PREVELANCE OF ALCOHOL & SUBSTANCE USE DISORDERS AMONG HIV INFECTED YOUTH AGED BETWEEN 15-25 YRS OLD AT MBAGATHI HOSPITAL

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DECLARATION

I, Rosemary W. Kiunyu do hereby declare that this dissertation is my original work and that I have not presented the same to any other university for the award of a degree.

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Date: _____

SUPERVISOR'S APPROVAL

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I would also like to acknowledge the inspiration and academic investment my late father made in order to make me what I am today. This work is done in his memory. May his soul Rest in Peace.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
AUDIT	Alcohol Use Disorder Identification Test
CCC	Comprehensive Care Clinic
CDC	Centre For Disease Control
CIA	Central Intelligence Agency
DAST	Drug Abuse Screening Test
HIV	Human Immunodeficiency Virus
MSF	Medecins Sans Frontie'res
NACADA	National Authority for the Campaign Against Alcohol And Drug Abuse
NCAPD	National Coordinating Agency for Population And Development
NIDA	National Institute on Drug Abuse
SAMHSA	Substance Abuse and Mental Health Services- America
UNAIDS	United Nations AIDS Fund
UNICEF	United Nations Children's Fund
UNODC	United Nations Office On Drugs And Crime
WHO	World Health Organization

ABSTRACT

Introduction: In Sub-Saharan Africa, the numbers of HIV infected youth are estimated to be high. In Kenya particularly, youth aged 15 years to 24 years have been identified as vulnerable to HIV and other sexually transmitted infections (CIA, 2013). One of the key drivers of HIV infection among the youth is alcohol and substance use and their use and abuse being prevalent among youth aged between 15 and 25 years in Kenya and HIV infection rates among the same age group being a cause of concern. The study focused on the prevalence of alcohol and substance use disorders among HIV infected youth aged between 15 to 25 years old.

Specific Objectives: The specific objectives were to assess the prevalence of alcohol and substance use among HIV infected youth aged between 15-25 years old and to determine the association between alcohol, substance use and the social demographic factors.

Study Site: The study was conducted at the Mbagathi District Hospital Comprehensive care centre [CCC]

Research Design: A descriptive cross-sectional study

Research Instruments: The Drug Abuse Screening Test (DAST-10) and The Alcohol Use Disorders Identification Test (AUDIT) were used to determine the prevalence of alcohol and substance use disorders. A researcher designed questionnaire was also used for the study to determine socio-demographic factors

Sample Size Determination: Yamane's sample size determination formula (Yamane T. , 1967.), was used to determine the number of respondents that was needed to participate in the study which was 178.

Data Management & Analysis: Data collected from the respondents was analyzed using the Statistical Package for Social Sciences (SPSS) version 18.The frequencies and correlations were presented in tables.

Results: The study revealed that the prevalence of alcohol use was 33% and the prevalence of substance use disorders was 46%. The study also revealed that indeed there was a highly significant association between socio-demographic factors and the prevalence of alcohol use disorders but there was no association between socio-demographics and substance use disorders. However; there was a slight association between the socio-demographics and combined alcohol and substance use disorders.

Conclusion: As indicated; the study established that there was prevalence of alcohol use disorders, substance use disorders and combined alcohol and substance use disorders and this is very alarming considering the fact that the respondents or patients are supposedly on HAART and therefore not supposed to abuse alcohol or substances. Generally; the study results are very significant because they mean that many of the respondents could possibly be also suffering from poor treatment outcomes.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

Adolescents and young adults aged between 15 to 24years now make up a considerable percentage of HIV-infected individuals cared for in many countries dealing with this epidemic and even though compared to previous UNAIDs reports, the UNAIDS report 2013 indicated that globally, there was a slight dip in numbers in new infections among this age group; the report also notes that this age group is more often ignored and hence little research is carried on them and hence the number of infection could be higher. Regardless; the report on the HIV global epidemic indicates with concern that the number of females aged between 15 to 24 years that are infected with HIV has grown to twice the number of males that are infected with the virus within the same age group (UNAIDS, 2013).

In Sub-Saharan Africa, the numbers of youth aged between 15 years to 24 years infected with HIV are estimated to be high. These youths represented 79% of all new infections across the continent by the year 2012 (Plounde, 2012). This was alarming because this number had risen from 41% in the previous year (UNICEF, 2011). This shows that the rate of new infection among the youth continues to rise in sub-Saharan Africa. In Kenya particularly, youth aged 15 years to 24 years have been identified as vulnerable to HIV and other sexually transmitted infections (CIA, 2013) and this is very alarming owing to the fact that Kenya is basically a young nation with those that are below the age of 15 years representing 45% of the population and 19% of the population ranging between the age of 15 and 24 years!

HIV infections among the youth aged between 15 to 24 years cannot be looked at without considering the factors that actually play a role in the spread of the virus and one of the most

important and growing concerns are the indulgence into alcohol and substance use among the youth. Basically; Alcohol and substance use and HIV, have been regarded as "twin epidemics" because of their interrelation. This is because among HIV infected patients, alcohol and substance use are common and hence remain an important factor in HIV pandemic. Alcohol and other substance use are key in driving HIV transmission and clinical progression (CDC, 2006) . In Kenya; among the youth, alcohol is the most used drug and the biggest drug problem they face today (NACADA, 2010). Generally; alcohol and substance use among youth compounded with effect of socio demographic factors such as poverty, education etc regardless of HIV infections- has been related to behavioral problems in particular risky sexual behaviors (Substance Abuse and Mental Health Services Administration; SAMHSA, 2010). It is a driver in the pandemic in this country because while using or abusing drugs or alcohol, some of these risky behaviors the youth engage in are: aggression, delinquency, criminal behavior, unprotected sex sometimes with multiple partners and even exposure to other illicit substance use. These behaviors put the HIV infected youth at risk of getting secondary HIV infections and they can also end up putting others at risk by infecting them.

Furthermore; among the individuals who are taking the scheduled anti retroviral, heavy alcohol consumptions and drug use has also been associated with a lower CD4 cell count (Boston University, 2007). This means that they are at higher risks of getting opportunistic infections, which will affect their quality of life and probably cause poor compliance to the medication and possibly avoidable early death. Though HIV is today regarded as manageable with ART therapy, HIV among alcohol and substance users regardless of age is not regarded as such. It has dire consequences and therefore should be given the warranted attention from all concerned

stakeholders. It's regrettable that minimal attention has been given to this issue or better yet, no published research has been done exclusively on the same here in Kenya.

1.2 Problem Statement

Though HIV continues to affect many Kenyans today; the emphasis placed on the importance of prevention of HIV transmission in this country is to be applauded. These efforts have been mainly targeted to be psycho educative and insightful to the grown "married" woman and man that should be careful on prevention of HIV transmission or secondary infection to his/her partner; therefore employed to mainly target the older generation who are said to be very prone to HIV infection (KNASA, 2008) or cross infection but; what about the youth?

As mentioned earlier; Kenya is regarded as a young nation with nearly 19% of its population comprising of individual aged between 15 years to 24 years. This particular aged population has also been noted to be most vulnerable in contracting HIV and other sexually transmitted diseases (CIA World Factbook, "Kenya", 2013). On the other hand; today, substance use and abuse among the youth is also a countrywide problem (NACADA, 2012). However; No statistical correlation has been made between HIV infection, alcohol and drug use among the infected youths here in Kenya.

Besides campaigns advising the youth to wait and not to engage in sex; nothing else has been addressed-evidently- with regard to the factors surrounding the HIV transmission or cross infection among HIV infected youth in this country and more so in relation to alcohol and substance use disorders. No statistics are available to give an overview of prevalence or determining whether HIV infected youth indeed engage in abuse of alcohol or drugs and whether they are dependent and if so; what can be done about it? No statistics have been released to show

whether socio-demographic factors this including age, really can be related to their indulgence in alcohol or substance use and their disorders. Hence; with increasing HIV infections among the youths and effects that drug use might have on them and the scarcity of published material on these issues in Kenya; this study aims to fill this gap in research.

1.3 Rationale of the Study

- **Policy Making And Psycho Education**

The study identifies the prevalence of alcohol and substance use disorders among the youth infected with HIV. It also establishes association between youth being HIV positive and development of alcohol and substance disorders. By outlining these outcomes; the study helps in showing the importance of effectively identifying and treating active alcohol and substance abuse in HIV treatment settings hence providing a mechanism for improving clinical outcomes for the youth. Hence the findings of this research will contribute towards policy development in government, and among health experts and stakeholders such as non-governmental organizations that work towards the management of HIV and especially among the youth in Kenya.

- **Contribution To Existing Literature**

This study adds to the already existing information and literature on alcohol and substance use in relation to HIV infections particularly with regards to prevalence of alcohol and substance use among youth aged 15 to 25 years in HIV treatment setting which is lacking in our country. It acts as a point of reference for any further research undertaken to address any arising issues or interests regarding this or other related topics.

CHAPTER TWO: LITERATURE REVIEW

2.1 Alcohol Use among HIV Infected Youth

Alcohol use among the youth remains an important area of study because of the implications this maladaptive behavior has on the future of the youth. Some of the consequences of alcohol use among the youth are; exposure to alcohol related disorders, social problems and sexually transmitted diseases including HIV (Atwoli, Priscilla, Moses, Kiende, & Evans, 2011). In a study conducted in 1996 on Drug abuse among urban as compared to rural secondary schools in Kenya; it was found that the prevelance of alcohol use alone was upto 15% among the youths in secondary schools in Kenya (Kuria, 1996). Today 8 years later the prevelance of alcohol use among the youth in Kenya is higher than 15%, this is according to a study conducted by the National Authority For The Campaign Against Alcohol And Drug Abuse (NACADA); and on the rapid situation assessment of the status of drug and substance abuse in Kenya (NACADA, 2012).

The study shows that almost 27% of the youth aged between 15 to 24 yrs admitted to taking alcohol. The implication is that there was and possibly still is an increase in the use of alcohol among the youth in Kenya which is indeed a worrying trend. In addition to this, alcohol use has been linked to use of illicit drugs in particular injection drug use (IDU) which remains a very important mode of HIV transmission, acquisition and cross infection. However. it is important to note that the figures given by NACADA and mentioned in this study, is a general data corncerning all youth regardless of HIV status and not actual figures showing prevelance of alcohol use among HIV infected youth particluarly between the age of 15 to 25 yrs. There is no published data reflecting the Kenyan situation.

2.2 Substance Use among HIV Infected Youth

In the United States; illicit substances/drugs that are mostly associated with HIV with regards to new infections and cross infections among HIV positive patients are heroine and stimulants such as amphetamines. Club drugs are also said to be associated with HIV infection today especially among men who have sex with men (Colfax & Guzman, 2006). Injection drug use (IDU) is also key in HIV because through the sharing of equipments and engaging in risky behavior due to intoxication or seeking intoxication for example prostitution, then HIV infected youth can easily infect other people not limited to the youth and they can also cross infect each other. In America alone; 31% of HIV infected cases among all reported infected men and 57% of all infected women attribute their status to use of injection drugs (CDC, 2002). No definitive figures are available in Kenya for youth aged between 15 and 25 years on the same.

Though in Kenya the most commonly used substance other than alcohol, is bhang, inhalants like glue and heroine; other drugs like cocaine and methamphetamines are quickly being made available to the youth and the situation is becoming unmanageable especially in cosmopolitan counties like Mombasa, Lamu (Korir, 2013) and Nairobi just to mention a few. As per the statistics issued by NACADA, 27% of the youths between the age of 15 yrs and 24 yrs admitted to using illicit drugs, that is, bhang, hashish, cocaine and heroine. Cocaine and heroine was mostly used by youth between the age of 18 to 24years.

Korir (2013), in his article, mentions that indeed with the increased availability and use of illicit drugs at Mombasa County, HIV prevelance has become higher. Implying that most infected youth became HIV positive after intoxication or through intoxication and resulting behaviours from it. Though justified criticism for his analysis is that there are non factual with no actual data

of HIV infections solemnly related to substance use, his article implies what this study assumes and aims to prove, there are HIV infected youth that engage in substance use and hence suffer from substance use disorders. No other study from other counties have been published on this issue.

It is also important to note that even though the pattern of substance use has been noted to be very unprecedented with regards to nature of the illicit drug use and progression of disease (whether one is intermittent, persistent user etc) it has been associated with more incidences of death among the HIV infected youths (Gregory, Michael, Kelly, Jeanne, Richard, & Richard, 2006). The youth are at higher risk of committing suicide because besides depression due to repeated use and burden of the disease, during withdrawal; they also suffer from severe depression coupled with anxiety among other symptoms and at this stage in attempting to stop using drugs, they are more likely to commit suicide if not well managed and cared for. The depression and anxiety is also a major concern because it leads to poor compliance to ART treatment among these youths (Tucker, Burnam, Sherbourne, Kung, & Gifford, 2003). This is further aggravated by the underlying health problems that might arise due to the persistence substance use like memory loss, impotence among others.

2.3 Socio-Demographic Factors, HIV Infected Youths & Alcohol & Substance Use

Besides alcohol and substance use, other socio demographic factors besides age also play a role in the HIV infection among the youth. Factors like socio-economic status have been associated with the spread of HIV and in particular individuals with low socio-economic status. The HIV epidemic has disproportionately affected the most impoverished regions of the world and among these countries HIV is concentrated in the poor people in society and the marginalized (Joseph &

Sarah, 2006). Kenya is no different. This factor has also been linked to the use and abuse of alcohol and other substances including involvement in sexually risky behavior through engaging in sex with multiple sexual partners or unprotected sex for money that can lead to secondary infection in HIV infected youth increasing chances that already infected youth can spread the virus to other non- infected youths.

The report (UNAIDS, 2013) showed that there is significant decline in HIV prevalence among young people aged 15 - 24 years; however it also notes that HIV prevalence among young women remains more than twice as high as among young men throughout Sub-Saharan Africa. Pegging the question; are female youths more affected or exposed to HIV virus than their male counterparts? The obvious assumption would be that, gender is also a predictor in HIV infection. A few studies have also shown that the rate of HIV infection also increases with the lower educational levels and lower levels of AIDS related knowledge (Sunbay; et al, 2005) and as this can also increase chances that a youth can indulge in alcohol and substance use, then it becomes an important factor among all the other socio demographic factors that have to be assessed in the study.

2.4 Summary

It is logical to assume that persistent alcohol and substance use automatically result into alcohol or substance use disorders; meaning that the individual will either develop dependency and hence continually abuse alcohol or drugs. As previously stated; these are common among people who are living with HIV virus (NIDA,2012). Alcohol and substance use disorders have serious implications for the HIV infected youths. For instance; alcohol dependency is associated with poor adherence to ART therapy (Samet, Horton, & et al, 2004). This related to slow suppression of virus and development of antiviral drug resistance. This means a quicker disease progression

and early deaths for the youth. In addition to this, alcohol and substance disorders can cause psychiatric conditions in the patients (Sullivan, Saitz, & et al, 2008).

Clearly, treatment of HIV infections in alcohol and substance dependent youths aged between 15 to 25 yrs is a challenge. Research has shown that this maladaptive behaviours, interferes with access to HIV care, HIV treatment initiation, outcomes, disease progression and adherence (Dronda, Zamora, Morena, & et al., 2004). Therefore, the importance of substance intoxication and dependency identification in HIV treatment settings cannot be ignored. It is only then that the youths who are indulging in this behaviour can be identified and receive treatment.

2.5 Objectives

2.5.1 Broad Objective

To assess the prevalence of alcohol and substance use disorders on HIV infected youth aged between 15-25yrs old

2.5.2 Specific Objectives

The specific objectives of the study:

1. To determine the prevalence of alcohol and substance use among the HIV infected youth
2. To determine the association between alcohol, substance use and socio-demographic factors among the HIV infected patients

2.6 Research Questions

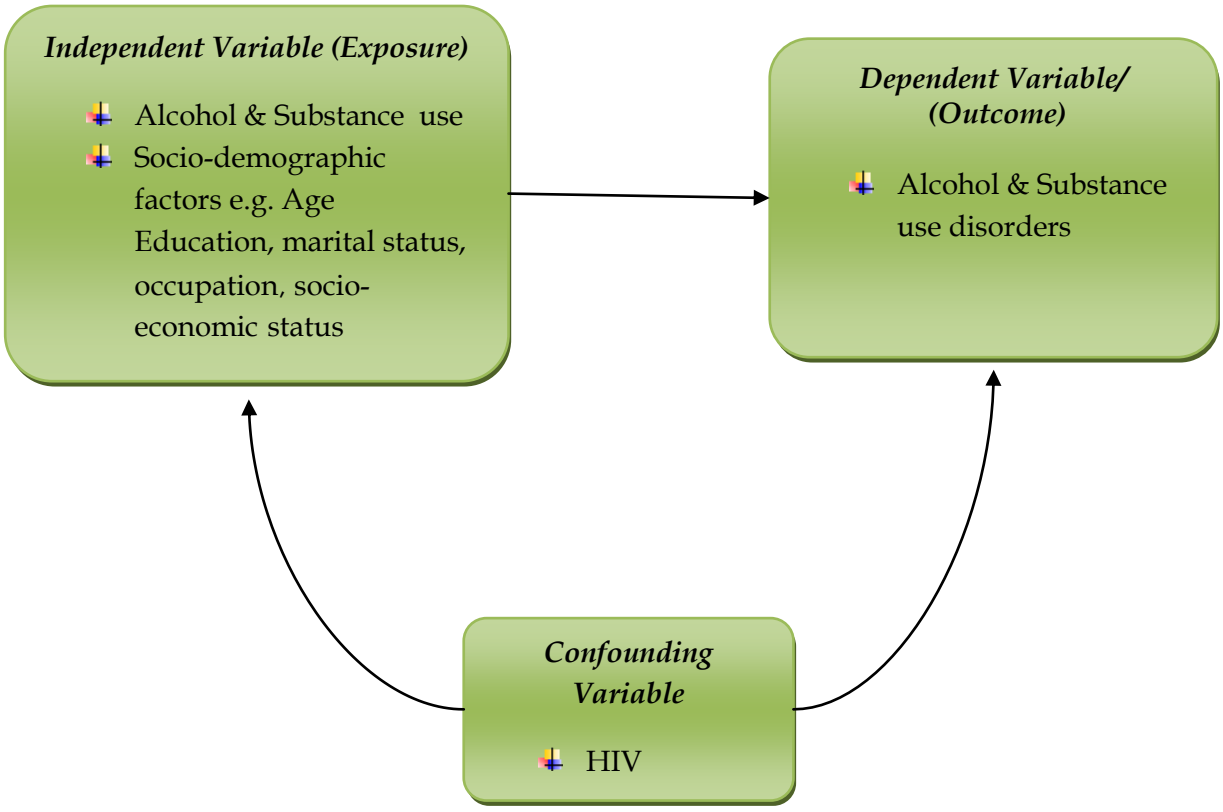
The study research questions:

1. What is the prevalence of alcohol and substance use among the HIV infected youth?

2. What is the association between alcohol, substance use and socio-demographic factors among the HIV infected youth?

2.7 Conceptual Frame Work

Figure 2. 1*: Conceptual Framework Showing the Variables*



NB: The objective of the study was to assess the prevalence of alcohol use disorders among 15-25yrs old HIV infected youth. Therefore the study was to assess whether alcohol use within this age group leads to alcohol use disorders and was to look at whether the socio demographic factors that is, the age and other factors that affect this age group mentioned would be likely to predispose the individual to having alcohol use disorders

Target group were all HIV infected youth hence dismissing HIV as a dependent variable meaning they were not going to measure whether the participants are HIV + or HIV-. However HIV can cause alcohol use or increase chances of having alcohol use disorders as it acts as a confounding factor in the study.

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CHAPTER THREE: METHODOLOGY

3.1 Introduction

The chapter was presented under the following section: the research design, target population, sampling design and sample size, data collection and analysis, ethical consideration and study limitations.

3.2 Research Design

The study was a descriptive cross sectional design, assessed the prevalence of alcohol and substance use disorders in HIV positive youth. This research design implied that the study took place at a single point at time but also allowed the researcher to look at numerous things at once for example age, income among other. It did not allow any manipulation of the variables. To achieve this, the study used formal instruments and a researcher designed questionnaire.

3.3 Study Area

The research was conducted at Mbagathi District Hospital which is a level five hospital in the country and situated in Nairobi County. To support people living with HIV; Medecins Sans Frontieres [MSF] started an HIV clinic at the Mbagathi District Hospital in 1997. The main aim for this clinic was to provide psycho social support and accessible ART treatment for HIV infections which at the time was growing at an alarming rate. In the year 2005 the Government sighting the need to increase accessible ART treatment to the growing number of HIV patient in the country, opened the Comprehensive Care Centre [CCC] at Mbagathi Hospital as an integration of the two programmes _ the MSF and the Ministry of Health program with one management system. This Comprehensive care unit has since become a model HIV clinic successfully combining capacity, quality and access to services to the HIV infected patients

(Medecins Sans Frontieres, 2008). Though the clinic offers these services to patients of all ages, the target population for the study was HIV positive youth aged between 15 to 25 years old. The youth are provided for these services on particular clinic days and support groups. The teen group who are youth aged between 15 to 17 years old come for their clinic days on every 2nd Saturday of every month during school holidays where they receive their ARTs. Their support group meeting attend their psychosocial support meetings on every Wednesday of the week. As for the youth aged 18 to 25 years old who are referred to as "young adults", they attend their clinic days on the 2nd Friday of the month. Their support group meeting take place on the last Saturday of every month. However some of the youth attended clinic on unassigned days. The services offered are provided by the nurses and medical officer in charge.

3.4 Target Population

The aim of study was to focus on youth aged between 15 to 25 years old. Particularly targeting HIV infected Youths that attend the Comprehensive Care Centre [CCC] at Mbagathi District Hospital.

3.5.1 Exclusion and Inclusion Criteria

- **Inclusion criteria:**

1. Youth between the ages of 15 to 25 yrs old
2. Consenting youths

- **Exclusion Criteria:**

1. Non-assenting parents for youth below 18 yrs
2. Those who are too ill to participate

3.6 Sample Size Determination

The general population of patients infected by HIV registered at Mbagathi District Hospital Comprehensive Care Centre, is slightly above 11,000. However; the study focused on youth aged between 15 to 25 years. According to the actual data from Mbagathi hospital CCC, there are one hundred youth aged between 13 and 17 years who belong to the teen group and within this group the 15 to 17 years are seventy two in number. As for the youth aged between 18 to 25 years who are registered at the clinic; they are two hundred and fifty in number; making the total of the target population three hundred and twenty two.. (See table 3.1).

Table 3. 1: Total target population

Youths Categories	Total No.
Youth aged 15 to 17 yrs	72
Youths aged 18 to 25 yrs	250
Total	322

To determine the sample needed for the study, the researcher used Yamane's sample size determination formula. Yamane (1967), provides a simplified formula to calculate sample sizes. This formula was used to calculate small sample sizes. A 95% confidence level and P significance value = 0.05 are assumed for the following Equation.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size of target population needed for the study
N is the entire population size of target population
e is the level of precision(error estimate)which 0.05

Therefore; from the sample size determination formula; the number of youths needed for the study was:

$$n = \frac{N}{1+ N(e)^2} \quad = \quad n = \frac{322}{1+ 322(.05)^2} \quad = 178.39 \text{ (178 youths)}$$

Hence; depending on the number of youth in each of the categories, the researcher worked out the ratio of the respondents to be picked from each category (see table 3.2).

Table 3. 2: The Ratio of Youth in Each Category

Youth Aged Between 15 To 17 Yrs	Youth Aged 18 To 25 Yrs
72	250
1	3.47 **(3)**

Therefore the proportion for the representative sample size was as follows: (see table 3.3).

Table 3. 3: Number of youths Needed for the Sample

Youths	No. of youths needed for the sample
Youth aged 15 to 17 yrs	**¼*178 = 44**
Youths aged 18 to 25 yrs	**¾*178= 134**
Total	**178**

As the table clearly shows, the number of youth aged between 15 to 17 yrs needed for the study was forty four and those that are aged between 18 to 25 yrs were one hundred thirty four.

3.7 Sampling Procedure/ Technique

Purposive sampling method was used in this study. The selected respondents were particularly targeted because he/she were within the inclusion criteria.

3.8 Recruitment And Consenting Procedures

This was based on the numbers of youth that come in on their assigned clinic days and support groups. As per the records at Mbagathi Comprehensive Care Center, the number of youth attends their clinic days and support groups range between one hundred and fifty collectively for both categories. As for the patients who come in on non-assigned clinic days-on a daily basis - their number range from one to three youth per day but averaging to fifteen per week. This adds up to approximately sixty respondents per month. To attain the sample size required of one hundred seventy eight, the researcher targeted and engaged all the youths attending the support and assigned clinic days in the study. The researcher also attended the clinic daily within the data collection month to get the respondents that visit the clinic unscheduled. The researcher engaged any consenting youth aged between 18 to 25 yrs until she attained one hundred thirty four respondents. The same was done to the 15 to 17 yrs youths which after their parent's assent was obtained, their consent was also sought to fully engage them in the study. This was done until the researcher attained forty four respondents.

3.9 Data Collection Procedures

With the sensitive nature of the data that was to be obtained for this study, consent from Mbagathi District Hospital, the University and Hospital's Ethics Committee, and finally respondents and their guardians for the 15yrs to 17 yrs old youths were obtained first. When the researcher entered the CCC, positioned herself in the space agreed upon by the clinician-in-charge or director. The researcher was given space at reception where the youth had to sit and participated in the study. With the assistance from the staff in the clinic and initiated by the researcher's request for any patient aged between 15 and 25 yrs were kindly asked to pass by the

receptionist desk ; youth were coming to the researchers table/room for consent explanations and were requested to participate in the study.

Administration of the researcher designed questionnaire and tools of assessment were used for the study and was administered as the next step after receiving consent. After the respondents successfully filled in the questionnaire, they were required to hand them back to the researcher.

3.10 Data Collection Instruments

- **Socio- Demographic Questionnaire**

A researcher designed socio- demographic questionnaire was one of the tools for data collection. This tool was used to establish the demographic details of the respondents such as, the age of the respondents, sex/ gender, education level, and marital status among other details.

DAST (Drug Abuse Screening Test-10)

The other instrument that the study used was the DAST_10 [Drug Abuse Screen Test]. This is a 5 minutes questionnaire used in interviews or self evaluation to help gauge severity of drug used and addiction other than alcohol (Harvey, 1982). Scores given to the responses indicated by participants and the interpretations for those scores are as shown on the table below.

Table 3. 4: DAST-10 Interpretation

Guidelines for Interpretation of DAST-10 Interpretation (Each "Yes" response = 1)		
Score	***Degree of Problems Related To Drug Abuse***	***Suggested Actions***
0	No problems reported	Encouragement & education
1-2	Low level	Risky behaviour -feedback & advice
3-5	Moderate level	Harmful behaviour-feedback &counselling possible referrals for specialised assessment
6-8	Substantial level	Intensive assessment and referrals

The AUDIT (Alcohol Use Disorders Identification Test)

Finally the AUDIT [Alcohol Use Disorders Identification Test] which is a 10 question tool developed by the WHO (1982), helped to identify people at risk of having alcohol use problems or disorders and was also adopted. The responses given by respondents for question 1-10 are scored between 1 to 4 points which were then added up to determine if the individual has alcohol use disorder. A total score of 8 or more indicates harmful drinking behavior.

Table 3.5: AUDIT Interpretation

Guidelines for Interpretation of AUDIT	
Score	***Degree of Problems Related To Drug Abuse***
0-7	Low Risk
8-15	Risky And Or Hazardous Level
16-19	High Risk Or Harmful Level
20 or above	High Risk Or Dependent

3.11 Quality Assurance Procedures

To ensure that the quality and integrity of the research was upheld; a pre-survey of the study site was done to know how many youth were received and how the clinic generally operates in order to ensure it was a possible study site. Piloting was also conducted to determine the limitation that was to be anticipated during actual data collection and how to overcome them and also ensure that tool captures every aspect of the study and appropriateness for the particular target population. Piloting was done by the researcher issuing the questionnaires to a few of the targeted participants; fifteen youth participated and filled the questionnaires. These questionnaires were then assessed by the researcher to see if there were any questions that the respondents had issues with or had trouble answering. The researcher was then able to accommodate the changes needed to capture the information needed from the questionnaires.

3.12 Variables

1. Independent/ predictor/ exposure variable: alcohol and substance use
2. Dependent / outcome variable: alcohol and substance use disorders

3.13 Data Management and Analysis

The collected data was coded and cleaned. Data entry and quantitative statistical analysis were used - Statistical Package for Social Sciences (SPSS) version 18. Prevalence of the alcohol and substance use disorders were measured using simple proportions; this was demonstrated using the dummy (see table 3.6. below)

Table 3. 6*:* **2 by 2 Dummy Table For Determining Prevalence**

	Yes A/S U	No A/S U
Yes [A/S UD]	? (a)	?(b)
No [A/S UD]	? (C)	? (d)
P of A/S UD	**a/ a+c**	

Key: A/S UD_ alcohol & substance use/ disorders

A/SU _alcohol & substance use

P _prevalence

The 2 x 2 tables helped to figure out the following:

Population Prevalence: prevalence of youth with alcohol and substance use disorder

{P(A/S UD)} = **{(a) / (a+c)}**

Socio demographic data of the respondents was represented in frequency and tables as demonstrated in the dummy (see table 3.7 below)

Table 3. 7*:* **Dummy Table For socio demographic data of respondents**

Education of Respondents	Frequency
Primary Education	%
Secondary Education	%
Gender	**Frequency**
Male	%
Female	%

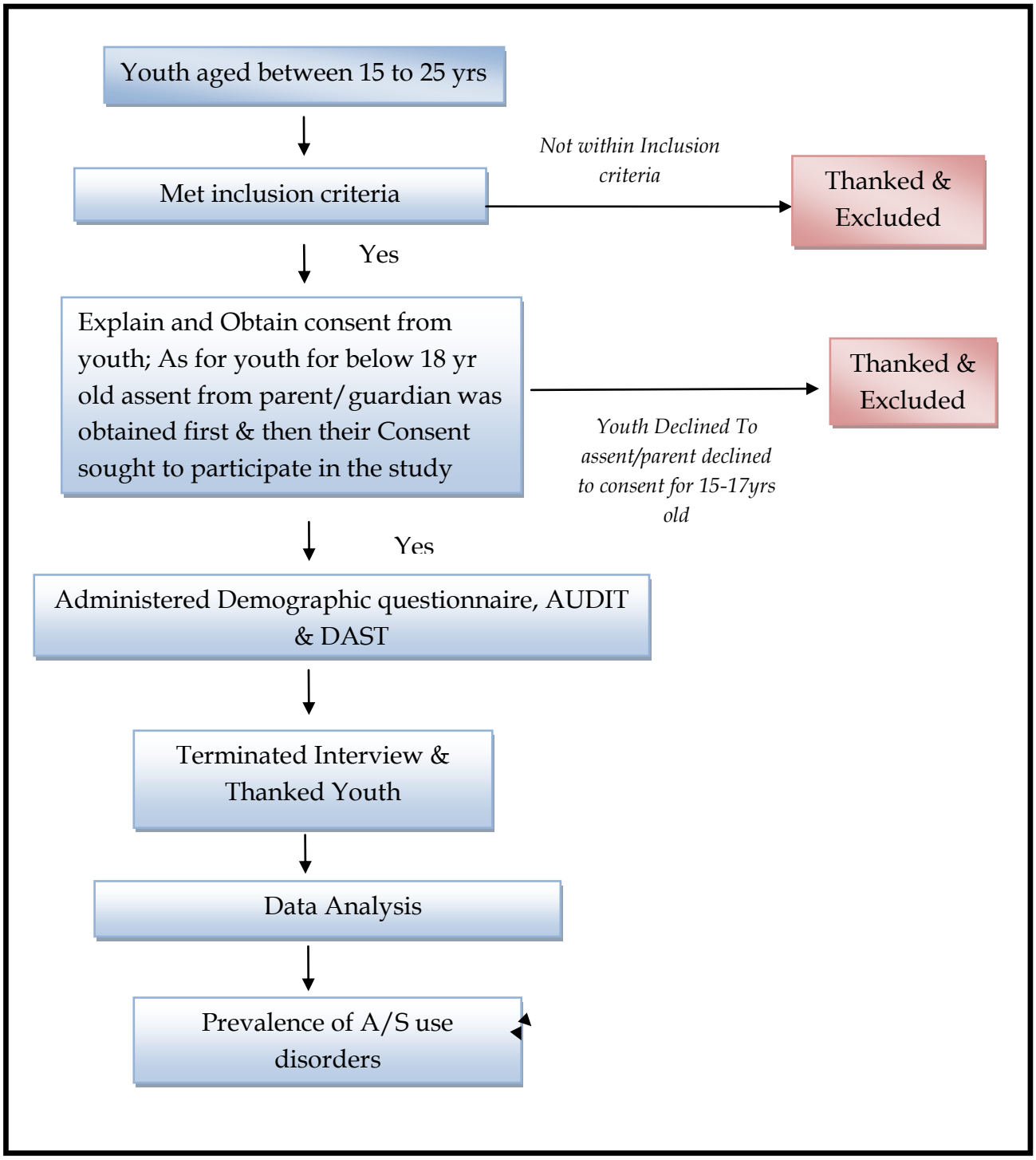
Odds ratio and a correlation table were used to show the association between socio demographic factors and alcohol and substance use among the HIV infected youth.

Table 3. 8*:* **Dummy 2 by 2 table showing odds ratio for association of socio demographic factors and alcohol/ substance use of respondents**

Social Demographics	Odds Ratio Exp(B)	Lower bound (95% CI)	Upper bound (95% CI)	
Age	x	x	x	x
Education	x	x	x	x
Marital status	x	x	x	x

3.14 Flow Chart

Figure 3. 1: Flow chart for data collection process



Author_ (Kiunyu, Rosemary)

3.15 Ethical Consideration

As previously mentioned, the approval from the Hospital and The University of Nairobi ethics and research committee, the consent from the respondents were also obtained before commencement of the research. For youth aged between 15 and 17 years, assent from their parents or guardians was obtained first, then their consent were sought out order for them to participate in the study. Those who agreed were assured of confidentiality and anonymity because no name was recorded anywhere on the tools but instead were coded.

3.16 Limitation of the Study

Most youth living in urban could managed to participate while those in peri-urban would not because of financial constraints. However, those who would come to support groups would turn up in big number in both categories and research questionnaires would be filled. Another limitation was that youth may not have been completely honest while accompanied by their parents and filling the questionnaires, but attempts to manage that was by the researcher verbally re-emphasizing that confidentiality would be highly maintained by not involving the parents in the data collection process. .

CHAPTER 4 : RESULTS

4.0 Introduction

This chapter entails the analysis of the data collected. The results are presented according to the study objectives which were to determine the prevalence of alcohol and substance use among the HIV infected youth and to determine the association between alcohol, substance use and socio-demographic factors among the HIV infected youth.

4.1 Response Rate

The target population for the study was one hundred seventy eight respondents. The researcher managed to engage one hundred sixty four respondents in the study; therefore, the response rate was slightly above ninety two percent (92%).

4.2 Socio Demographic Factors

The number of male respondents was 90 which was almost 55% of the total sample population. The remaining 44.5% of the population were female. Also illustrated is the most important socio demographic factor for this study; age, as shown in the table below, 23.2% of the respondents were between the age of 15 to 17 years while almost 77% of the respondents were between the age of 18 to 25 years. Considering the fact that the sample was purposively picked, this was expected. With regards to the level of education the respondents had attained by the time the study was conducted, most of them (40.2%) had reached or were in secondary school. A considerable number of respondents had reached university level while nearly the same number of respondents had only reached primary level of education. Only one respondent had no formal education. A large number of respondents had no source of income in that they were either unemployed or were students and the same trend was reflected in their income where nearly 62%

of the respondents had no income at all. Finally most of the respondents (83.5%) resided in the urban areas and with their parents (Table 4.1 below).

Table 4. 1: Respondents Socio-Demographic Profiles

	Frequency/ Percent (N/%)		Frequency/ Percent (N/%)
Gender		**Married**	
Male	90(54.9%)	Single	144(87.8%)
Female	73(44.5%)	Married	19(11.6%)
No Response	1(0.6%)	Widowed	1(0.6%)
Age		**Income**	
15 to17yrs	38(23.2%)	No income	101(61.6%)
18 to 25 yrs	126(76.8%)	1-10,000	37(22.6%)
		10,001-25,000	16(9.8%)
Residence		25,001-40,000	7(4.3%)
Urban	137(83.5%)	40,001 & above	2(1.2%)
Rural	26(15.9%)	No Response	1(0.6%)
No Response	1(0.6%)		
		Occupation	
Education Background		Employed	22(13.4%)
No Formal Education	1(0.6%)	Self Employed	39(23.8%)
Primary	35(21.3%)	Unemployed	40(24.4%)
Secondary	66(40.2%)	Student	62(37.8%)
Tertiary College level	28(17.1%)	No Response	1(0.6%)
University level	34(20.7%)		
Respondents Living Arrangement			
Living alone		37(22.6%)	
Living With parents		68(41.5%)	
Living With siblings		18(11.0%)	
Living with partner/ spouse		18(11.0%)	
Living with my friends		10(6.1%)	
Others		13(7.9%)	

4.3 Prevalence of Alcohol Use among the HIV Infected Youth

To determine the level of alcohol the respondents used; the AUDIT was used to score whether they had a problem with alcohol use or alcohol use disorders. As shown in table 4.2; most of the respondents (67.1%) were at low risk level with scores between 0 to 7. However considering the fact that the respondents were not supposed to take any alcohol while using ARVs, it was

alarming to note that 11% were at risky or hazardous level with scores between 8 to 15. Almost 10% of the respondents were at high risk and harmful level of alcohol use with scores between 16 to19. Finally, 12.2% of the respondents were at high risk or dependent level of alcohol use. Nearly 33% of the respondents showed clear indications of having alcohol use disorder. (Table 4.2 below)

Table 4. 2: Respondents AUDIT Scores Results

		Frequency	Valid Percent
Valid	Low Risk(0-7 Scores)	110	67.1
	Risky And Or Hazardous Level(8-15 Scores)	18	11.0
	High Risk Or Harmful Level(16-19 Scores)	16	9.8
	High Risk Or Dependent(20 or Above Scores)	20	12.2
	Total	164	100.0

4.3.2 Association between Respondents' Alcohol Use and Socio-Demographic Factors

The second objective of the study was to determine the association between the respondents' alcohol use and socio-demographic factors and as shown, table 4.3, gender was significantly associated with the respondents alcohol use. It was noted that more males than females were found to be suffering alcohol use disorders. Education was also significantly associated with the respondents' scores on the AUDIT test. Respondents that had not attained very high education levels were seen to have low risk of suffering from alcohol use disorders. Occupation and income of the respondents were also highly or significantly associated with their alcohol use levels. A high number of students were found to have low risk of suffering from alcohol use disorders. This was also noted with respondents who were not employed but were not students. Consequently many respondents that had no income were also at the low risk level in their AUDIT scores. Finally socio-demographic factors that were found to have no significant

association with the alcohol use of the respondents were their residence and Marital status. This was probably because the respondents were mostly residing in the urban areas and the majority of them were single; indicating a clear bias in the data. (Table 4.3 below)

Table 4. 3: Association between Respondents Alcohol Use and Socio-Demographic Factors

				Pearson Chi-square (P Value)
		AUDIT Results		
		High Risk Or Harmful Level	High Risk Or Dependent	
Gender	Male	14(8.6%)	13(8.0%)	*<0.001*
	Female	2(1.2%)	7(4.3%)	
Age	15 -17yrs	4(2.4%)	0(0.0%)	*<0.007*
	18 - 25yrs	12(7.3%)	20(12.2%)	
Marital Status	Single	15(9.1%)	17(10.4%)	*0.949*
	Married	1(0.6%)	3(1.8%)	
	Widowed	0(0.0%)	0(0.0%)	
Education	University	4(2.4%)	10(6.1%)	*< 0.001*
	T.College	5(3.0%)	4(2.4%)	
	Secondary	5(3.0%)	0(0.0%)	
	Primary	2(1.2%)	6(3.7%)	
	None	0(0.0%)	0(0.0%)	
Occupation	Employed	0(0.0%)	9(5.5%)	*< 0.001*
	Self Employed	4(2.5%)	5(3.1%)	
	Unemployed	7(4.3%)	4(2.5%)	
	Student	5(3.1%)	2(1.2%)	
Income	No Income	11(6.7%)	7(4.3%)	*<0.001*
	1-10,000	3(1.8%)	5(3.1%)	
	10,000-25,000	2(1.2%)	3(1.8%)	
	25,001-40,000	0(0.0%)	5(3.1%)	
	40,001+	0(0.0%)	0(0.0%)	
Residence	Urban	15(9.2%)	18(11.0%)	*0.207*
	Rural	1(0.6%)	2(1.2%)	

4.3.3 Association between Socio-Demographic Factors and the Occurrence of Alcohol Use Disorders.

Marital status and residence did not influence the outcome. This is because despite marital status having an OR of 1.616 and residence having an OR of 0.441; both the 95% CI, that is, the lower

and upper bounds were above 1.0 meaning they had not reached statistical significance. As for the rest of socio-demographic factors, though significantly associated with the outcome the ORs are very low meaning that they are associated with lower odds of outcome. (Table 4.4. below)

Table 4. 4: Association between Socio-Demographic Factors and the Occurrence of Alcohol Use Disorders

	Alcohol Use Disorder		
Socio-Demographic Factors	**Odds Ratio(OR) Exp(B)**	**95% C.I for Exp(B)**	
		Lower	**Upper**
Gender	0.310	0.152	0.635
Age	0.246	0.090	0.674
Marital status	1.616	0.609	4.290
Occupation	0.287	0.145	0.569
Income	0.287	0.145	0.569
Residence	0.441	0.157	1.245

4.4 Prevalence of Substance Use among the HIV Infected Youth

To determine the level of substance use of the respondents; the DAST was used to measure whether they had a problem with illicit drugs. Most of the respondents (47.6%) reported no problem with 0 scores and 6.1% of the respondents were at low level of drug use with scores between1 to 2. Slightly above 20% of the respondents were at moderate levels of drug use with scores between 3 to 5. Finally, 26.2% of the respondents were using and abusing drugs substantially with scores between 6-8 scores. Generally, over slightly above 46% of the respondents showed clear indications of having a substance use disorder. (Table 4.5. below)

Table 4. 5: Respondents DAST Scores Results

		Frequency	Valid Percent
Valid	No problems Reported(0 scores)	78	47.6
	Low level of Substance Use (1-2 scores)	10	6.1
	Moderate level of Substance Use (3-5 scores)	33	20.1
	Substantial level of Substance Use (6-8 scores)	43	26.2
	Total	164	100.0

4.4.2 Association between Respondents Substance Use and Socio-Demographic Factors

It clearly shows that there was no significant association between respondents' substance use and their socio-demographic factors. This could be attributed to the fact that regardless of these factors the number of respondents that were in moderate and substantial use levels was more or less evenly distributed. (Table 4.6 below)

Table 4. 6: Association between Respondents Substance Use and Socio-Demographic Factors

				Pearson Chi-square (P Value)
		DAST Results		
		Moderate Level	Substantial Level	
Gender	Male	20(12.3%)	29(17.8%)	*0.085*
	Female	13(8.0%)	14(8.6%)	
Age	15 - 17yrs	8(4.9%)	6(3.7%)	*0.269*
	18-25yrs	25(15.2%)	37(22.6%)	
Marital Status	Single	30(18.3%)	38(23.2%)	*0.468*
	Married	3(1.8%)	4(2.4%)	
	Widowed	0(0.0%)	1(0.6%)	
Education	University	11(6.7%)	6(3.7%)	*0.379*
	T.College	3(1.8%)	11(6.7%)	
	Secondary	10(6.1%)	18(11.0%)	
	Primary	8(4.9%)	8(4.9%)	
	None	1(0.6%)	0(0.0%)	
Occupation	Employed	6(3.7%)	4(2.5%)	*0.152*
	Self Employed	10(6.1%)	9(5.5%)	
	Unemployed	8(4.9%)	17(10.4%)	
	Student	9(5.5%)	12(7.4%)	
Income	No Income	18(11.0%)	29(17.8%)	*0.655*
	1-10,000	7(4.3%)	11(6.7%)	
	10,000-25,000	4(2.5%)	3(1.8%)	
	25,001-40,000	3(1.8%)	0(0.0%)	
	40,001+	0(0.0%)	0(0.0%)	
Residence	Urban	28(17.2%)	35(21.5%)	*0.955*
	Rural	5(3.1%)	7(4.3%)	

4.4.3 Association between Socio-Demographic Factors and the Occurrence of Substance Use Disorders

All the socio-demographic factors did not influence the outcome. This is because all the 95% CI values (the lower and upper bounds) were above 1.0 meaning they had not reached statistical significance. (Table 4.7 below)

Table 4. 7: Association between Socio-Demographic Factors and the Occurrence of Substance Use Disorders

		Substance Use Disorder	
		95% C.I for Exp(B)	
Socio-Demographic Factors	Odds Ratio Exp(B)	Lower	Upper
Gender	0.637	0.342	1.186
Age	0.768	0.371	1.588
Marital status	0.487	0.181	1.309
Occupation	1.113	0.593	2.090
Income	1.234	0.657	2.318
Residence	0.903	0.390	2.088

4.5 Association Between Alcohol Use Disorders And Substance Use Disorders Among The Respondents

The researcher wanted to determine whether respondents that had or did not have alcohol use disorders according to their AUDIT scores also showed the same results in their DAST scores meaning that they either did not or had a substance use disorder. As indicated in the table below, there was a significant relationship between the two variables at a P value of 0.049. Clearly, majority of the respondents that were at low risk of getting any alcohol use disorder also reported no problems in their DAST scores. However; since the respondents were all HIV positive it is also important to mention that they also had some in the same category who were at moderate and substantial level of substance use. In line with the significant relationship, again majority of the respondents that were at risky and or hazardous level, high risk or harmful level and high risk or dependent level of alcohol use indicating that they suffered from alcohol use disorders also

showed that they were at moderate level and substantial level of substance use indicating that they also had a substance use disorder. (Table 4.8 below)

Table 4. 8: Relationship Between Alcohol Use Disorders And Substance Use Disorders Among The Respondents

		DAST Results				Total
		No Problems Reported	Low level	Moderate level	Substantial level	
AUDIT Results	Low Risk	61(37.2%)	9(5.5%)	18(11.0%)	22(13.4%)	110(67.1%)
	Risky And Or Hazardous Level	5(3.0%)	0(0.0%)	7(4.3%)	6(3.7%)	18(11.0%)
	High Risk Or Harmful Level	5(3.0%)	1(0.6%)	3(1.8%)	7(4.3%)	16(9.8%)
	High Risk Or Dependent level	7(4.3%)	0(0.0%)	5(3.0%)	8(4.9%)	20(12.2%)
Total		78(47.6%)	10(6.1%)	33(20.1%)	43(26.2%)	164(100.0%)
					P Value	*0.049*

4.6 Association between Socio-Demographic Factors and the Occurrence of Alcohol & Substance Use Disorders

As shown; gender was associated with low odds of outcome i.e. the occurrence of alcohol and substance use disorder. The OR was 0.370 with 95% CI (lower and upper bounds) between 0.166 and 0.829. As for the rest of socio-demographic factors, they did not influence the outcome. For example age which had an OR of 2.247; the 95% CI (lower and upper bounds) was between 0.808 and 6.247 which was over 1- which means it had not reached any statistical significance; (Table 4.9 below)

Table 4. 9: Association between Socio-Demographic Factors and the Occurrence of Alcohol &Substance Use Disorders

Socio-Demographic Factors	Alcohol & Substance Use Disorder		
	Odds Ratio Exp(B)	95% C.I for Exp(B)	
		Lower	Upper
Gender	0.370	0.166	0.829
Age	2.247	0.808	6.247
Marital status	0.612	0.168	2.227
Occupation	0.502	0.239	1.054
Income	0.579	0.276	1.214
Residence	0.395	0.112	1.399

4.7 Overall Association between the Variables

Table 4. 10: Association between the Variables

		Age	Marital Status	Level of education	Occupation	Income	Residence	AUDIT Results	DAST Results
Gender	Pearson Correlation	.146	.174*	.104	.004	-.062	-.009	-.233**	-.161*
	Sig. (2-tailed)	.062	.026	.186	.961	.436	.908	.003	.040
	N	163	163	163	162	162	162	163	163
Age	Pearson Correlation	1	.175*	-.325**	-.446**	.314**	-.037	.222**	.106
	Sig. (2-tailed)		.025	.000	.000	.000	.637	.004	.175
	N	164	164	164	163	163	163	164	164
Marital Status	Pearson Correlation	.175*	1	.227**	-.091	.048	.316**	-.018	.013
	Sig. (2-tailed)	.025		.003	.245	.542	.000	.815	.865
	N	164	164	164	163	163	163	164	164
Level of Education	Pearson Correlation	-.325**	.227**	1	.198*	-.327**	.195*	-.235**	-.028
	Sig. (2-tailed)	.000	.003		.011	.000	.013	.002	.721
	N	164	164	164	163	163	163	164	164
Occupation	Pearson Correlation	-.446**	-.091	.198*	1	-.759**	-.010	-.315**	-.053
	Sig. (2-tailed)	.000	.245	.011		.000	.901	.000	.498
	N	163	163	163	163	162	162	163	163
Income	Pearson Correlation	.314**	.048	-.327**	-.759**	1	-.068	.280**	-.109
	Sig. (2-tailed)	.000	.542	.000	.000		.388	.000	.166
	N	163	163	163	162	163	162	163	163
Residence	Pearson Correlation	-.037	.316**	.195*	-.010	-.068	1	-.133	-.003
	Sig. (2-tailed)	.637	.000	.013	.901	.388		.090	.971
	N	163	163	163	162	162	163	163	163

**. Correlation is significant at the 0.01 level (2-tailed).

*.Correlation is significant at the 0.05 level (2-tailed).

CHAPTER 5

5.1 Discussion

It is a fact that alcohol and other drug use among our youth remains a major concern in the public health sector. According to NACADA, many youths continuously indulge in using and abusing alcohol and drugs and this study confirms this notion. This study's first research question was what the prevalence of alcohol and substance use was among HIV infected youth and overall; the study revealed that the prevalence of alcohol use was 33% (Table 4.2), and the prevalence of substance use disorders was 46% (Table 4.5). This study results are however not unique and in fact previous studies have established that people with HIV regardless of the reasons for indulgence have considerably higher rates of alcohol and substance use compared with the general population (U.S.DHHS, 2006).

Globally, the epidemics of alcohol abuse and HIV/AIDS are increasingly singled out as a major area of concerns for adolescent and youths' health (WHO, 2001). As for substance abuse; people with HIV have considerably higher rates of substance use compared with the general population. Though in many cases, youth who have been exposed to trauma, racism, discrimination, poverty and other social problems are expected to be at a higher risk of engaging in the use of substances as a means of self medicating (U.S.DHHS, 2006). Between the 2002 and 2005, HIV infected people who were participating in Community Health Advisory and Information Network (CHAIN), were interviewed twice to determine whether they had alcohol use problems and 21% of them screened positive at least in every interview (Galvan, Bing, Fleishman, et al; 2002). According to this study, the prevalence rate of alcohol in HIV infected individuals is high almost twice rate in non-HIV infected people in the USA. Though this study was carried out in a different context, the results are more or less similar.

The second research question was whether there was an association between alcohol, substance use and socio-demographic factors among the HIV infected youth. The study revealed that indeed there was a highly significant association between socio-demographic factors and the prevalence of alcohol use disorders (Table 4.3). Again these results are not unique; according to a study carried out on the prevalence and correlates of Alcohol dependence disorders among TB and HIV infected patients in Zambia; socio- demographic factors were found to significantly associated with respondents' alcohol dependence (Rebecca, et al., 2010). With regards to whether the socio-demographic factors were associated with prevalence of substance use disorders the study revealed that there was no significant relationship (Table 4.6). This is however unique to this study. Other related studies that have been conducted and published have indicated that there is a relationship between the two. For example, a study conducted to compare the demographics of non-medical prescription drug users to HIV risk behavior profile of respondents concluded that indeed socio-demographic factors played a role in prevalence of the substance use disorder hence significant (Catherine, et al., 2014). This trend has also been noted in prevalence of both alcohol and use disorders in HIV patients and this was also established in this study. A growing body of research suggests that alcohol consumption and substance use in HIV patients are associated with the patients socio-demographic factors.

5.2 Conclusion

As indicated, the study established that there was high prevalence of alcohol use disorder and substance use disorder. This is concern considering the fact that the youth are on HAART and not supposed to use alcohol or drugs which may interfere with their metabolism of the ARVs, and negatively impacting on the effectiveness. This therefore, shows that results are significant because many of the youth could possibly be suffering from poor treatment outcomes.

5.3 Recommendation

Some of the recommendations emanating from the study are:

1. First and foremost clinicians need to be particularly vigilant for all levels of alcohol use and substance use and abuse in HIV infected patients because even intermittent use can complicate the clinical management of HIV infected patients by:

   - Diminishing adherence to medication
   - Increasing risk of hepatic injury
   - Reduces the patient's ability to practice safer sex
   - Increasing the risk of side effects from medication

2. This can be partly achieved by the medical facilities and clinics offering HIV treatment availing alcohol and substance use screening tests to determine whether the patients are having alcohol or substance use disorders or both as part of the treatment program.

3. An education program for the youth should also be introduced at the treatment facilities to ensure that the youth are constantly reminded and taught the negative impacts of using drugs and taking alcohol and what it means for their treatment outcomes. This education programs should also involve their families or caregivers especially those that are taking care of the patients who are 15 to 17 yrs old. HIV patients deserve clear, accurate and comprehensive information about the effects of alcohol use and substance use on their disease.

4. Another recommendation is that the HIV treatment centers should entail one stop centers where the patients can access core medical treatment as well as ancillary psycho-social services from psychologists.

5.4 Suggestions for Further Studies

One of the limitations of this study was that all the respondents that participated in the study were HIV infected; though it was necessary for this particular study, it created a sampling bias and this was reflected in the data collected. Therefore, the researcher suggests that another study should be conducted in the setting where respondents are also HIV negative to determine the true prevalence in comparison to the HIV infected youth.

Another shortcoming in this study was that the sample size used was also very small compared to the number of people that are said to be infected by HIV in Kenya to date. This makes it very hard to generalize the outcome of the research to a wider population. The study should also be carried out with a larger sample to establish if the results attained in this study will be replicated and hence generalized to the wider population.

Finally; noting the importance of this study and what the results imply for the respondents treatment outcomes; further study should be carried out to check on prevalence on other age groups and more importantly determining their treatment outcomes. This will help in planning and laying out strategies that will mitigate the problems.

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APPENDICES

Appendix 1: Informed Consent Explanation For Participants Who Are 18 Yrs And Above:

My name is Rosemary Kiunyu, I am a Master of Science in Clinical Psychology student from the University of Nairobi, Department of Psychiatry. I am doing research on Prevelance of Alcohol & Substance Use disorders Among HIV Infected Youth Aged Between 15-25yrs Attending Comprehensive Care Centre [CCC] at Mbagathi District Hospital and would like you to be part of this research. The main objective of the study is to assess the prevalence of alcohol and substance use disorders among HIV infected youth aged between 15-25yrs old. The specific objectives of the study are to:

To determine the prevalence of alcohol and substance use among the HIV infected youth

To establish the association between alcohol, substance use and demographic factors among the HIV infected patients

The benefit will be; the information obtained from this research will act as one of the latest material to stakeholders and will help in policy making with regards to focus in prevention of HIV infections among youth in particular illicit drug users, it will also help in determining the magnitude of youth involvement in drug use while on Antiretroviral Therapy and therefore help in making informed strategies on mitigation among other things. If you choose to participate in the study, there will be no risks to your health or well being.

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Any information you give as a participant will only be used for this study and confidentiality and anonymity will be upheld at all times during and after the study.

The expected time for participation; the data collection instruments that you are required to fill are three but very short ones. All of them will take approximately 15 minutes to complete. However, the whole data collection process of the research will run for 30 working days from its commencement.

NB: In case of any queries or enquiries you can call me on my mobile no: 0722-315002 Or Contact the KNH/UON/ERC for further details

Appendix 2: Informed Assent Form for the Youth aged 18yrs and above attending Comprehensive Care Centre [CCC] at Mbagathi District Hospital

Part A: Statement by the Participant

I have been invited to participate in research on " Prevalence of Alcohol & Substance Use disorders Among HIV Infected Youth Aged Between 15-25yrs Attending Comprehensive Care Centre [CCC] at Mbagathi District Hospital" I have read the foregoing information, or it has been read to me and I have understood it. I consent voluntarily to be a participant in this study

Print Name of Participant_____

Signature of Participant _____

Date _____

(*Participants who are illiterate should include their thumb print as well)*

Appendix 3: Informed Consent Explanation For Participants Who Are below 18 Yrs old

My name is Rosemary W. Kiunyu, I am a Master of Science in Clinical Psychology student from the University of Nairobi, Department of Psychiatry. I am doing research on Prevalence of Alcohol & Substance Use disorders Among HIV Infected Youth Aged Between 15-25yrs Attending Comprehensive Care Centre [CCC] at Mbagathi District Hospital and would like you to be part of this research. The main objective of the study is to assess the prevalence of alcohol and substance use disorders among HIV infected youth aged between 15-25yrs old. The specific objectives of the study are to:

To determine the prevalence of alcohol and substance use among the HIV infected youth

To establish the association between alcohol, substance use and demographic factors among the HIV infected patients

The benefit will be; the information obtained from this research will act as one of the latest material to stakeholders and will help in policy making with regards to focus in prevention of HIV infections among youth in particular illicit drug users, it will also help in determining the magnitude of youth involvement in drug use while on Antiretroviral Therapy and therefore help in making informed strategies on mitigation among other things. If you choose to participate in the study, there will be no risks to your health or well being.

Your participation in this research is entirely voluntary. It is your choice whether to let your daughter, son or relative to participate. Any information they give as a participant will only be used for this study and confidentiality and anonymity will be upheld at all times during and after the study.

The expected time for participation; the data collection instruments that you are required to fill are three but very short ones. All of them will take approximately 15 minutes to complete. However, the whole data collection process of the research will run for 30 working days from its commencement.

NB: In case of any queries or enquiries you can call me on my mobile no: 0722-315002 Or Contact the KNH/UON/ERC for further details

Part A: Informed consent For parents and guardians for respondents that are below 18yrs

My son, daughter or relative has been invited to participate in the study mentioned and I can confirm that I have not been coerced into giving consent for her/ him to participate in the study. I can also confirm that she/he has not been coerced into giving assent either and has indeed freely agreed to participate in the study willingly and voluntarily and a copy of this Informed consent form has been provided to me.

Print Name of person giving the consent_____

Signature of person giving the consent_____

Date _____

(*Participants who are illiterate should include their thumb print as well)*

Part B: Informed Assent Form for the under 18yrs old participant

I have been invited to participate in research on "Prevalence of Alcohol & Substance Use disorders Among HIV Infected Youth Aged Between 15-25yr at the Comprehensive Care Centre [CCC] at Mbagathi District Hospital" I have read the foregoing information, or it has been read to me and I have understood it. I consent voluntarily and with my parents or guardians assent to be a participant in this study

Print Name of Participant_____

Signature of Participant _____

Date _____

(*Participants who are illiterate should include their thumb print as well)*

Appendix 4: Socio Demographic Questionnaire

Instructions: ***Please Tick the Appropriate Answer***

1. Gender

a) Male
b) Female

2. Age

a) 15 to 18 yrs
b) 19 to 22 yrs
c) 23 to 25 yrs

3. Marital Status

a) Single
b) Married
c) In a relationship
d) Co-habiting
e) Widowed

4. Level of education?

a) University Education
b) Tertiary College
c) Secondary School
d) Primary School
e) No formal education

5. What is occupation?

a) Employed
b) Self Employed
c) Unemployed
d) Student

6. Income

a) No income
b) 1 to 10,000 Kshs

c) 10,001 to 25,000 Kshs
d) 25,001 to 40,000 Kshs
e) 40,000 Kshs and above

7. Where do you live?

a) urban areas
b) rural areas

7b. please specify _____

8. With whom do you live with?

a) Alone
b) With my parents
c) With my siblings
d) with my partner/spouse
e) With friends

8b. please specify _____

Appendix 5: Socio Demographic Questionnaire-Kiswahili Version

Maagizo: ***Tafadhali Weka Alama Kwenye Jibu Ifaayo***

1. Jinsia?

   a) Mwanamme ☐
   b) Mwanamke ☐

2. Umri wako ?

   a) Miaka 15 hadi 18 ☐
   b) Miaka 19 hadi 22 ☐
   c) Miaka 23 hadi 25 ☐

3. Hali ya ndoa?

   a) Sijaoa ☐
   b) Nimeoa ☐
   c) Uhusiano wa kimapenzi ☐
   d) Mjane ☐

4. Kiwango cha masomo?

   a) Chuo kikuu ☐
   b) Shule cha upili ☐
   c) Shule ya msingi ☐
   d) Siku enda shule ☐
   e) Nyingine tafadhali fafanua _____

5. Ni kazi gani unayofanya?

   a) Ni kazi ya ajira ☐
   b) Nimejiajiri ☐
   c) Sija ajiriwa ☐
   d) Mimi ni mwanafunzi ☐

6. Unalipwa au kupata pesa kiasi ngani kila mwezi ?

   a) Sipata malipo ☐
   b) Kati ya shilingi 1 hadi 10,000 ☐
   c) Kati ya shilingi 10,001 hadi 25,000 ☐

d) Kati ya shilingi 25,001 hadi 40,000 ☐
e) Kati ya shilingi 40,001 au zaidi ☐

7. Mkaazi yako ni ngani?

a) Naishi mjini ☐
b) Naishi mashabani ☐

7b. Tafadhali fafanua; _____

8. Je, kwa makaazi yako unaishi na nani?

a) Naishi peke yangu ☐
b) Naishi na wazazi ☐
c) Naishi na ndugu zangu ☐
d) Naishi na mpenzi wangu ☐
e) Naishi na rafiki ☐

8b. Tafadhali fafanua; _____

Appendix 6A: The Alcohol Use Disorders Identification Test(AUDIT)

1. How often do you have a drink containing alcohol?

(0) Never (Skip to Questions 9-10)
(1) Monthly or less
(2) 2 to 4 times a month
(3) 2 to 3 times a week
(4) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

(0) 1 or 2
(1) 3 or 4
(2) 5 or 6
(3) 7, 8, or 9
(4) 10 or more

3. How often do you have six or more drinks on one occasion?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

6. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

7. How often during the last year have you needed an alcoholic drink first thing in the morning to get yourself going after a night of heavy drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

8. How often during the last year have you had a feeling of guilt or remorse after drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

(0) No
(2) Yes, but not in the last year
(4) Yes, during the last year

10. Has a relative, friend, doctor, or another health professional expressed concern about your drinking or suggested you cut down?

(0) No
(2) Yes, but not in the last year
(4) Yes, during the last year

Appendix 6B: The Alcohol Use Disorders Identification Test (AUDIT)- Kiswahili Translation

1. Je, ni mara ngapi una kunywa vinywaji ambayo yana pombe?

(0) si ja wahi (ruka hadi swali la 9-10)
(1) Mara Moja Kwa Mwezi Au Hata Mara Chache Zaidi
(2) Mara Mbili Hadi Mara Nne Kwa Mwezi
(3) Mara Mbili Hadi Tatu Kwa Wiki
(4) Mara Nne Au Zaidi Kwa Wiki

2. Ni vinywaji ngapi yanayo pombe unakunywa kwa kawaida ? [kwa siku moja]

(0) moja au mbili
(1) tatu au nne
(2) tano au sita
(3) saba, nane, au tisa
(4) kumi au zaidi

3. Ni mara ngapi unakunywa vinywaji 6 au zaidi ya pombe kwa wakati mmoja?

(0) si ja wahi
(1) mara chache kuliko mara moja kila mwezi
(2) kila mwezi
(3) kila wiki
(4) kila siku au karibu kila siku

4. Ni mara ngapi kwa mwaka uliopita, umejipata kushindwa kusita kunywa pombe kila unapoanza kunywa?

(0) si ja wahi
(1) mara chache kuliko mara moja kila mwezi
(2) kila mwezi
(3) kila wiki
(4) kila siku au karibu kila siku

5. Ni mara ngapi kwa mwaka uliyopita umejipata ukilegea/ ukishindwa kutimiza majukumu yako kwa sababu ya ulevi?

(0) si ja wahi
(1) mara chache kuliko mara moja kila mwezi
(2) kila mwezi
(3) kila wiki
(4) kila siku au karibu kila siku

6. Je, ni mara ngapi kwa mwaka huu uliyopita, umejipata umekosa fahamu ya lolote lilicho fanyika usiku uliyo pita kwa sababu ya ulevi?

(0) si ja wahi
(1) mara chache kuliko mara moja kila mwezi
(2) kila mwezi
(3) kila wiki
(4) kila siku au karibu kila siku

7. Je, ni mara ngapi kwa mwaka huu uliyopita, umejipata ukitamani kunywa pombe asubuhi "kama kifungua macho" iliuweze kuendelea na shughuli zako ?

(0) si ja wahi
(1) mara chache kuliko mara moja kila mwezi
(2) kila mwezi
(3) kila wiki
(4) kila siku au karibu kila siku

8.Je, ni mara ngapi kwa mwaka uliyopita, umejipata ukihisi huzuni au kuwa na hisia za mtu aliyefanya hatia baada ya kunywa pombe?

(0) si ja wahi
(1) mara chache kuliko mara moja kila mwezi
(2) kila mwezi
(3) kila wiki
(4) kila siku au karibu kila siku

9. Je wewe au mtu mwingine amewahi pata majeraha kwa sababu yako kunywa pombe?

(0) hapana
(2) ndio, lakini siyo mwaka huu umepita
(4) ndio, mwaka huu umepita

10. Je, kuna jamaa yako , rafiki, daktari au muhuduma wa afya mwengine ambaye ameonyesha kushangaa na kukunywa pombe yako na hata kuhisia kuwa upunguze kunywa pombe?

(0) hapana
(2) ndio, lakini siyo mwaka huu umepita
(4) ndio, mwaka huu umepita

Appendix 7A: Drug Abuse Screening Test (DAST)

The Drug Abuse Screening Test (DAST) was developed by (Harvey, 1982) to look at the prevalence of substance use besides alcohol, among different age group. This version used for this study has been tailored to suite the study population that has been targeted.

Directions: The following questions concern information about your involvement with drugs. Drug abuse refers to (1) the use of prescribed or "over-the-counter" drugs in excess of the directions, and (2) any non-medical use of drugs. The various classes of drugs may include: cannabis e.g. marijuana or hash, solvents, tranquilizers e.g. valium; barbiturates, cocaine and other stimulants e.g. speed; hallucinogens e.g. LCD or narcotics e.g. heroine. Consider the past year (12 months) and carefully read each statement. Then decide whether your answer is YES or NO and check the most appropriate space even for statements that you have difficulty with. Please be sure to answer every question**.**

Questions Refer To The Past 12 Months	***Yes***	***No***
1. Have you used drugs other than those required for medical reasons?		
2. Do you abuse more than one drug at a time?		
3. Are you always able to stop using drugs when you want to		
4. Have you had "blackouts" or "flashbacks" as a result of drug use?		
5. Do you ever feel bad or guilty about your drug abuse		
6. Does your spouse or parents ever complain about your involvement with drugs?		
7. Have you ever neglected your family/work because of your drug use		
8. Have you engaged in illegal activities in order to obtain drug?		
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?		
10. Have you had medical problems as a result of your drug use (contraction of HIV infection; STIs, hepatitis, bleeding, etc.)?		

Appendix 7B: Drug Abuse Screening Test (DAST)-Kiswahili Version

Maswala Haya Yanalenga Matokeo Ya Mwaka Moja Uliyopita	***Ndio***	***Hapana***
1. Je, umetumia madawa mengine mbali na yale yanayohitajika kwa matibabu?		
2. Je, unatumia mihadarati zaidi ya moja kwa maramoja au kwa wakati mmoja ?		
3. Je, umeshindwa kusita kutumia mihadarati kila unapojaribu?		
4. Je, umewahi poteza fahamu kwa sababu ya kutumia mihadarati?		
5. Je, huwa unasikia vibaya au kushikwa na hisia za huzuni kutokana na matumizi yako ya mihadarati?		
6. Je, wazazi au mpenzi wako wamenungunika juu ya matumizi yako ya mihadarati?		
7. Je, umewahi lenga au kosa kutimiza mahitaji ya familia yako kwa sababu ya kutumia mihadarati		
8. Je, umewahi jihusisha na matendo yaliokinyume cha sheria kupata mihadarati?		
9. Je, umewahi pata maumivu na kusikia vibaya au mgonjwa baada ya kujaribu kisitisha kutumia mihadarati?		
10. Je, umewahi pata shida ya kimwili au maradhi yoyote kwa sababu ya kutumia mihadarati		

Appendix 8: Work Plan

Activities	Oct-Dec 2013	Jan-April 2014	May 2014	June 2014	July 2014	Aug 2014	Sept 2014	Oct 2014	Nov-Feb 2015	Mar-May 2015	June-July 2015	Aug 2015
Proposal Writing	√	√										
Presentation of the Proposal for Approval			√									
Sampling of respondents				√								
Piloting of Data Collection Instrument						√						
Finalizing The Instruments							√	√				
Data Collection									√			
Data Analysis										√		
Presentation of The Research Project for Approval											√	
Finalizing The Project and presentation to the Librarian												√

Appendix 9: Budget & Budget Justification

Activities	Total cost per Activity
Proposal Writing*-Sourcing For Material & Books. This includes purchasing of stationery ,food and transport*	*20,000/=*
Sampling of respondents and Piloting of Data Collection Instrument	*20,000/=*
Finalizing The Instruments _ *Which Includes Printing And Photocopying*	*5,000/=*
Data Collection _*This will be conducted for 30 working days & this includes lunch and travelling costs @ 2500/=daily*	*50,000/=*
Presentation Of The Research Project for Approval _ *Printing and Photocopying*	*2,000/=*
Finalizing The Project_ *Presentation to the Librarian*	*3,000/=*
Ethics &Research Committee Fee	*2,000/=*
Mbagathi Hospital Research Fee	*5,000/=*
Miscellaneous Expenses _ *Phone Credits Etc*	*10,000/=*
Contingency @ 10%	*11,700/=*
Total cost	***117,000/-***