ii) Location of toilet? In the house outside house

(iii) If outside, what type of toilet? Pit latrine flash

(iv) How many families use one toilet?

One family more than one family

B. FAMILY ENVIRONMENT

5 (i) Has there being any member of your family diagnosed with drug abuse related problems?

Yes No

(ii) If yes, then who had the problem?

Mother

Father

Brother / Sister

6 Do your parents regularly monitor your school progress? Yes No

If no what could be the reason for not monitoring specify.....

7. (i) Do your parents / guardians talk to you about the harm or dangers of consuming alcohol and using other forms of drugs such as tobacco, bhang e.t.c.

Yes No

(ii) If no, then why?

Has no time for that

Has no courage

Addict himself/herself

Any other specify.....

8. After 4th form, in your opinion, your parents would wish that you

Join University Education

Join Tertiary Institution

Join Youth Polytechnic

Any other, specify.....

9. What was your mother's marital status when you were born?

Married

Unmarried i.e. (Single, divorced, widowed)

Unknown

10. What is the highest level of education or qualification of your mother?

Non-formal Education

Primary School

Secondary / High School

College or University

Any other, specify.....

11. What is your father's or guardian occupation?

Professional e.g. Doctor, teacher etc

Technical e.g. carpenter, technology

Clerk

Farmer

Any other, specify.....

12. Where would you like to pass your leisure – time?

To visit a youth club

To be at home with friends

To be at home with family

To meet with friends

To be at school

13. What is your religion affiliation?

Catholic

Protestant

Muslim

Any other, specify

14. (i) Does your parent warn you against the risks involved in drug and substance abuse?

(ii) If so, how often?

Never

Rarely

Often

Any other, specify

C. SCHOOL ENVIRONMENT

16. How far is the nearest wines and spirit shop from school?

Less than 200 meters

More than 200 meters

Any other, specify.....

17. (i) Does your school have policy on drug abuse?

Yes No

(ii) In your school do you regularly have guest speakers on drug abuse?

Yes No

(iii) Do you have posters on drug abuse in school?

Yes No

(iv) What punishment is given to the students who are found with drugs which are abused such as alcohol, bhang etc?

Counselling

Suspension

Canned

Ignored

Any other.....

(v) Are there cases of non-students in the school community abusing drugs openly?

Yes No

If Yes, who? Teachers Supporting staffs

Any other, specify.....

18. (i) How does your school perform in KCSE?

Good

Average

Below average

(ii) What was the mean score in 2010 KCSE?

Above 8.0

5.0 – less than 8.0

Less than 5.00

Unknown

19. (i) Have you ever repeated a class?

Yes No

(ii) If yes, how did you feel about it?

Happy

Not Happy

20. If you are given an option to choose between this school and any school.

Which one would you choose?

I would like to go to school

I would like to take another offer

21. (i) Have you ever taken any drugs for non-medical purposes?

(ii) If so, tick against the one you used?

Alcohol

Tobacco / cigarette

Bhang / marijuana

Khat (Miraa)

Heroin

Cocaine

Or any other, not in the list specify.....

(iii) Who introduced you to the drug?

Mother / father

Sister / brother

Close relative(s)

Friends

Nobody

Any other, specify.....

(iv) Where were you introduced?

At home

At School

During sports

Any other, specify.....

In your opinion, what factors may influence abuse of drugs among students found in: -

Family environment.....

.....

.....

School Environment.....

.....

.....

Appendix 3: Research Authorization Letter – Kenyatta University



KENYATTA UNIVERSITY
OFFICE OF THE DEAN, GRADUATE SCHOOL

E-mail: kubps@yahoo.com
dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 57530

Our Ref: 157/CE/12148/04

Date: 21st December, 2010

The Permanent Secretary,
Ministry of Higher Education,
Science & Technology
P.O. Box 30040,
NAIROBI.

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION

=====

I write to introduce Mr. Joshua Otieno Nyatuoro who is a Postgraduate Student of this University. He is registered for a M.P.H. degree programme in the Department of Medicine at the School of Health Sciences.

Mr. Nyatuoro intends to conduct research for a thesis project entitled, "Environmental and Demographic Factors Influencing Drug and Substance Abuse Among Secondary School Students in Kisumu City, Kenya."

Any assistance given to him will be highly appreciated.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'John M. Odongi', written over a circular stamp.

JOHN M. ODONGI
FOR: DEAN, GRADUATE SCHOOL

JMO/bkk

Appendix 4: Research Authorization letter – Ministry of Education

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123.
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: NCST/RRI/12/1/MED-011/05/4

Date:
18th January 2011

Joshua Otieno Nyatuoro
Kenyatta University
P. O. Box 43844
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Environmental and Demographic factors influencing drug and substance abuse among secondary school students in Kisumu City, Kenya*" I am pleased to inform you that you have been authorized to undertake research in **Kisumu East District** for a period ending **30th June 2011**.

You are advised to report to **the Medical Officer of Health, the District Commissioner and the District Education Officer, Kisumu East District and the Town Clerk, Kisumu Municipality** before embarking on the research project.

On completion of the research, you are expected to submit **one hard copy and one soft copy** of the research report/thesis to our office.

A handwritten signature in black ink, appearing to read 'P.N. Nyakundi'.

P.N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The Town Clerk
Kisumu Municipality

The Medical Officer of Health
Kisumu East District

Appendix 5: Research Authorization Letter – D.E.O's Office

MINISTRY OF EDUCATION

Telegrams:

Telephone: Kisumu (057) 2022626
When replying please quote

DISTRICT EDUCATION OFFICE
KISUMU EAST DISTRICT
P.O. BOX 1914
KISUMU



REPUBLIC OF KENYA

Ref: KSM/MISC/29/III/35

14th April, 2011

All Principals
Secondary Schools
KISUMU EAST DISTRICT

RE: RESEARCH AUTHORIZATION

Mr. Joshua Otieno Nyatuoro is a student at Kenyatta University Department of Public Health. He has been authorized to undertake his research with the Secondary Schools in the District.

Please accord him the necessary assistance he may require.

A handwritten signature in black ink, appearing to read 'Thomas Odhiambo Okello', written over a circular stamp.

THOMAS ODHIAMBO OKELLO
FOR: DISTRICT EDUCATION OFFICER
KISUMU EAST.

DISTRICT EDUCATION OFFICER
KISUMU EAST DISTRICT