THE ASSOCIATION BETWEEN SUBSTANCE USE DISORDERS AND EMPLOYMENT STATUS AMONG PATIENTS ON TREATMENT AND FOLLOW UP IN MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE AWARD OF THE DEGREE FOR MASTERS OF MEDICINE IN PSYCHIATRY.

UNIVERSITY OF NAIROBI

BY

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DECLARATION

Dr. Esther Wambui Kiarie, do hereby declare that this research proposal is my original work has not been presented for any other degree in any other university.

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DEDICATION

I dedicate this work to God Almighty for enabling me reach this far, my husband Dr. Chan Joack, my parents Mr. and Mrs Kiarie, my child Nathan Mat, my siblings Elijohn Njema and Carolyne Njeri, the department of Psychiatry, University of Nairobi and consultants and colleagues in Mathari National Teaching and Referral Hospital.

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ACRONYMS

DALY: Disability-Adjusted Life Year

SUD: Substance Use Disorders

AUD: Alcohol Use Disorder

GHE: Global Health Estimates

WHO: World Health Organization

YLD: Years Lost due to Disability

YLL: Years of Life Lost

MNTRH: Mathari National Teaching and Referral Hospital

ILO: International Labor Organisation

UNODC: United Nations Office on Drugs and Crime

TEDS: Treatment Episode Data Set

NSDUH: National Survey on Drug Use and Health

USA: United States of America

ATS: amphetamine-type stimulants

YLD: Years Lived with Disability

SAHMSA: Substance Abuse and Mental Health Services Administration

LSD: Lysergic acid diethylamide

WDR: World Drug Report

APA: American Psychological Association

NACADA: National Authority for the Campaign Against Alcohol and Drug Abuse

HHS: Health and Human Services

NIDA: National Institute on Drug Abuse

SES: Socioeconomic status

HIV: Human immunodeficiency virus

DEFINITIONS OF TERMS

Substance abuse –According to WHO this refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs for example marijuana/hashish, cocaine, heroin, hallucinogens, inhalants, and prescription-type drugs such as benzodiazepines. These substances can lead to dependence disorders that are a group of problems in behaviour, cognitive function and physiological disorders that develop after continuous use.

Dependence and addiction is characterised by a strong desire to take the drug, inability to control its use, continuity in use despite the harmful consequences. High priority is given to the drug use that causes a deterrence in other activities and obligations. Dependence usually refers to a physical dependence on a substance is characterized by the symptoms of tolerance and withdrawal while Addiction is marked mainly by changes in behavior due to the biochemical changes in the brain after repeated substance abuse.

Substance use Disorders –According to DSM-5 this can be defined as the patterns of symptoms resulting from the consistent use of substance despite experiencing the consequences.

Employment- according to International Labour Organisation (ILO) employment comprises all persons of working age who during a specified period of time: - one week or one day, were in paid employment, either at work or with a job but not at working or on self-employment either working at that time or with a business enterprise but not working

Full-time employment as working time of 35 hours week, worked in the past week or having a job though not working in the past week.

Part time employment is described as working less than 35 hours per week, working in the past week or having a job despite not working in the past week.

The **unemployed group** is defined as not having a job or being on layoff and looking for work and making efforts to find work in the past 30 days.

People not in the **labor force** also represents retired persons, disabled persons, stay at home, students, or any other persons not working.

ABSTRACT

Background: Substance use disorders (SUDs) are a chronic problem among substance users and are usually associated with poor outcomes in employment. Persons with substance use disorders commonly experience socioeconomic vulnerability such as, unemployment, underemployment and low income.

Aim: The aim of this study was to determine the association of Substance use disorders and employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital (MNTRH)

Research tools and Methodology: This was a cross-sectional descriptive study where data was collected from 222 patients recruited via systematic simple random sampling in general wards and CSAT unit. A researcher designed socio-demographic questionnaire and the ASSIST Version 3.1 was used to collect data. Data was collected analysed using SPSS version 23.0.

Results: Majority of the study participants were male (83.8%). The mean age was 29.1% with age of onset of substance being 16-20 years and the most affected group between 21-30 years. The most prevalent Substance use disorders (SUDs) were Alcohol (75.2%), Tobacco (60.8%), Cannabis (48.2%). The middle socioeconomic status prevalence (SES) for all SUDs was 55.9% yet the lower SES showed a statistically significant association (P-0.005) with Alcohol use disorder (AUD). Cannabis use disorder was also more significantly associated (low odds) with educational level. This was especially noted specifically with primary (OR (95% CI) 0.3 (0.1 – 0.9) p-0.040), high school (OR (95% CI) 0.2 (0.1 – 0.6) p -0.006 and college (OR (95% CI) 0.4 (0.1 – 0.8), p-0.016). SUDs were found to have significantly associated with both current and past employment status and loss of employment.

Bivariate analysis showed significant association with self-employment and alcohol(p-0.045) and tobacco (p-0.034) use disorders. Statistically significant association between Cannabis use disorder with full time employment (P-0.005), unemployment/ looking for work (p-0.005) and unemployment/not looking for work ($p<0.001$)- bivariate analysis.

Conclusion: The prevalence rate of Substance use disorders is still high among patients and are significantly associated with sociodemographic characteristic and employment status of participants.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Substance use disorders are prevalent globally and remain a persistent public health crisis affecting every region worldwide. According to United Nations Office on Drugs and Crime (UNODC), about 35 million individuals have Substance use disorders (SUDs) and only 1 out of 7 people received treatment (UNODC, 2019). In 2017, an estimate of 5.5% (about 270 million) of the global population aged 15 to 64 years had used psychoactive drugs in the past year and about 13% (35 million people) were affected by substance use disorders (SUDs). Substance use disorders (SUDs) attribute to 10% of all global DALYs and 1.3% of the global burden of disease (WHO, 2017). They account for 25% of Years Lived with Disability (YLD) globally and are the second leading cause of disability among mental illnesses. In 2016, the Sub- Saharan Africa DALYs attributable to alcohol and drug use was 12.4% and 2.4% respectively (GBD, 2017). Ten Sub-Saharan African countries were ranked among the top 22 countries in the world with the highest increase of alcohol use and cannabis (Acuda W, et al 2011). Despite this, Sub-Saharan Africa's Substance Use Disorders (SUDs) burden is estimated to increase in the year 2050 by 130%. (Charlson, F. J. et al 2014) .

The most common SUDs were, cannabis dependence and opioid dependence, while alcohol use disorders were the most prevalent of all substance use disorders. The prevalence of SUDs was more in male than female, though the global prevalence for both had increased (GBD, 2016).

The burden of SUD presents a serious challenge for Kenya. It has one of the highest DALYs (54.000) in Africa (WHO, 2017) . In 2016, the prevalence of substance use disorders stood at

10.4% for alcohol, 6.8% for tobacco, 3.1% for khat and 0.8% for bhang / marijuana (NACADA, 2019). SUDs contributed to 34.4% of all the patients admitted in the hospital (Ndetei, D. M. et al. 2008).

Unemployment among people with SUDs has been identified as a chronic problem (McCoy, C. B, et al 2007). According to International Labor Organisation (ILO) employment includes any persons of working age who worked at a job or were self-employed for any time period for salary, wage, profit or gain.

The general unemployment rate in Kenya in 2019 was 2.64% and currently in the year 2020, it increased to 10.4% with the employment to population ratio increasing from 57.7% to 64.4%. People among age 18-29 years were the most affected (Plecher H. 2020). Unemployment is a key developmental challenge in Kenya and particularly affects youths between 18-25 years UNDP 2013. In 2011, people aged 15 to 24 years made up about 37% of the population that was considered working age yet they accounted for about 20 % of total jobs (ILO,2013). This is concurrent with the same age group most affected by SUDs. The mean age of onset of substance use in Kenya is 15-17 years (NACADA, 2016). Kenya's labor participation rate among the total population aged 15 to 65 years old in 2020 was about 75.2 % and 43.6% in 15-24years, these are the proportion of the population that were working at a given time span (Macrotrends, 2017). The quarterly labour data of the Kenya National Bureau of Statistics found that 43.27% of the youth lacked employment and this mostly affected those below 35 years, 14.2% were between 20-34 years. People aged 60-64 had marginal unemployment rates (KNBS, 2020). This shows that about 50% of the youths between ages 15-35 years are currently facing unemployment in Kenya yet the same group is most prone to developing SUDs.

SUDs have been known to decrease the overall productivity in people. Unfortunately, they are rampant in the workplace in Kenya and are commonly associated with negative effects. There is paucity in research on association or links of SUDs and employment status in Kenya, though many have addressed the use of drugs at the workplace, prevalence, effects and impacts of SUDs on efficiency and job performance. Persons with SUDs may face difficulty to finding and maintaining employment due to the illnesses themselves as their symptoms and treatments may cause general physical and cognitive disability that interfere with learning new skills and working. Poor of work background or experience, a lack of pre-employment skills such as:- poor internship and apprenticeship, poor motivation, lack of social relations skills, lack of discipline, and impulse control are all examples of job-related barriers to employment.. For example, in a survey on the situation of substance use among government employees in the Kenya, 33.3% were current users of alcohol, tobacco was used by 8.5 percent, miraa by 3.8 percent, bhang by 1.1 percent, and narcotics by 0.4 percent.. These findings were significantly higher compared to other sectors in the country. The effects of SUDs included receiving warnings from employers, poor work performance absenteeism due to hangover and needing an eye-opener to as a motivation for working (NACADA 2011). Konchella found that alcohol use disorders reduce productivity at the work place by reducing quality and rate of output, increased sick-off, lateness, absenteeism, high organizational cost, poor decisions and carelessness (Konchella R.M 2014).

Due to the noticeable impact of substance use disorders, National Campaign Against Drug Abuse Authority (NACADA) was established by the Kenyan Government in 2007 to steer campaign against drug abuse, make policies, implement regulations, to research and provide facilities for drug treatment in the various sectors in Kenya.

When unaddressed, alcohol and other substance use disorders in the workplace are costly for employers as well as individuals. Unemployment of people with substance use disorders contributes to poverty, loss of productivity and quality of work, absenteeism and high turnover. Therefore, this research seeks to determine the association between substance use disorders and employment status among patients on treatment and follow up at Mathari National Teaching and Referral Hospital with an aim of improving individual, social and employment aspects of people with SUDs and in contributing to policies set in place for alcohol and drug use in the Kenyan workplace.

1.2 Problem Statement

Substance use disorders are global public health challenge that have affected the world for many centuries. Efforts employed globally, regionally and nationally have not succeeded in deterring the manufacturing, distribution and use of illicit drugs and substances, therefore the prevalence of substance use disorders have risen to new levels worldwide. With 31,052,000 (25 percent) Years Lived with Disability (YLD) worldwide, SUDs are the second most cause of disability among mental illnesses. (GBD, 2017).

Substance use disorders are among the leading mental illnesses after depression and anxiety disorders in Kenya. Kenya has one of the highest DALYs in Africa due to alcohol use disorders (AUD) (0.2%) and SUDs (0.1%). WHO 2017. DALYs represent the number years of productive life lost due to illness, disability and premature mortality. In Kenya, alcohol use disorders contribute to the highest burden among SUDs and is most prevalent among the 18-29-year-old age group who are at the peak of productivity MOH 2020.

In 2011, Kenya had the highest employment rates disparities among youth and adults in the region. In terms of youth employment rates, it is one of the lowest. People below age of 34 years in Kenya, comprised about 66% of the working-age population, this is about 2 % higher than those in Africa (35.5 %) and about 11 % higher than the world (26.5 %) yet they accounted for most unemployed (ILO,2013).

The labour market situation in Kenya has been challenging more especially for the youth. The root causes of this challenge is not well known. Several researches have studied the youth labour market in Kenya (UNDP, 2013;Pollin, R. 2009) however, there is no proof regarding the particular factors that influence employment. This paper aims to fill this gap by exploring the association

between substance use disorders and employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Recognition of the importance of the links and relationships between substance use disorders (SUDs) and employment status are vital for curbing poverty. Information concerning SUDs and employment status globally and in Kenya raise questions whether their association could be due to inadequate policy implementation and poor health and safety knowledge and practice. Debates are ongoing to address policies in substance use and their related problems in the workplace in order to help in understanding the links and interactions and their implications for policymaking and practice.

The review discusses the concept of substance use, substance use disorders and their association with employment status. The review is grouped into the following sub-sets:

2.1 The concept of substance abuse and substance disorders: the addiction process

Research shows that substance abuse occurs within a range of severity from mild misuse, problem use, dependence, and addiction also synonymously known as substance use disorders. Substance use disorders are chronic, recurrent behavior patterns, which are characterized by a compulsion to seek for substances and to continue using them despite harmful effects that cause chronic chemical changes in the brain (HHS, 2016). These psychoactive substances directly activate the brain's reward system through the mesolimbic dopamine pathway and the endogenous opioid system. Dopamine released from the mesolimbic pathway regulates motivation and desire for rewarding stimuli and facilitates reinforcement and learning. This produces feelings of pleasure due to perception of reward and increases motivation to continue with substance use (Malenka R.C et.al, 2009.). The activation may cause intense craving for the substance and ultimately neglect normal

activities such as employment in order to obtain and use the drug.(NIDA, 2020). Chronic exposure to the psychoactive drugs such as alcohol, tobacco, opioids and cannabis has been shown to cause changes within the brain's endogenous opioid system (Trigo, J. M. et al., (2010). It has been reported from several studies that the endogenous opioid system plays an crucial role in the addiction through genetic studies though mechanisms that contribute to drug craving and relapse is not clear (Reed, B. et al 2017)

Another key area that could explain causation of substance use disorders is the genetic characteristics of a person. According to research, there is growing evidence that substance use disorders are hereditary, and genetic influences may explain a large number of hypotheses. Research has found that genetic predisposition account for 40-70% of persons with SUDs (HHS, 2016). There is no single or specific "addiction gene" any type of substances even though genetic vulnerability appears to be specific to the various types of substances (Begun, A.L. 2017). Several studies on family, twin and adoption have identified the significant role of heritable factors on individual differences in SUDs. Results from twin studies esimates that 31-60% heritability to nicotine dependence (Bidwell, L.C., et al 2016), while heritability of alcohol use disorders is about 50% (Verhulst, B., 2015), 40-48% for cannabis use disorders (Stringer, S. et al, 2016). Heritability estimates for cocaine use disorders range between 65 to 79% (Cabana-Domínguez. J., et al, 2019). Genetics therefore make significant contribution to the development of SUDs.

2.2 The causes of substance abuse in patients with substance use disorders: psycho-social factors

2.2.1 Risk factors

There are several risk factors attributed to SUDs. Research propose that these may act on the stress circuits in the brain as addictive substances, which may explain why they increase SUDs risk (Teicher, M. H., & Samson, J. A., 2013).

According to one research these risk factors include; behavioral problems, pleasure or recreational purposes, unpleasant feelings due to life stressors such as sexual, physical or emotional pain, family instability such as parental conflicts, neglect and substance abuse, stress or other psychiatric illnesses, poverty, low educational level and sociocultural contexts (Whitesell, M., et al 2013). Poor coping mechanisms due to such stressful situations may influence an individual to indulge in negative behavior such as substance use as a form of drug self-administration. Studies suggest that individuals with SUD face several challenges in making the transition to work from treatment. A research examining among unemployed individuals with SUDs identified some barriers against employment, as lack of education and skills; problems of health; and discrimination by employers and employees (Sigurdsson, S. O., et al 2012). This review also seeks to address some of the risk factors that link substance use disorders to employment status.

2.2.2 Demographic characteristics

2.2.2.1 Sex and Age of an individual

Studies have shown sex plays an important role in susceptibility to substance use disorders. Males have been found to be more likely than females to use substances. (SAMHSA, 2016) however; females are equally likely as males to develop SUDs. Studies on the gender difference in drug SUDs suggest that some underlying biological and social differences between females and males could affect how each responds to substances and develop SUDs. Becker, J. et al, 2016 suggests gender differences in SUDs are due to interaction between sociocultural factors and neurobiological sex differences. Gender difference could be due to the different neural systems organization and functioning between the genders which is responsible for motivation and development of SUDs (Becker,J. et al 2012). Further research needs to be done as there no conclusive evidences for such differences. According to a research conducted in Kenya, male health care workers (HCWs) had higher rates of substance use than female HCWs for all types of substances. Male gender has been reported as a predictor for alcohol and substance use disorders (Mokaya, A.G, et al 2016) . Clinical studies also say that females who use substances progress (telescope) faster than males from initial use to illness. (Greenfield, S. F.,et al., 2010).

Globally, the peak age of substance use disorders are seen among those aged 18–25 (UNODC 2018).Substance use disorders can occur at any age, but research shows that the peak age is more among age 18-32 years old and the mean age was 22.9 years among college students (Atwoli, L. et al 2011) . The highest lifetime prevalence for khat and cannabis use disorders was high among those aged 25–35 and have cocaine, heroin and prescription drug use disorders in those aged 18-24 years in Kenya (UNODC 2018). Early substance use has also been linked to a higher risk of developing SUDs than those who began later in life. (Jordan, C.J., & Andersen, S.L 2017).

2.2.2.2 Educational Attainment

The relationship between education and substance use disorders is still unclear. Some studies that have described the educational attainment and substance use and their related disorders, suggest education among substance users are mixed. According to research, educational attainment has an inverse relationship with substance use and substance use disorders. Kinoti et al, 2011 found that lower educational attainment and job status were risk factors for use of cannabis. Females had higher education, employment status and less substance use. This findings were similar to a review of studies done in Germany that found low levels of educational attainment among young adults were associated with the use of cannabis and other drugs (Henkel, D., Zemlin, U.,2015) . Another study found that a higher educational attainment, income and high SES may be protective against AUD (Calling, S., et al, 2019)

2.2.2.3 Socio-economic status

Socioeconomic characteristics of an individual or community can influence substance use and substance use disorder patterns and consequently affect employment status. Some hypotheses posit the association between socioeconomic status and SUDs. The social causation and social influence theories suggests that SES characteristics of an individual and social networks are a cause of SUDs. The social selection or social drift theories posit vice versa; that SUDs affects SES. The social selection hypothesis suggests reverse causality in that preexisting substance use problems hinder individuals from retaining current employment (Bowes, L., et al 2013). The social drift hypothesis suggests that alcohol use disorder (AUD) affects social and economic consequences for the individual, therefore worsening their socioeconomic ladder (Jones, L &Sumnall, H., 2016). One example that has been studied especially in USA is the Skid Row. Skid row describes low SES vulnerable areas especially in urban areas where the poor, unemployed and homeless persons live.

A study in Los Angeles revealed that about 40,000 people of the homeless people had SUDs especially from Methamphetamines and heroin use disorders and as well as other mental illnesses (Rufo, C,F,. 2020). Alcohol use disorder (AUD) among the low SES groups has been characterized by using heavier alcohol quantities (binge drinking) while the higher SES group used more often (Huckle, T. et al, 2010). AUD has been shown to have more harmful socioeconomic consequences in users of lower SES than higher SES (Probst, C. et al 2014) as well as downward social mobility (Katikireddi, S,V, et al 2017). Economic recessions and increased unemployment have been associated with increased SUDs (Gera, et al, 2017). In Kenya, alcohol is consumed by 19.8% of the highest earners, compared to 13.2% of the lowest earners. (NACADA, 2012). Another study in Kenya on the socioeconomic disparities in substance use in Murang'a County found that the higher SES were more likely than those in low SES to use cigarettes, legal alcohol and were more likely to spend more money on buying substances. This study also showed that the low SES individuals have a higher risk of substance abuse and may therefore incur more economic burden due to cost of acquiring substances (Were, V, O., et al 2020).

2.2.3 Co- morbid mental and physical health problems

There are several associations between substance use, mental health problems and employment. Mental and physical health problems can be a trigger development of substance use disorders (SUD) and vice versa creating potential barriers against employment status.

World Health Organization (WHO) defines comorbidity as co-occurrence of a psychoactive substance use disorder and another psychiatric disorder (WHO,2014). One study on psychiatric comorbidity among individuals with AUD in South Africa found that the prevalence of psychiatric comorbidity was high (62.4%) with the most common comorbidities being major depressive (29.7%) and anxiety disorders (42.6%) (Charnotte, M., et al 2019) . This is concurrent with another

study done on substance abuse and psychiatric comorbidities in a Kenyan hospital showed that most of the patients with SUD had other co-morbid mental disorders. Schizophrenia was the most common co-morbidity followed by mood disorders (Ndetei, D.M, et al 2009). Similar findings were also found in a research done later in Nairobi where a high prevalence of depression and SUDs among the pregnant adolescents was noted (Kimbui, E., et al. 2018).

SUD are also implicated in chronic and life-limiting physical health problems. One study examined substance use disorders and the associated physical health, found that there were several associated medical health conditions such heart disease, sexually transmitted disease, cancer and mental health illnesses such as bipolar disorder and anxiety disorders associated with SUDs (Schulte, M. T., & Hser, Y. I. 2013).

In summary, in studies looking into employability and problem drug users, it was cited that, poor mental health and physical health can act as barriers to securing employment (Harris, L. M., et al 2014).

2.2.4 The association between substance use disorders and employment status

Recently, further research has been done on the relationship between drug use disorders and employment/unemployment, and it has found a strong connection between the two.

A research by Henkel D. (2011), focused on several studies between 1990-2010. It addressed several issues on prevalence, impact and effect of substance use disorders on employment and vice versa. This review found that prevalence of risky alcohol use was more in the unemployed people. The unemployed were also found to be more likely to have alcohol and substance use disorders. It also highlighted that problematic substance use increases the possibility of unemployment and lowers the probability of getting and maintaining a job. Unemployment was also identified as an

important risk factor for SUDs and may also increase relapse after drug addiction treatment. It was also observed that patterns of drinking and smoking appeared to be pro-cyclical in that there were decrease in both when the economy decline and the unemployment rate increases.

A study examining transitions in employment for people with serious mental illness and substance use disorders (SUDs) to control group without condition showed transitions from full time employment, part time employment, and unemployment were found to be more common in people with SUDs and mental illnesses. In addition, people with SUDs were more likely than controls to transition out of unemployment. (Baldwin, M. L., & Marcus, S. C. 2014)

In USA, a survey on substance use and health in adults aged 18 to 64 years old found that most adults, about 55.1% with substance use disorders were employed full time. Those who were unemployed had increased likelihood of previous history of substance use disorder. This report also analyzed adults who had Substance Use Disorder (SUD) in the previous year by their employment status and revealed that 9.5% of the participants with SUDs were full time employees, 12.0% part time employees, 16.8% unemployed and 9.0% were not working nor seeking work (SAMHSA, 2014).

A more recent study explored outcomes of employment in patients with SUDs enrolled in an employment based intervention program showed that most of these participants had chronic history of unemployment and underemployment. At least 59% of the participants had long records of lack of employment and underemployment, although majority had acquired employment while receiving the intervention, most had part time jobs, had low income employment while some 17% maintained employment for some weeks and 9% were employed occasionally for short durations. This study found that those participants with SUDs who had been chronically unemployed needed support to promote consistent employment (Holtyn.A., et al., 2021).

Employment offers many benefits to many people in the general population. Unfortunately, most studies show low employment rates in people with SUD and other mental illnesses. Employment status among persons with SUD seems to be transitional- ranging from full time, part time to no work, and most remain chronically unemployed. Persons with SUDs often face barriers to obtaining and maintaining employment due to the effects of SUDs either individually, socially or at the workplace as such will be looked at in this study.

2.3 CONCEPTUAL FRAMEWORK

The relationship between independent and dependent variables is depicted in the model below.

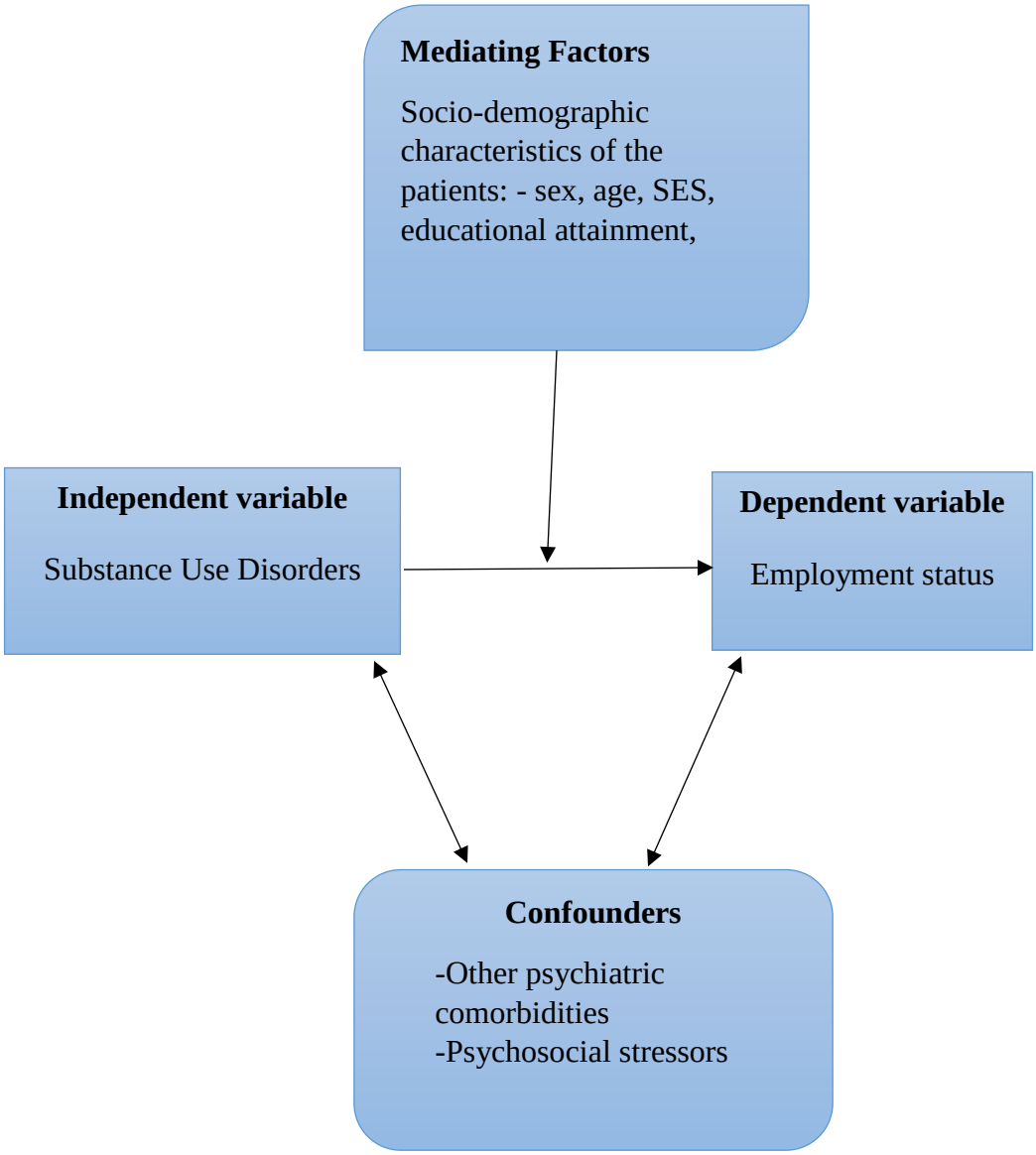


Figure 1.1 Conceptual framework

2.2 JUSTIFICATION OF THE STUDY

The relationship between problematic substance use disorders and the employment is complex. Alcohol and other substance use disorders in the workplace are costly both economically and non-economically. Substance use disorders may negatively influence employment to the extent that it affects return to work or maintaining a job. Employment on the other hand may also affect substance use behaviour, either positively or negatively depending on the nature of work.

Therefore, it is important for employers and employees to address this issue. While there are several employment policies developed by the Government of Kenya on alcohol and substance abuse, the need to keep addressing this issue is imminent because majority of workplaces have weak` formal policies and poor law enforcement. This study aims to promote awareness amongst people with SUDs on how alcohol and other substances may be affecting their employment possibilities.

2.3 SIGNIFICANCE

By conducting this study, findings may assist in promoting awareness among human resource managers by providing information on substance use disorders and how they may affect employment status with an aim of increasing productivity and reducing the poverty rate in Kenya through campaigns against alcohol and substance use.

The study findings will provide employers, including self-employed individuals and employees with useful information that will be resourceful in the development and implementation of workplace policies concerning alcohol and other substance-related harm in the workplace

It will help in promoting discipline, health and safety approaches in the workplace, as well as preventive and treatment measures for alcohol use and substance use disorders at the workplace.

This study will be of great significance to our country, as it will provide some understanding of people with substance use disorders and their struggles in employment with the aim of rehabilitating them and promoting return to work formulas.

2.4 SCOPE OF STUDY

The study sought to explore the association between substance use disorders and employment status in Mathari National Teaching and Referral Hospital. Study participants were those on treatment and follow up in General inpatient wards and CSAT unit.

2.5 RESEARCH QUESTIONS

The study aims to address the following questions;

1. What is the relationship between substance use disorders and employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital?
2. What is the association between sociodemographic characteristics and substance use disorders among patients on treatment and follow up at MNTR?

2.6 HYPOTHESIS

The study sought to test the following hypotheses:

$H0_0$: Null hypothesis: SUDs have no effect on employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital.

H_1: There is significant association between SUDs and Employment Status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital

2.7 OBJECTIVES: GENERAL, SPECIFIIC

The main objective of the study was to determine the association between substance use disorders and employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital.

The specific objectives include:

1. To determine the prevalence of SUDs among the patients on treatment and follow up in Mathari National Teaching and Referral Hospital.
2. To determine the association between substance use disorders and employment status.
3. To assess the association between substance use disorders and sociodemographic characteristics

2.8 STUDY LIMITATIONS

The potential of self-stigmatisation, lack of trust and honesty by the patients as well as low turn up to the hospital due to COVID-19 pandemic may influence data collection. Despite this, confidentiality and reassurance was sought. The researcher encouraged honesty and used simple, understandable but detailed, sensitive interviews through questionnaires. Findings may not be generalised to an entire population.

2.9 DELIMITATIONS

The study was limited to Mathari National Teaching and Referral Hospital. The findings will be used to generalise the patients who have Substance Use Disorders in relation to employment status. Currently the Rehabilitation Unit is closed due to Covid-19 pandemic.

2.10 ASSUMPTIONS

The study was based on assumptions that respondents would cooperate during the study, they would at least sober during the study and would provide accurate data.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents methodological approach that was used in conducting the research. It describes research design, population size, sample size, sampling procedures, collection of data and analysis of data as well as the ethical considerations.

3.2 Research Design

The study used quantitative approach to collect data. The researcher used a cross-sectional descriptive design in which interview and questionnaires guides were used to collect data from study participants

3.3 Study Area

The study was conducted in Mathari National Teaching and Referral Hospital. This is the largest psychiatry referral hospital in Kenya, receiving patients from across the country. It is situated in Nairobi County, about ten kilometres from the city centre. It currently has a bed capacity of about 600 beds. There are 9 general psychiatric wards; four male wards, three female and two amenity wards. Other units within the hospital include a residential drug rehabilitation unit, medically assisted therapy (MAT) unit, Center for Substance Use Treatment (CSAT) clinic, forensic unit, child psychiatry outpatient clinic, and HIV/AIDS comprehensive care clinic (CCC). Respondents will be sampled from inpatients in the general psychiatric wards (average inpatient number per month is 533) and Centre for Substance Use Treatment (CSAT) clinic (average patient attendance per month is 90 patients) and drug rehabilitation unit (currently with no admissions due to Covid -19 pandemic).

3.4 Population size

The total average population size of Mathari National Teaching and Referral Hospital per month in the psychiatric wards and CSAT clinic was about 623 patients. The general psychiatric wards had an average inpatient number per month of about 533 and the Centre for Substance Use Treatment (CSAT) clinic attends to an average of 90 patients every month.

3.5 Target Population

This study's target population were patients on treatment and follow up for substance use disorders (SUD) in Mathari National Teaching and Referral Hospital. Participants were selected from the general psychiatric inpatient wards and CSAT clinic.

3.6 Inclusion criteria

Patients on treatment and follow up for substance use disorders (SUD) in Mathari National Teaching and Referral Hospital

Those above 18 years.

Those that are mentally stable for the interview.

Those who will give informed consent**.**

3.7 Exclusion criteria

Age below 18 years

Mentally unstable at the time of the interview ;- those with active psychopathology (psychosis, violent and without insight) will be excluded.

Those not able to give informed consent.

3.8 Sample Size

Cochran's (1977) sample size formula;

$$n_0 = \frac{z^2 pq}{d^2}$$

Where: *n= Estimated sample size*

d= margin of error

p =estimated proportion of population in question

q= 1-p

z= level of confidence

A 95% level of confidence gives z value of 1.96, a 34% prevalence (*p*) is estimated (D. M. Ndetei et al., 2008) and significance level of 5% ,

$$n = \frac{1.96^2 \text{ X } 0.34\ (1 - 0.34)}{0.05^2}$$

n = **345**

The adjusted sample size

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where n=new adjusted sample size

n= Cochran's sample size recommendation

N= population size

The estimated population size is 623. Thus;

N = 623

Therefore, $n' = \frac{345}{1 + \frac{(345-1)}{623}} =$

n' = 222

3.9 Sampling Procedure

The study participants were selected using a systematic simple random sampling in general male and female wards and CSAT unit.

3.10 Recruitment and data collection procedure

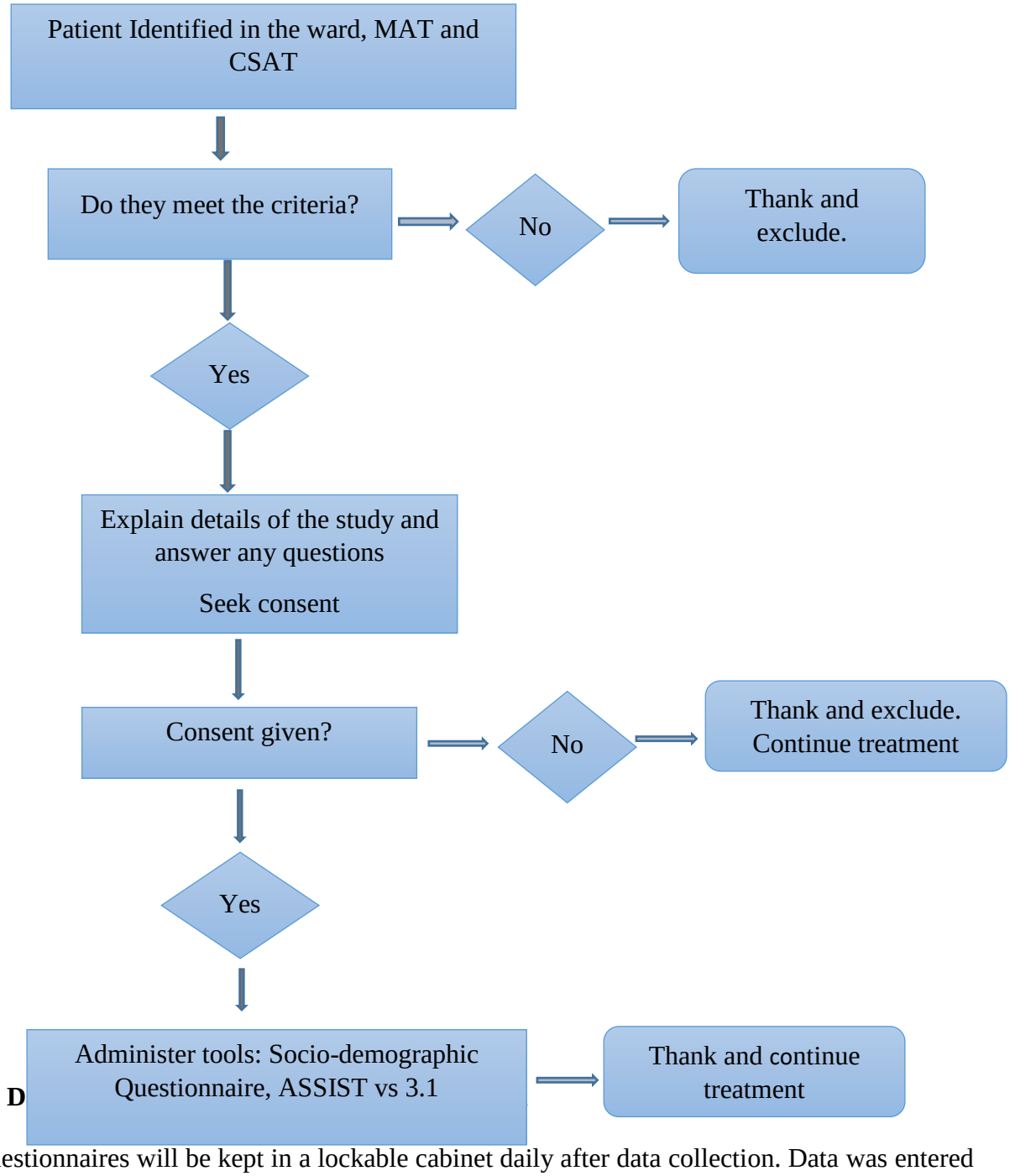
Study participants were recruited from the general psychiatry wards and CSAT Unit at Mathari Hospital. Mini-Mental state exam (MMSE) was done to those who fit the inclusion criteria to assess their comprehension and ability to answer questions objectively. Those who fit in the inclusion criteria got an explanation of the details of the study and asked questions and clarifications then consent was sought from the patients. Those who consented were given informed consent form to sign. Those who denied consent were thanked and excluded. On obtaining consent, a socio-demographic questionnaire and ASSIST v3.1 was administered. Participants were then thanked for participating in the study.

Data was collected by the researcher with assistance of research assistants who were well trained through researcher designed sociodemographic questionnaire and Alcohol, Smoking and Substance Involvement Screening Test (ASSIST V3.1). The socio-demographic questionnaire collected relevant information such as sociodemographic characteristics.

The trained research assistants included registered clinical officers and psychologists who were trained by the researcher prior the study. Further training was also done during the period of the study as need arises.

ASSIST (v3.1) is a questionnaire with eight items created by the World Health Organization (WHO) to be given by a healthcare provider to a client to screen for substances such as alcohol, tobacco, hallucinogens, cocaine, opioids etc. It takes about 5-10 minutes to administer.

3.11 Recruitment and Data Collection Flow Chart



3.12 D

The questionnaires will be kept in a lockable cabinet daily after data collection. Data was entered and stored in a password protected computer accessible only to the researcher and the

biostatistician. Microsoft Excel was used to store and manage data and analysis was done using SPSS version 23.0.

Data was first cleaned, sorted and coded before being entered into the computerized software. Univariate analysis was done to describe the participants' sociodemographic characteristics, types substances and prevalence of SUDs. Bivariate analysis was done to indicate the association between the variables. Associations between substance use disorder, employment status and socio-demographic characteristics will be expressed using P value of significance set at 0.05.

The data collected will be stored for at least five years after conclusion of the study, during which time I intent to publish the study. The soft copies of data will be stored in a hard drive while hard copies of study documents will be kept in a lockable cabinet. Both the soft and hard copies will only be accessible to the researcher and supervisors, who will be collectively responsible for it. At the expiry of this period, data will be disposed by deleting the soft copy and mechanical destruction of the hard drive, while the hard copy documents will be shredded.

3.13 Quality assurance procedure

The questionnaires filled during the study will be checked by the researcher for accuracy and completeness of information. A standard operating procedure for data collection will be developed to ensure uniform data collection. A qualified biostatistician will be involved to ensure that data is entered, managed and analyzed appropriately. Data collection tools are currently kept under lock and key and the computer used to enter and analyse data is password protected. These tools will only be accessible to the researcher, supervisors and biostatistician. The biostatistician signed a confidentiality agreement to enhance protection of participants' identity and information as they will handle identifiable data.

3.14 Ethical Considerations

- The study approval was sought from the Department of Psychiatry, University of Nairobi and the UoN/KNH Research and Ethics Review Committee of Kenyatta National Hospital prior to carrying out the study.
- Written authority was sought from the medical superintendent, Mathari National Teaching and Referral Hospital.
- An informed consent was sought from the participants after full detailed explanation of the study making it clear that participation is voluntary. The information collected is for the purpose of study only.
- It was also stressed to the participants that there would be no material gain from the study, though it was hoped that the data collected would aid in coming up with appropriate guidelines for better understanding, management and policy making for substance use disorders and employment. The study participants could also freely withdraw from participation if they chose to.
- Confidentiality was observed by ensuring that no names or inpatient numbers were used during the study. Serial numbers were used. The hard copy data collected will be kept securely in lockable cabinets while soft copy will be secured in a password protected computer.

CHAPTER FOUR

RESULTS

4.1 Participants Characteristics

I enrolled 222 study participants from general wards and CSAT clinic. These are the participants' characteristics summary on **(Table 1)**

Table 1: Participants Characteristics

		Frequency (n=222)	Percent
Sex	Male	186	83.8
	Female	36	16.2
Age	18-20	23	10.4
	21-30	112	50.5
	31-40	60	27.0
	41-50	19	8.6
	>50	8	3.6
Marital status	Single	130	58.6
	Married/Domestic partnership	34	15.3
	Separated	34	15.3
	Divorced	21	9.5
	Widowed	3	1.4
Education level	No formal education	4	1.8
	Primary	56	25.2
	High school	75	33.8
	College	54	24.3
	Vocational training	2	0.9
	University	30	13.5
	Masters	1	0.5
Religion	Christian	196	88.3
	Muslim	20	9.0
	Buddhist	4	1.8
	Other	2	0.9
Parent use of substance	Yes	107	48.2
	No	115	51.8
Socioeconomic status	Low income	78	35.1
	Middle income	124	55.9
	High income	20	9.0

Figure 2: Sex of participants

186 (83.8%) of the participants were male while the rest were female (16.2%).

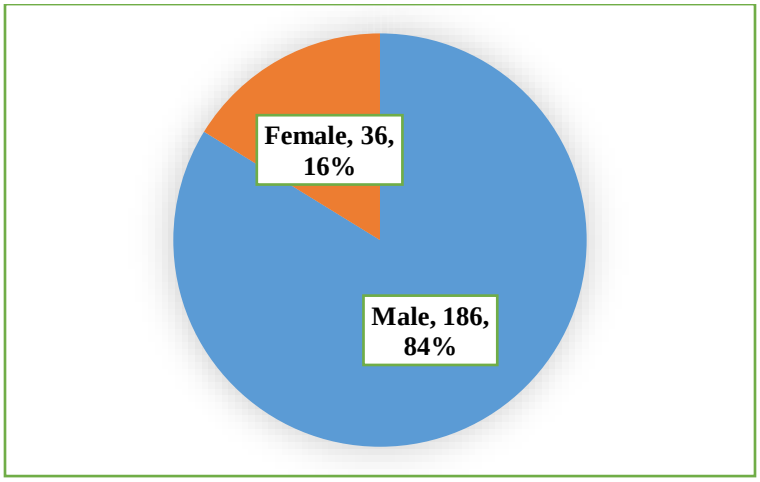


Figure 3: Age of participants

About half of the study participants 112 (50.5%) were between the age of 21-30 years, more than a quarter 60 (27%) were between age 31-40 years, 23 (10.4%) were below 20 years. The mean age was 29.61 years.

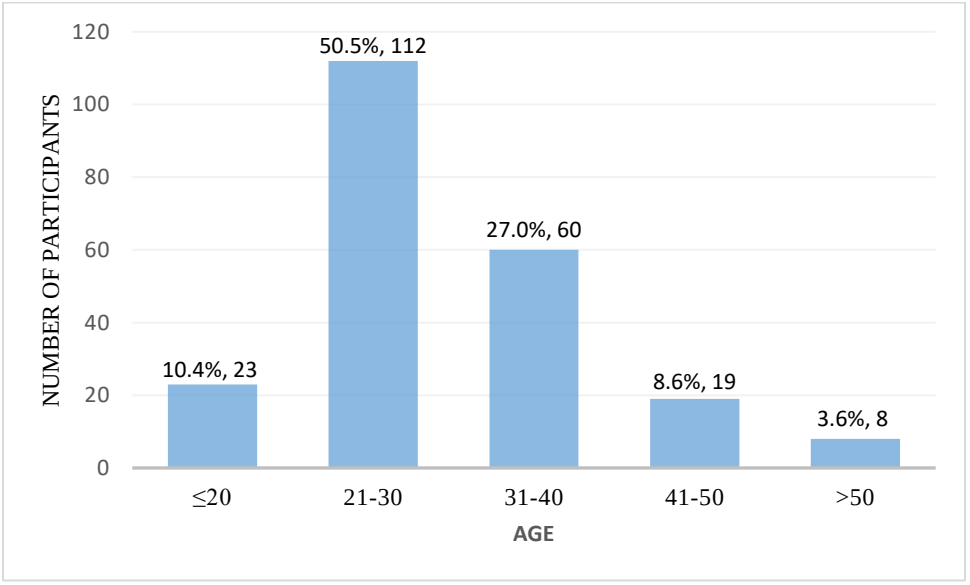


Figure 4: Marital status of participants

Single participants accounted for130 (58.6%) were followed by married/in domestic partnership 34 (15.3%), separated 34 (15.3%), divorced 21(9.5%) and widowed participants 3(1.4%).

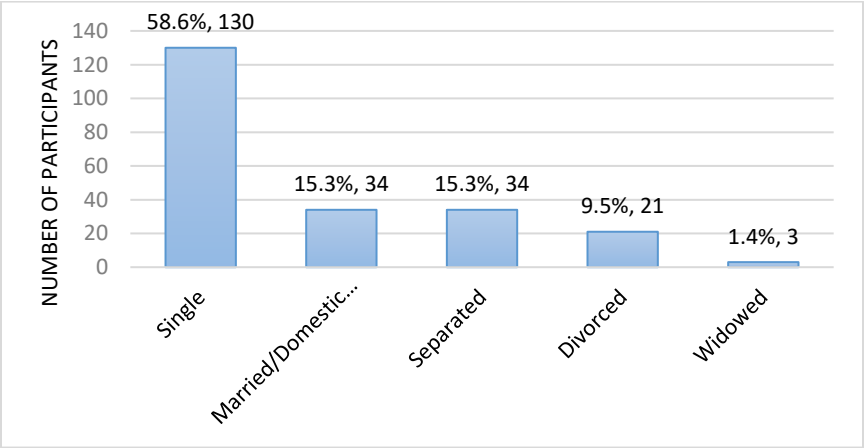


Figure 5: Education level of participants

Majority 75 (33.8%) had attained high school education, followed by primary school 56 (25.2%), college 54 (24.3%), undergraduate university education 30(13.5%), while lack of formal had 4 (1.8%), vocational training 2 (0.9%) and 1 postgraduate studies.

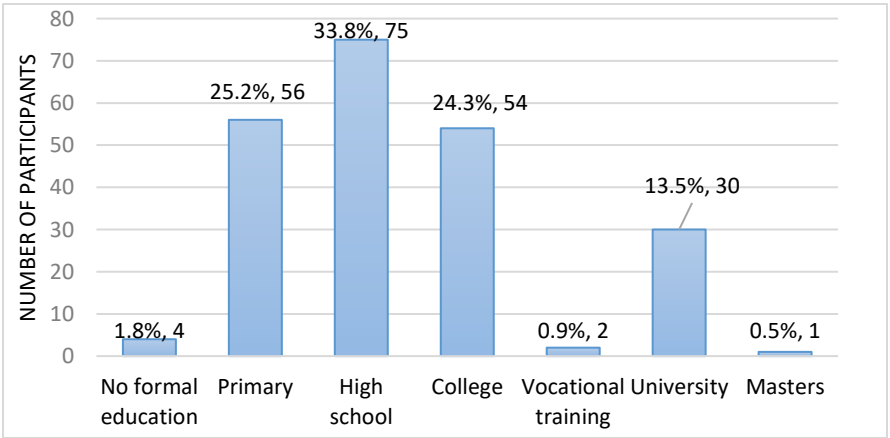


Figure 6: Religion of the participants

In terms of religion, most 196 (88.3%) were Christian, followed by Islam 20 (9%), no religion 4(1.8%) and other 2(0.9%).

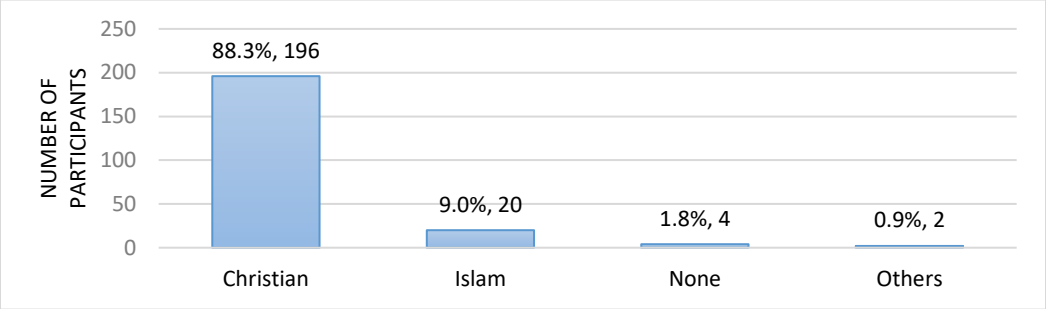


Figure 7: Parent use of substance

More than half 115 (51.8%) reported there was no history of parental substance use while the rest 107 (48.5%) had parental history of substance use.

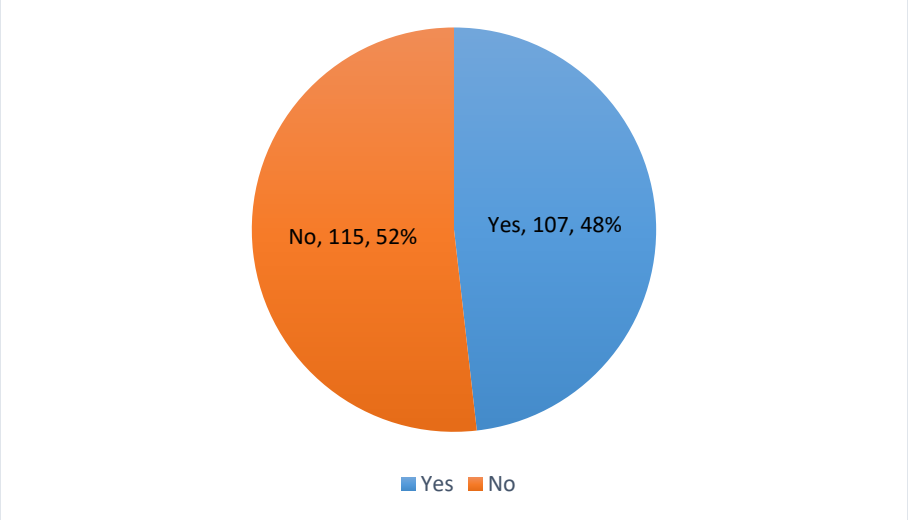
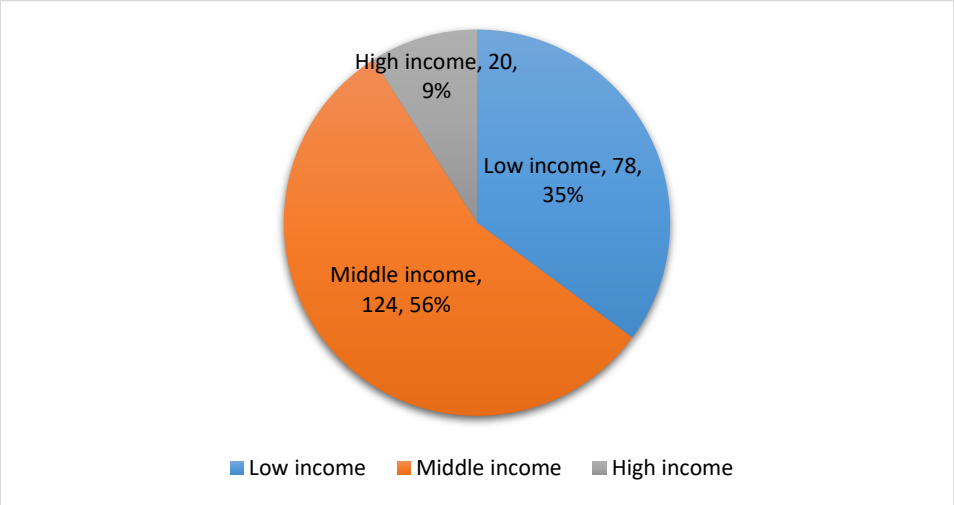


Figure 8: Socioeconomic status

Majority 124 (55.9%) were from middle socioeconomic status followed by low socioeconomic status 78 (35.1%) and high socioeconomic status 20 (9%)



4.2 Patient history of substance use

Most of the respondents' 96 (43.2%) first age of substance use was between 16-20 years, followed by 76 (34.2%) between 11-15 years, 31(14%) between 21-25 years, 10 (4.5%) in less than 10 years while those between 26-30 were 6 (2.7%) and more than 30years 3 (1.4%). 114 (51.4%) had involuntary admissions while 90 (40.5%) were voluntary and the rest 18 (8.1%) never admitted. While most 146 (65.8%) reported no comorbidities, 76 (34.2%) had comorbidities. The most common comorbid illness were mental illnesses (30.4%), of these, 29 (13.6%) had a diagnosis of Bipolar Mood Disorder (BMD), followed by 21 (9.5%) with Major Depressive Disorder (MDD), 16 (7.3%) with Schizophrenia and other psychotic disorders. Physical illnesses (asthma, liver disease, Diabetes Mellitus, gastritis, headache, HIV and epilepsy) contributed to 3.3%.

Table 2: Patient history of substance use

		Frequency (n=222)	Percent (%)
Age of first use	≤10	10	4.5
	11 – 15	76	34.2
	16 – 20	96	43.2
	21 – 25	31	14.0
	26 – 30	6	2.7
	>30	3	1.4
Admission	No admission	18	8.1
	Voluntary	90	40.5
	Involuntary	114	51.4
Diagnosis	SUD	222	100
Comorbid	Yes	76	34.2
	No	146	65.8
Specific comorbid	None	146	65.8
	BMD	29	13.1
	MDD	21	9.5
	Schizophrenia	16	7.3
	Other medical conditions	10	4.8

4.3 Respondents' Employment status

Majority of the respondents 66 (29%) were unemployed and currently searching for employment, while 48 (21.6%) were unemployed and not looking for work. Among those who were employed, 34 (15.3%) were part time worker, full time workers and self-employed accounted 23 (10.4%) each while 28 (12.6%) were students. About 157 (70.7%) respondents had not been employed within the past 5 years. Among the respondents, only 45 (20.3%) reported ever losing jobs, mostly due to lateness and other SUD 7 (3.2%) each and Alcohol Use Disorder (AUD) 6 (2.7%). Majority 19(8.6%) had lost employment many times (more than 3 times) followed by once 16 (7.2%) and twice 10 (4.5%). The tables and figures below show the general employment status characteristics among the respondents.

Table 3: Employment status

		Frequency (n=222)	Percent (%)
Current employment	Full time employment	23	10.4
	Part time	34	15.3
	Unemployed/looking for work	66	29.7
	Unemployed/not looking for work	48	21.6
	Self-employed	23	10.4
	Student	28	12.6
Employment in past 5 years	Yes	65	29.3
	No	157	70.7
Lost job	Yes	45	20.3
	No	177	79.7
Reason for lost job	Never lost a job	177	79.7
	Lateness	7	3.2
	No reasons	7	3.2
	SUD	7	3.2
	AUD	6	2.7
	Other reasons (business closure/failure, incompetence, Resignation, grief, poor pay, end of contracts, indiscipline, sickness and tiredness)	18	8.5
Times lost job	Never	177	79.7
	Once	16	7.2
	Twice	10	4.5
	Many times,	19	8.6

Figure 9: Current employment status

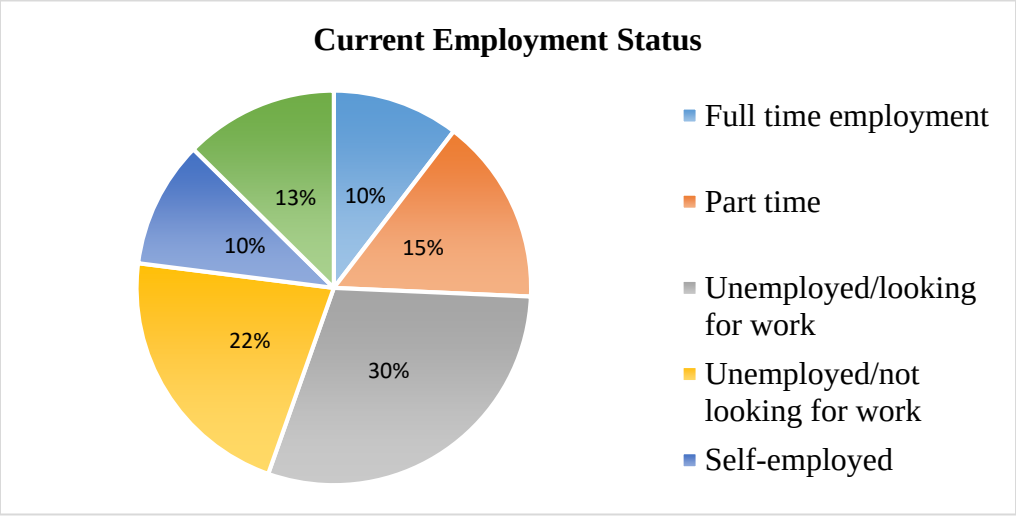


Figure 11: Employment status in the past 5 years

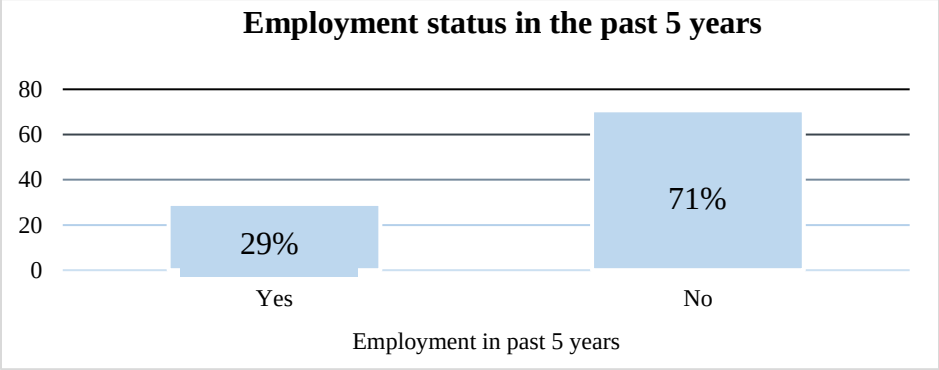
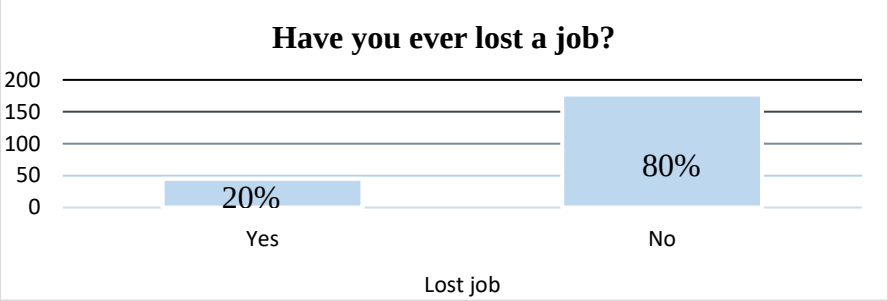


Figure 10: History of job loss



4.4 Prevalence of SUDs among patients on treatment and follow up in Mathari National Teaching and Referral Hospital

The prevalence of Substance use disorders among the respondents is as shown on the tables and figures below. The lifetime prevalence rates among the respondents was 35.6%. The most common lifetime prevalence of substance use disorders (SUDs) were alcohol use disorder 167 (75.2%) tobacco use disorder 135 (60.8%), and cannabis use disorder 107 (48.2%). Miraa/ muguka use disorder had 52 (23.4%), other drugs groups (opioids, cocaine, amphetamines, hallucinogens, sedatives and inhalants use disorders) were 23 (10.6%). The most frequent substance use disorder combinations were those of alcohol tobacco and cannabis use disorders.

Figure 12: Prevalence of Substance Use Disorders

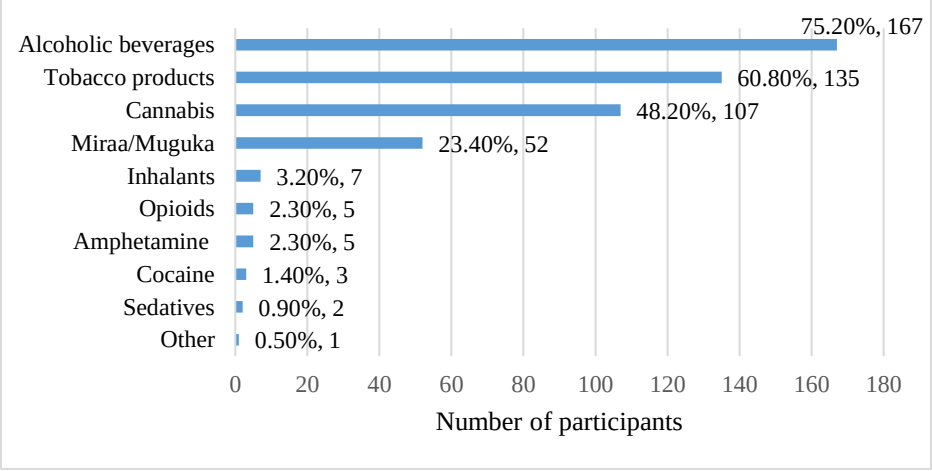
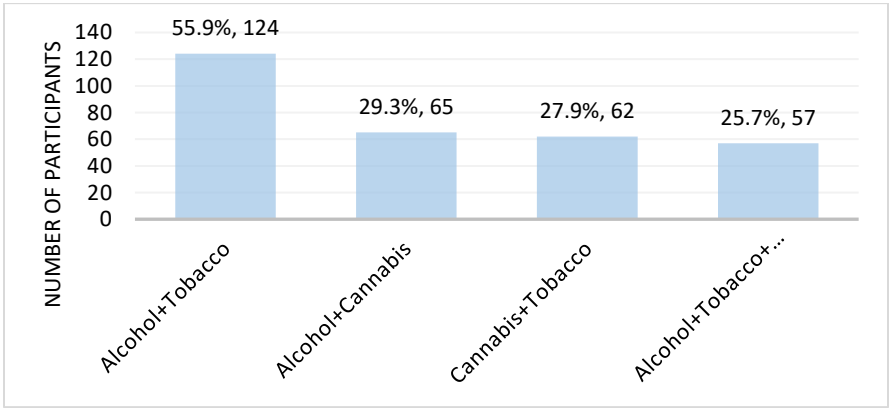


Figure 13: Prevalence of polysubstance use disorders



4.5 The association between substance use disorders and employment status.

The second objective of this study was to determine the association between substance use disorder and employment status. Among respondents with alcohol use disorder 30.5% were unemployed but looking for work and among 23.4% unemployed but not looking for work. Those with Tobacco use disorder most were unemployed but looking for work (30.4% followed by the unemployed that were not interested in work (21.5%), self-employed (14.1%), part time (13.3%) and the rest were students (11.1%) and full time (9.6%). On bivariate analysis while adjusting current employment status, it was found that respondents with self-employment status were 4 times more likely to have both alcohol use disorder (OR 4.3[1.0-18], p-0.045) and tobacco use disorder (OR 4.1[1.1-15.2], p-0.034). Cannabis use disorder showed lower odds but statistically significant association with employment status: full time employment (OR 0.2[0.05-0.6], p-0.005), unemployment/looking for work (OR 0.2 [0.1 – 0.7], p- 0.005) and unemployment/ not looking for work (OR0.2 [0.1 – 0.4], p-<0.001).

Table 4: Association between Substance use disorders and employment status

	Alcohol use disorder			**Tobacco use disorder**			**Cannabis use disorder**		
Current employment	**Yes, *n (%)***	**OR (95% CI)**	**p-value**	**Yes, *n (%)***	**OR (95% CI)**	**p-value**	**Yes, *n (%)***	**OR (95% CI)**	**p-value**
Full time	16 (9.6)	1.5 (0.5 – 4.8)	0.511	13 (9.6)	1.1 (0.4 – 3.4)	0.833	8 (7.5)	0.2 (0.05 – 0.6)	**0.005**
Part time	24 (14.4)	1.6 (0.5 – 4.5)	0.415	18 (13.3)	1.0 (0.4 – 2.7)	0.961	20 (18.7)	0.5 (0.2 – 1.4)	0.184
Unemployed / looking for work	51 (30.5)	2.2 (0.8 – 5.7)	0.105	41 (30.4)	1.4 (0.6 – 3.5)	0.441	28 (26.2)	0.2 (0.1 – 0.7)	**0.005**
Unemployed / not looking for work	39 (23.4)	2.8 (1.0 – 8.0)	0.054	29 (21.5)	1.3 (0.5 – 3.4)	0.560	15 (14.0)	0.2 (0.1 – 0.4)	**<0.001**
Self-employed	20 (12.0)	4.3 (1.0 – 18.0)	**0.045**	19 (14.1)	4.1 (1.1 – 15.2)	**0.034**	15 (14.0)	0.6 (0.2 – 2.1)	0.447
Student	17 (10.2)	Reference		15 (11.1)	Reference		21 (19.6)	Reference	

4.6 The association between substance use disorders and sociodemographic characteristics

The third objective of this study was to determine the association between substance use disorder and sociodemographic characteristics of the respondents. On bivariate analysis, there was statistically significant association (lower risk) between education level, specifically with primary (p-0.019), high school (p -0.002 and college (p-0.041) level and Cannabis use disorder. Alcohol and tobacco use disorders did not show any association with the other sociodemographic characteristics.

Table 5: Association between Alcohol use disorder and sociodemographic characteristics

		Alcohol use disorder			
		Yes, *n (%)*	**No, *n (%)***	**OR (95% CI)**	**p-value**
Sex	Male	137 (82.0)	49 (89.1)	0.6 (0.2 – 1.4)	0.223
	Female	30 (18.0)	6 (10.9)	Reference	
Age	18-20	16 (9.6)	7 (12.7)	0.3 (0.03 – 3.2)	0.335
	21-30	76 (45.5)	36 (65.5)	0.3 (0.04 – 2.5)	0.271
	31-40	52 (31.1)	8 (14.5)	0.9 (0.1 – 8.6)	0.948
	41-50	16 (9.6)	3 (5.5)	0.8 (0.07 – 8.7)	0.826
	>50	7 (4.2)	1 (1.8)	Reference	
Marital status	Single	92 (55.1)	38 (69.1)	0.6 (0.2 – 1.8)	0.339
	Married	30 (18.0)	4 (7.3)	1.8 (0.4 – 8.0)	0.460
	Separated	25 (15.0)	9 (16.4)	0.7 (0.2 – 2.5)	0.531
	Divorced	17 (10.2)	4 (7.3)	Reference	
	Widowed	3 (1.8)	0 (0.0)	-	
Education level	No formal educ.	4 (2.4)	0 (0.0)	-	
	Primary	45 (26.9)	11 (20.0)	1.0 (0.3 – 3.1)	0.968
	High school	58 (34.7)	17 (30.9)	0.9 (0.3 – 2.4)	0.765
	College	33 (19.8)	21 (38.2)	0.4 (0.1 – 1.1)	0.081
	Vocational train.	2 (1.2)	0 (0.0)	-	
	University	24 (14.4)	6 (10.9)	Reference	
	Masters	1 (0.6)	0 (0.0)	-	
Religion	Christian	149 (89.2)	47 (85.5)	3.2 (0.2 – 51.7)	0.418
	Islam	15 (9.0)	5 (9.1)	3.0 (0.2 – 57.4)	0.466
	None	2 (1.2)	2 (3.6)	1.0 (0.03 – 29.8)	1.000
	Others	1 (0.6)	1 (1.8)	Reference	
Parent use of substance	Yes	83 (49.7)	24 (43.6)	1.3 (0.7 – 2.4)	0.436
	No	84 (50.3)	31 (56.4)	Reference	
Socioeconomic status	Low income	68 (40.7)	10 (18.2)	1.7 (0.5 – 6.1)	0.417
	Middle income	83 (49.7)	41 (74.5)	0.5 (0.2 – 1.6)	0.249
	High income	16 (9.6)	4 (7.3)	Reference	

Table 8: Association between Tobacco use disorder and sociodemographic characteristics

		Tobacco use disorder			
		Yes, *n (%)*	**No, *n (%)***	**OR (95% CI)**	**p-value**
Sex	Male	109 (80.7)	77 (88.5)	0.5 (0.2 – 1.2)	0.129
	Female	26 (19.3)	10 (11.5)	Reference	
Age	18-20	12 (8.9)	11 (12.6)	0.6 (0.2 – 2.2)	0.475
	21-30	67 (49.6)	45 (51.7)	0.9 (0.3 – 2.4)	0.784
	31-40	36 (26.7)	24 (27.6)	0.9 (0.3 – 2.5)	0.806
	41-50	12 (8.9)	7 (8.0)	Reference	
	>50	8 (5.9)	0 (0.0)	-	
Marital status	Single	76 (56.3)	54 (62.1)	2.8 (0.2 – 31.8)	0.403
	Married	27 (20.0)	7 (8.0)	7.7 (0.6 – 97.8)	0.115
	Separated	17 (12.6)	17 (19.5)	2.0 (0.2 – 24.2)	0.586
	Divorced	14 (10.4)	7 (8.0)	4.0 (0.3 – 52.0)	0.290
	Widowed	1 (0.7)	2 (2.3)	Reference	
Education level	No formal educ.	3 (2.2)	1 (1.1)	1.7 (0.2 – 18.8)	0.650
	Primary	36 (26.7)	20 (23)	1.0 (0.4 – 2.6)	0.930
	High school	45 (33.3)	30 (34.5)	0.9 (0.4 – 2.1)	0.752
	College	30 (22.2)	24 (27.6)	0.7 (0.3 – 1.8)	0.489
	Vocational train.	2 (1.5)	0 (0.0)	-	
	University	19 (14.1)	11 (12.6)	Reference	
	Masters	0 (0.0)	1 (1.1)	-	
Religion	Christian	125 (92.6)	71 (81.6)	1.8 (0.1 – 28.6)	0.691
	Islam	8 (5.9)	12 (13.8)	0.7 (0.04 – 12.3)	0.785
	None	1 (0.7)	3 (3.4)	0.3 (0.01 – 11.9)	0.547
	Others	1 (0.7)	1 (1.1)	Reference	
Parent use of substance	Yes	72 (53.3)	35 (40.2)	1.7 (1.0 – 2.9)	0.057
	No	63 (46.7)	52 (59.8)	Reference	
Socioeconomic status	Low income	53 (39.3)	25 (28.7)	2.1 (0.8 – 5.7)	0.140
	Middle income	72 (53.3)	52 (59.8)	1.4 (0.5 – 3.6)	0.500
	High income	10 (7.4)	10 (11.5)	Reference	

Table 9: Association between Cannabis use disorder and sociodemographic characteristics

		Cannabis use disorder			
		Yes, *n (%)*	**No, *n (%)***	**OR (95% CI)**	**p-value**
Sex	Male	85 (79.4)	101 (87.8)	0.5 (0.3 – 1.1)	0.093
	Female	22 (20.6)	14 (12.2)	Reference	
Age	18-20	11 (10.3)	12 (10.4)	1.5 (0.3 – 7.9)	0.614
	21-30	64 (59.8)	48 (41.7)	2.2 (0.5 – 9.8)	0.290
	31-40	24 (22.4)	36 (31.3)	1.1 (0.2 – 5.1)	0.892
	41-50	5 (4.7)	14 (12.2)	0.6 (0.1 – 3.4)	0.563
	>50	3 (2.8)	5 (4.3)	Reference	
Marital status	Single	62 (57.9)	68 (59.1)	1.8 (0.2 – 20.6)	0.627
	Married	21 (19.6)	13 (11.3)	3.2 (0.3 – 39.3)	0.358
	Separated	15 (14)	19 (16.5)	1.6 (0.1 – 19.1)	0.720
	Divorced	8 (7.5)	13 (11.3)	1.2 (0.1 – 15.9)	0.874
	Widowed	1 (0.9)	2 (1.7)	Reference	
Education level	No formal educ.	2 (1.9)	2 (1.7)	0.4 (0.04 – 3.0)	0.350
	Primary	26 (24.3)	30 (26.1)	0.3 (0.1 – 0.8)	**0.019**
	High school	29 (27.1)	46 (40.0)	0.2 (0.1 – 0.6)	**0.002**
	College	27 (25.2)	27 (23.5)	0.4 (0.1 – 0.9)	**0.041**
	Vocational train.	1 (0.9)	1 (0.9)	0.3 (0.02 – 6.5)	0.492
	University	22 (20.6)	8 (7.0)	Reference	
	Masters	0 (0.0)	1 (0.9)	-	
Religion	Christian	92 (86.0)	104 (90.4)	0.3 (0.03 – 2.9)	0.294
	Islam	10 (9.3)	10 (8.7)	0.3 (0.03 – 3.8)	0.375
	None	3 (2.8)	1 (0.9)	Reference	
	Others	2 (1.9)	0 (0.0)	-	
Parent use of substance	Yes	55 (51.4)	52 (45.2)	1.3 (0.8 – 2.2)	0.357
	No	52 (48.6)	63 (54.8)	Reference	
Socioeconomic status	Low income	37 (34.6)	41 (35.7)	0.6 (0.2 – 1.6)	0.319
	Middle income	58 (54.2)	66 (57.4)	0.6 (0.2 – 1.5)	0.276
	High income	12 (11.2)	8 (7.0)	Reference	

CHAPTER FIVE

DISCUSSION

This study examined the association between Substance use disorders and employment status among patients on follow up in Mathari National Teaching and Referral Hospital. From the findings, male had a higher lifetime prevalence of SUD (83.8%) than female. This gender difference is comparable to other studies by (Mokaya, A.G, et al 2016, Lev-Ran et.al 2013) that showed male predominance in SUDs. The male lifetime prevalence rate in this study was higher than the finding of other studies conducted in Ethiopia 61.7% (Dawud. B et. al 2017) and in Kenya 59.5% and 50.7% (Jaguga, F. 2013), Musyoka, C. M., et al 2020) respectively. This pattern in males could be explained by the fact that substance use in the general society is considered more acceptable in males and they can engage more freely in substance use either for social acceptance/bonding or as a means of coping to stress.

The most common age of onset of substance use in this study was between 16-20 years. The most affected age group was of 21-30 years (50.5%) and the mean age was 29.1 years. These findings are comparable to studies done globally (UNODC 2018) and more comparable to one done in South Africa by (Mokwena. K, et al. 2021) which also found the mean age of onset of 27years and a prevalence rate of substance use of 61.8% in the 20-30 year age group. This is not surprising as most research suggest that it is during the ages of puberty, adolescent and younger adulthood (peak age 18-25 years) during which there is a greater risk for initiating substance use and therefore further risk of developing substance use disorders due to the interplaying of many factors such as their young age, peer influence, recreational and excitement purposes, harsh living conditions and lack of opportunities. The single respondents had more SUD (58.6%) compared to the others relationships which is more similar to studies done in Ethiopia and Kenya which found 57.1 % and

87.9% (Dawud. B et. al 2017,Boitt, R.K, et.al 2016) respectively. Marital status in this study was observed to some level as a protective factor against substance use when compared to those who were single. This could be because married people have a greater sense of commitment, and responsibility, and they may have less time to engage in substance abuse than single people. The middle income socioeconomic status (SES) was found to have higher SUDs in general (55.9%) while the lower SES showed a statistically significant association (P-0.005) with Alcohol use disorder (AUD) which relates with another study that showed that low SES increases risk for Alcohol use disorder (AUD) (Calling, S. et al.2019). This was in contrast to other studies that found that alcohol and other illicit drugs use were associated with high SES, and low SES was associated with tobacco use (Charitonidi, E et al 2016). This relationship between socioeconomic status (SES) and substance use disorders (SUDs) among the low SES and higher SES varies in different studies in terms of the different patterns of SUDs, demand and affordability, however, despite this, there are obvious evidences that any of the SES are still at high risk for developing SUDs.

This study found Alcohol use disorder (AUD), Tobacco use disorder and cannabis use disorder were the most common SUDs (61.4%). This trend has been documented in studies in US and in Africa, which show alcohol, tobacco and marijuana as the most common SUDs (SAMHSA, 2017, African Union, 2020). Alcohol use disorder's higher prevalence (75.2%) is in keeping with findings in a study in Kenya that found alcohol use disorder (AUD) contributes to most multiple substance use disorder (Musyoka, C. M., et al 2020). AUD is still the major contributor to the highest burden of SUDs in Kenya. This could be because alcohol is socially and culturally accepted within the Kenyan society. It is legally and readily available to the general population and is locally advertised and marketed for use. Alcohol and Tobacco concurrent use was most prevalent (55.9%)

SUDs combination while alcohol, tobacco and cannabis use disorders accounted for 25.7% together. Tobacco and Cannabis use disorders' prevalence indicate that despite the laws and prohibitions put in place by the Kenyan government, they are still rampant. Tobacco products are prohibited to persons under 18 years of age, there are prohibitions concerning sales, and public use for those who use yet prevalence remains high especially in the younger population. Despite Cannabis use being illegal in Kenya and the dire consequences of its use, which include imprisonment being known, trends from studies indicate it is still one of the most common SUDs. Two studies done in Kenya in a Medically Assisted Therapy Clinic showed this findings where one found 35.9% and 39% (Kisilu J., et al 2019 Ngarachu, E., 2019) respectively. Statistics indicate Cannabis was the most widely used substance in 2018/2019 worldwide especially among young people (SAHMSA, 2021) just as is also seen in this study whereby it found that those under 20 years had moderate association with Cannabis Use Disorder (p=0.056) and AUD (p=0.053). Cannabis use disorder was also more significantly associated than alcohol and tobacco use disorders with educational level. This was especially noted specifically with primary (OR (95% CI) 0.3 (0.1 – 0.8) p-0.019), high school (OR (95% CI)0.2 (0.1 – 0.6) p -0.002 and college (OR (95% CI) 0.4 (0.1 – 0.9), p-0.041) levels which indicated lower odds of having cannabis use disorder. Very few studies such as this have reported low or no associations of cannabis use disorder with education, for example, (Schaefer, J. D., et al 2021), reported that cannabis use had very little causal effect on educational attainment. Studies examining this relationship suggest that this is mainly not a causal relationship but an interplay between risk factors such as genetic factors, environmental factors, age and SES that increase the chances of early cannabis use and dropout from education.

Other regional studies in Kenya (Ngarachu, E.W., et al. 2022) and in Tanzania (Ubuguyu, O.,, et. al 2016) indicated that low education attainment is associated with Cannabis use disorder which could be due to a reverse causality whereby poor educational attainment may lead to increase in cannabis use (Horwood, L. J., 2010). The increases in SUDs in general can be attributed to the differences in individual preferences, availability of the substances and the current growth of global and local trends and markets for substances therefore this calls for collaborative strict regulatory guidelines associated with the sales and production of substances cross various nations and stakeholders.

This study also examined the association between substance use disorders (SUDs) and employment status. The study found that employment status in relation to alcohol, tobacco and cannabis use disorders was significantly affected. The percentage of the respondents that reported any form of current employment averaged 36.1% and only 29.% had employment in the past 5 years while the unemployed category, whether searching for work or not was common for these three most common SUD groups accounting for more than half (51.3%) of the respondents. Less than 10% had full time employment, 15% had part time employment and less than 10% had self-employment. This was comparable to a study in the US that showed employment status amongst people with SUDs which had an almost similar pattern with unemployment being the most common (18%) followed by part-time employment (10%), and full-time employment (8 %) and other groups: students and retired groups (6 %) (Badel.A., 2013). Low rate of employment was associated with SUDS. In about 20.3% of the participants who had history of current and past 5-year employment, there was also history of job loss. This is also a key finding in other studies that found that people with history of SUDs were more likely to report loss of a job regardless of the type of substance use (Baldwin, M. L.,et al 2010, Casal. B., et al 2020) . The results obtained in

this study are consistent with the suggestions that substance use disorders (SUDs) could directly affect the types of employment and opportunities by decreasing a person's ability, availability and productivity in employment. There were significant associations between SUDs and employment status, alcohol use disorder (OR 4.3, p-0.045) and tobacco use disorder (OR 4.1, p-0.034) were significantly associated with self-employment. Self-employment in Kenya was reported to be 51.31 % in 2020 (ILO 2020) yet in this study they are most vulnerable group to alcohol and tobacco use disorders. The possible explanation for the higher alcohol and tobacco use disorders among them could be that they have more time, autonomy and resources at their disposal to support them, and to obtain and use substances even while working.

In this study cannabis, use disorder found low but statistically significant odds associations with full time employment (OR 0.2, p-value 0.005), unemployment in those looking for work (OR 0.2, p-0.005) and unemployment yet not looking for work OR 0.2, $p<0.001$) suggesting decreased risk in these groups . According to Azagba, S. et al,2021, unemployment was negatively ($p < .001$) associated with substance use (cannabis, alcohol, cocaine and opiates) and Kinoti, K. E. et al., 2011 also found that there was significant relationship between alcohol ($p<0.01$), bhang ($p<0.01$)and khat use ($p<0.01$) and unemployment. The relationship between SUDs and employment status is complex involving two directions of causality, firstly, unemployment is seen here as an important risk factor for development of substance use disorders and secondly it is possible that, substance use can reduce a person's employment prospects, either by increasing unproductivity or decreasing the chance of employment. It was also noted that majority of the respondents (70.7%) had a chronic history of unemployment (during the past 5 year). This further points to the negative impacts of SUDs on employment which has also been demonstrated in another recent study that found 59% of the participants with SUDs had chronic histories of

unemployment/underemployment and that they needed support to promote consistent employment (Holtyn.A., et al., 2021) . This indicates that persons with SUDs are at high susceptibility to job losses. The main reasons reported for job loss were due to AUD, SUD lateness and incompetency at the work place which is in keeping with other studies (NACADA 2011, Konchella R.M 2014). Other studies have however demonstrated that there are no association between SUDs and employment, for example (Baldwin, M. L.,et al 2010) reported that there was no major difference in the rates of employment between people with or without SUDs even though the affected persons reported significantly higher rates of loss of employment than people with no SUDs. SAMHSA, (2014) reported about 55.1% with substance use disorders were employed full time and those who were unemployed had increased likelihood of previous history of substance use disorder. Although associations in this study on their own cannot adequately explain the causal relationships between SUDs and employment status due to its cross sectional nature, there are possible explanations for these. First, any pre-existing SUDs may likely increase the chances of unemployment or employment loss. It is possible that lack or loss of employment may therefore precipitate the onset or relapse of SUDs or perhaps other underlying conditions such as stress-reactivity or impulsivity may be related to both SUDs and employment status. Due to the study's cross-sectional nature, it is important to consider a possible reverse causality; however, there were setbacks in that there was no longitudinal data on the individuals' information on employment patterns, as well as more information of how the SUDs have affected an individual is working situation. Other variables that could have affected an individual's employment status is the existence of other sources of income as an alternative to salaries from the various types of employment. It is highly likely that unemployed individuals may receive money and basic needs from their family or friends, and therefore may refuse to work. This being self-reported data, this could have also led to a classification bias due to social desirability by the participants though this could have been abated by the anonymity of the individuals' data

by use of a separate self-completed questionnaire for the questions about substance use disorders and the use of WHO ASSIST V3 which is a validated test.

CHAPTER SIX:

SUMMARY, CONCLUSION & RECOMMENDATION

This was a cross-sectional descriptive study which examined the association between Substance use disorders (SUDs) and employment status among 222 patients on follow up in Mathari National Teaching and Referral Hospital using WHO-ASSIST V3 and sociodemographic questionnaires to collect data from study participants. This study found that Alcohol use disorder (AUD), Tobacco use disorder and cannabis use disorder were the most common SUDs (61.4%). The unemployed persons contributed to higher percentage, more than half (51.3%) of the respondents for both current and 5-year employment status while about 36.1% of the participants were either in full time, partial or self-employment statuses with the exception of students and retired persons. The study showed that the current employment status in relation to alcohol use, tobacco use disorder and cannabis use disorder was negatively affected especially with cannabis use disorder ($p < .001$) and full time employment and unemployment. Among the 20.3% of the participants who had any history of current or past 5year employment also reported history of job loss. The results obtained indicate that SUDs could directly affect a persons' employment status.

Conclusion:

1. Sociodemographic characteristics such as male gender, age, single marital status and socioeconomic status had significant association with SUD.
2. The most prevalent SUDs were Alcohol, Tobacco and Cannabis respectively
3. SUDs were significantly associated with both current and past employment status as well as job loss.
4. Alcohol and tobacco use disorder had significant association with self-employment status

Recommendations

1. There is a need to improve on education, prevention, screening and treatment of substance use disorders in order to reduce the prevalence of Substance use disorders in Kenya.
2. There is also need to address pre-employment attitudes and behavior, skills acquisition as well as occupational and vocational rehabilitation in order to improve capacity, motivation, employment opportunity and reliability in persons with SUDs.
3. Employment-based intervention (Therapeutic Workplace) should be designed and integrated as part of SUDs treatment and follow up in-order to address the chronicity of SUDs and to improve substance abstinence.
4. Further studies should be carried out on this topic with a focus of intervention, rehabilitation and improving employment outcomes.

Study limitations

1. This study was done in a hospital setting and so may not be generalised to the general population.
2. Data collection during the COVID-19 pandemic could indicate higher prevalence of SUDs owed to the negative impacts of the pandemic on SUDs

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APPENDICES

APPENDIX 1: Consent explanation Document (English Version)

Title: The association between Substance Use Disorders and employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital.

Participant Study Identification Number …….

Date ……

Dear Sir/Madam,

Introduction

My name is Dr. Esther Wambui Kiarie, a postgraduate student in psychiatry at the University of Nairobi. In collaboration with the University of Nairobi, we are doing a study on the association between Substance Use Disorders and employment status among patients on treatment and follow up in Mathari National Teaching and Referral Hospital. To achieve this, we need about 267 inpatients to help us fill questionnaires about themselves which will help us meet our objective.

To this end, we kindly request for your/your next of kin's participation in the study.

Requirements

For one to participate in the study you need to:

1. Be aged 18 years and above
2. Must sign the consent form

Procedure

If you agree to participate in the study you will

1. Be asked to sign a consent form expressing voluntary participation.
2. Be asked questions that relate to:
    i) socio-demographic information such as age, gender, religion, Level of education and others
    ii) use of any substance such as alcohol, cannabis, ciarettes, Khat, and others
    iii) Employment status

This will be in form of a questionnaire that will take about 45 minutes to complete

Benefits:

There are no direct benefits for participating in this study.

However, results from this study can help patients and clinicians to better understand the association between substance use disorders and employment status.

This will help in improving the management of patients with both substance use disoder and psychiatric illness.

Risks:

It is possible that you might feel embarrassed or uncomfortable as you give information about substance use disorder and employment status, which are potentially sensitive topics.

In case there is psychological disturbance, you will be offered psychological support.

Voluntary Participation:

Your participation in this research is entirely voluntary and if you decide to participate, you are free to withdraw at any time. You may also choose not to answer specific questions or withdraw from the study at any time. Your choice not to participate or choice to withdraw will not affect any treatment needs that you may have at Mathari Hospital now and in the future.

Confidentiality:

Your identity will be kept confidential. Your name or any other personal identifier will not be used in any reports or publications arising from this study. Instead, you will be assigned a unique study number to protect your identity.

The questionnaires that you will complete will be stored safely, with nobody having access to them apart from the investigators. The data collected from this study will be entered into a password protected computers and kept away from public access.

Compensation:

You will not be paid to participate in this study.

Additional Information:

If you have questions about the study that are not answered in the consent information, please ask them. In addition, if you have questions in the future you may contact the following:

Researcher:

Dr. Esther Wambui Kiarie

Tel: 0722717312

Email: essyve@gmail.com

Supervisors:

a. Professor Anne Obondo.

Email: obondo@uonbi.ac.ke

b. Dr. Judy Kamau

Email: judykamau@uonbi.ac.ke

c. Kenyatta National Hospital/University of Nairobi Ethics & Research committee
P.O Box 19676 - 00202 Nairobi

Tel: (254 – 020) 2726300-9, Ext. 4435

Email: uonknh_erc@uonbi.ac.ke

APPENDIX II: Consent explanation Document (Swahili Version)
HATI YA RIDHAA

Andiko: Uhusiano kati ya shida za utumiaji wa madawa ya kulevya na hali ya kuajiriwa baina ya wagonjwa wanaotibiwa na kufuatiliwa katika hospitali ya Mathari.

Nambari ya Utambulisho ya mshiriki ----------

Tarehe ----------

Utangulizi

Mimi Dr. Esther Wambui Kiarie ni mwanafunzi wa uzamili katika chuo kikuu cha Nairobi. Ningependa kufanya utafiti huu kuhusu idadi na mifumo ya shida za utumiaji wa madawa ya kulevya miongoni mwa wagonjwa wenye magonjwa ya akili waliolazwa katika hospitali ya Mathari. Kufikia lengo hili, tunahitaji wangonjwa takriban 267 kujaza dodoso za utafiti. Ningependa kukuomba ushiriki/ utoe idhini ya jamaa wako kushiriki katika utafiti huu.

Mahitaji ya kushiriki

Ili kushiriki katika utafiti huu unahitajika;

1. Kuwa miaka kumi na minane au zaidi
2. Lazima kuweka sahihi ya hati ya ridhaa

Utaratibu

Ukikubali kushiriki katika utafiti huu;

1. Jamaa au mlezi wa kisheria ataulizwa kutoa idhini ya kushiriki kwa kujaza fomu ya ridhaa.

2. Utaulizwa maswali ya kibinafsi kuhusu jamii yako na maisha yako ya kila siku, maswali kuhusu matumizi ya madawa ya kulevya na kuhusu ugonjwa au magonjwa unayougua. Hii itakuwa katika dodoso litalochukua muda wa dakika 45

Faida

Hakuna faida ya moja kwa moja kwa kushiriki katika utafiti huu.

Hata hivyo, matokeo ya utafiti huu yatasaidia wagonjwa, jamaa, na madaktari kuelewa vyema uhusiano baina magonjwa ya akili na matumizi ya madawa ya kulevya. Hii itasaidia kuboresha matibabu kwa walio na magonjwa haya mawili.

Hatari Ya Usumbufu

Kuna uwezekano unaweza kuhisi haya au wasiwasi ukipeana habari kuhusu matatizo ya matumizi ya madawa ya kulevya na magonjwa ya akili.

Iwapo utapata usumbufu wa kisaikolojia, utapewa usaidizi wa kisaikolojia.

Kushiriki Kwa Hiari

Kushiriki kwako katika utafiti huu ni kwa hiari yako na ukiamua kushiriki una uhuru wa kuondoka kwa wakati wowote. Unaweza pia kuamua kutojibu baadhi ya maswali.

Uamuzi wako kutoshiriki ama kuondoka kutoka kwa utafiti hautaadhiri matibabu yako katika hospitali ya Mathari kwa sasa au katika siku za usoni.

Usiri

Utambulisho wako utawekwa kwa faragha. Jina lako wala namna yoyote ya kukutambulisha hazitatumika kwa ripoti yoyote ya utafiti huu. Badala yake utapewa nambari ya kulinda utambulisho.

Dodoso (Fomu ya maswali ya utafiti) utakayojaza itahifadhiwa kwa usalama, hakuna mtu ataweza kuifikia isipokuwa mimi au wasimamizi wangu. Takwimu zitakazokusanywa katika utafiti huu zitahifadhiwa kwa komputa na kuzuiliwa kwa watu wengine. Komputa zitakazohifadhi takwimu zitalindwa na namba za kisiri ili kulinda takwimu kutokana na matumizi yasioidhinishwa, kupotea ama marekebisho.

Fidia

Hakuna fidia yoyote kwa kushiriki katika utafiti huu.

Maelezo Zaidi

Iwapo unahitaji ufafanuzi zaidi au una maswali yoyote kuhusu utafiti huu unaweza kuwasiliana na;

Mtafiti**:**

Dr. Esther Wambui Kiarie

Tel: 0722717312
Email: essyve@gmail.com

Wasimamizi:
Professor Anne Obondo.
Email: obondo@uonbi.ac.ke

Dr. Judy Kamau
Email: judykamau@uonbi.ac.ke

Kenyatta National Hospital/University of Nairobi Ethics & Research committee

P.O Box 19676 - 00202 Nairobi

Tel: (254 – 020) 2726300-9, Ext. 44355

Email: uonknh_erc@uonbi.ac.ke

APPENDIX III: Consent declaration form

Consent clause to be completed by the participant

I declare that the study has been explained to me in a manner obvious to me. I understand the nature, method, risks and benefits of the study.

My questions about the study have been answered satisfactorily.

I therefore voluntarily agree to take part in this study while reserving my right to terminate my participation at any time.

Date ---------- Signature of participant ----------

Date ---------- Signature of researcher ----------

To be completed by the researcher

I declare that I have given both a written and verbal explanation of the study. I have explained the purpose of the study, methods, risks and benefits of the study. I have answered and will continue to answer any questions that may arise about the study. The participant will not suffer any adverse consequences in case of early termination of participation in this study.

Name of researcher -------Dr. Esther Wambui Kiarie----------

Signature ---------- Date ----------19/08/2022----------

APPENDIX IV: Swahili Translated consent declaration form
FOMU YA RIDHAA

Tamko la mshiriki.

Natangaza kuwa utafiti umeelezewa kwangu kwa njia ya dhahiri. Ninaelewa asili, mbinu, hatari na faida ya utafiti huu.

Maswali yangu kuhusu utafiti huu yamejibiwa kwa kuridhisha.

Kwa hiyo mimi ninakubali kwa hiari kushiriki katika utafiti huu wakati nikihifadhi haki yangu ya kusitisha ushiriki wangu wakati wowote.

Tarehe ---------- Sahihi ya mshiriki ----------

Tarehe ---------- Sahihi ya mtafiti ----------

Tamko la Mtafiti

Ninatangaza kwamba nimetoa maelezo ya utafiti huu kwa maandishi na pia kwa maneno. Nimeelezea asili, mbinu, hatari na faida ya utafiti huu.

Nimejibu na nitaendelea kujibu maswali yoyote ambayo yanaweza kutokea kuhusu utafiti huu. Mshiriki hatapata athari yoyote iwapo atakomesha mapema kushiriki kwa utafiti huu.

Jina la Mtafiti ----------Dr. Esther Wambui Kiarie----------

Sahihi ---------- Tarehe ----------19/08/2022----------

APPENDIX V: Confidentiality Agreement

In order to maintain confidentiality, I Dr. Esther Wambui Kiarie commit to observe the following:

1. Keep all information about the study confidential by not discussing or sharing it in any format with anyone other than the researcher.
2. Ensure security of research information, including filled questionnaires and computer used for data entry and analysis, while in my possession.
3. Not make copies of any research documents or research data unless so instructed by the researcher.
4. Give back all research documents, data and information to the researcher upon completion of my duties.

By signing this, I acknowledge that I understand and agree to observe the expectations outlined above.

Name ----------Dr. Esther Wambui Kiarie----------

Designation ---Registrar (Psychiatry)----------

Sign ----------

Date -------19/8/2022----------

Name of Researcher - Dr. Esther Wambui Kiarie----------

Sign----------

APPENDIX VI: Declaration of Originality

UNIVERSITY OF NAIROBI

Declaration of Originality Form

This form must be completed and signed for all works submitted to the University for examination.

Name of Student ____DR. ESTHER WAMBUI KIARIE_____

Registration Number ___H58/11391/2018_____

College___HEALTH SCIENCES_____

Faculty/School/Institute_ HEALTH SCIENCES_____

Department _____PSYCHIATRY_____

Course Name _____PSYCHIATRY_____

Title of the work: THE ASSOCIATION BETWEEN SUBSTANCE USE DISORDERS AND EMPLOYMENT STATUS AMONG PATIENTS ON TREATMENT AND FOLLOW UP IN MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL

DECLARATION

1. I understand what Plagiarism is and I am aware of the University's policy in this regard

2. I declare that this ____Thesis_____ (Thesis, project, essay, assignment, paper, report, etc) is my original work and has not been submitted elsewhere for examination, award of a degree or publication. Where other people's work, or my own work has been used, this has properly been acknowledged and referenced in accordance with the University of Nairobi's requirements.

3. I have not sought or used the services of any professional agencies to produce this work

4. I have not allowed, and shall not allow anyone to copy my work with the intention of passing it off as his/her own work

5. I understand that any false claim in respect of this work shall result in disciplinary action, in accordance with University Plagiarism Policy.

Signature 

Date 19/08/2022

APPENDIX VII: Sociodemographic Questionnaire

Please answer each question as accurately as possible by selecting the correct answer or filling in the space provided.

Part 1: To be filled by patient

1. What is your age in years ……
2. What gender are you: Male ☐ Female ☐
3. What religion do you practice?

   Christian ☐ Islam ☐ Buddhism ☐ Hindu ☐

   None ☐ Others ……..
4. What is the highest level of education you have achieved? ……

   No formal education ☐ Primary school ☐ High school ☐

   College ☐ Vocational training ☐ University ☐

   Masters ☐ Doctorate/phd ☐

   Others, specify……..
5. What is your marital status?

   Single ☐ Married / domestic partnership ☐ Separated ☐

   Divorced ☐ Widowed ☐
6. Does any of your parents use alcohol or any other substances?

   Yes ☐ No ☐
7. Life status of parents

   Low income ☐ middle income ☐ high income ☐

Part 2: To be filled with information from interviewee's file

8. Age of first abuse ☐

9. What was the mode of admission?

   Voluntary ☐ Involuntary ☐ No admission ☐

10. What is the working diagnosis? .....

11. Are there other co-morbid health problems?

    Yes ☐ No ☐

    If yes, specify……..

Part 3: Employment Status

12. What is your current employment status ……

    Full time employment ☐ Part time ☐

    Unemployed/looking for work ☐ Unemployed /not looking for work ☐

    Self-employed ☐ student ☐ Retired ☐

    Others, please specify……..

13. Employment at all in the past 5 years?

    Yes ☐ No ☐

14. Have you ever lost a job?

    Yes ☐ No ☐

    If yes what was the reason(s)……

15. How many times have you lost a job, if at all……

APPENDIX VIII: Sociodemographic Questionnaire- Swahili version

Tafadhali jibu kila swali kwa usahihi iwezekanavyo kwa kuchagua jibu sahihi au kujaza nafasi iliyotolewa.

Sehemu ya 1: Kujazwa na mgonjwa

1. Je! Una umri gani katika miaka ……

2. Wewe ni jinsia gani: Mwanaume ☐ Mwanamke ☐

3. Je! Una dini gani?

Kikristo ☐ Uislamu ☐ Ubudha Hindu ☐

Hakuna ☐ Wengine ……

4. Je! Umefaulu kiwango gani cha juu? ……

Hakuna elimu rasmi ☐ Shule ya msingi ☐ Shule ya upili ☐

Chuo Kikuu cha Mafunzo ya Ufundi ☐ Chuo Kikuu ☐

Shahada ya Uzamili ☐ Shahada ya phd ☐

Zingine, taja ……

5. Hali ya ndoa?

Pweke ☐ Kuoa / Kuolewa kwa Wenzi wa Jamaa ☐

Walioachwa/walioachana ☐ Talaka ☐ Mjane ☐

6. Je! Kuna mzazi wako yeyote anatumia pombe au dawa za kulevya zingine?

Ndio ☐ La ☐

7. Hali ya maisha ya wazazi

Mapato ya chini ☐ Mapato ya kati ☐ Mapato ya juu ☐

Sehemu ya 2: Kujazwa na habari kutoka kwa faili ya mhojiwa

☐

8. Umri wa matumizi mabaya ya madawa ya kulevya ya kwanza

9. Je! Ilikuwa njia gani ya kuingia?

Kujitolea ☐ Kwa hiari ☐ Hakuna kulazwa hospitalini ☐

10. Je! Ni utambuzi gani wa ugonjwa? ....

11. Je! Kuna shida zingine za kiafya?

Ndio ☐ La ☐

Ikiwa ndio, taja …… ..

Sehemu ya 3: Hali ya Ajira

12. Je! Una hali gani ya ajira sasa ……

Ajira ya wakati wote ☐ Sehemu ya muda ☐

Kutokuwa na ajira / kutafuta kazi ☐ Kutokuwa na ajira / kutotafuta kazi ☐

Aliyejiajiri ☐ Mwanafunzi ☐ Mstaafu ☐

Zingine, tafadhali taja …… ..

13. Ajira wakati wote katika miaka 5 iliyopita?

Ndio ☐ La ☐

14. Je! Umewahi kupoteza kazi?

Ndio ☐ La ☐

Ikiwa ndio, sababu zilikuwa nini ……

15. Je! Umepoteza kazi mara ngapi, ikiwa ni kweli ……

APPENDIX IX: ASSIST v3.1

A. WHO - ASSIST V3.0

INTERVIEWER ID		COUNTRY		CLINIC	
PATIENT ID		DATE			

INTRODUCTION *(Please read to patient)*

Thank you for agreeing to take part in this brief interview about alcohol, tobacco products and other drugs. I am going to ask you some questions about your experience of using these substances across your lifetime and in the past three months. These substances can be smoked, swallowed, snorted, inhaled, injected or taken in the form of pills (show drug card).

Some of the substances listed may be prescribed by a doctor (like amphetamines, sedatives, pain medications). For this interview, we will <u>not</u> record medications that are used <u>as prescribed</u> by your doctor. However, if you have taken such medications for reasons <u>other</u> than prescription, or taken them more frequently or at higher doses than prescribed, please let me know. While we are also interested in knowing about your use of various illicit drugs, please be assured that information on such use will be treated as strictly confidential.

Question 1

In your life, which of the following substances have you <u>ever used</u>? *(NON--MEDICAL USE ONLY)*	**0=No**	**1= Yes**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)		
b. Alcoholic beverages (beer, wine, spirits, etc.)		
c. Cannabis (marijuana, pot, grass, hash, etc.)		
d. Cocaine (coke, crack, etc.)		
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)		
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)		
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)		
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)		
i. Opioids (heroin, morphine, methadone, codeine, etc.)		
j. Other - specify:		

Questions 2 to Question 5 tick:
0 =Never, 1= once, 2= twice, 3= weekly, 4= daily or almost daily
Response Card (ASSIST Questions 2 – 5)

Never: not used in the last 3 months

Once or twice: 1 to 2 times in the last 3 months.

Monthly: 1 to 3 times in one month.

Weekly: 1 to 4 times per week.

Daily or almost daily: 5 to 7 days per week.

Question 2

In the <u>past three months</u>, how often have you used the substances you mentioned *(FIRST DRUG, SECOND DRUG, ETC)*?	**0**	**1**	**2**	**3**	**4**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					

Question 3

During the <u>past three months</u>, how often have you had a strong desire or urge to use *(FIRST DRUG, SECOND DRUG, ETC)*?	**0**	**1**	**2**	**3**	**4**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					

e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					

Question 4

During the <u>past three months</u>, how often has your use of drugs led to health, social, legal or financial problems?	**0**	**1**	**2**	**3**	**4**
a) Health problems					
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					
b) social problems					
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					

c) legal problems					
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					
d) financial problems					
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					

Question 5

During the <u>past three months</u>, how often have you failed to do what was normally expected of you because of your use of *drugs*	**0**	**1**	**2**	**3**	**4**
a. Tobacco products					
b. Alcoholic beverages (beer, wine, spirits, etc.)					
c. Cannabis (marijuana, pot, grass, hash, etc.)					
d. Cocaine (coke, crack, etc.)					
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					

g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Other - specify:					

Question 6-8 tick:

0= never, 1=yes, but not in the past 3 months, or 2= yes in the last 3 months

Question 6

Has a friend or relative or anyone else <u>ever</u> expressed concern about your use of	**0**	**1**	**2**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)			
b. Alcoholic beverages (beer, wine, spirits, etc.)			
c. Cannabis (marijuana, pot, grass, hash, etc.)			
d. Cocaine (coke, crack, etc.)			
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)			
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)			
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)			
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)			
i. Opioids (heroin, morphine, methadone, codeine, etc.)			
j. Other – specify:			

Question 7

Have you <u>ever</u> tried and failed to control, cut down or stop using	**0**	**1**	**2**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)			
b. Alcoholic beverages (beer, wine, spirits, etc.)			
c. Cannabis (marijuana, pot, grass, hash, etc.)			

d. Cocaine (coke, crack, etc.)			
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)			
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)			
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)			
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)			
i. Opioids (heroin, morphine, methadone, codeine, etc.)			
j. Other – specify:			

Question 8

Have you <u>ever</u> used any drug by injection? ***(Non-Medical Use Only)***			

For each substance (labelled a. to j.) add up the scores received for questions 2 through 7 inclusive. Do not include the results from either Q1 or Q8 in this score. For example, a score for cannabis would be calculated as: Q2c + Q3c + Q4c + Q5c + Q6c + Q 2c + Q 3c + Q 4c + Q 5c + Q 6c + Q 7cQ7c

Note that Q 5 for tobacco is not coded, and is calculated as: Q 2a + Q 3a + Q 4a + Q 6a + Q 7a

Specific Substance Involvement Scores

Substance	Score	Risk Level
a. Tobacco products		0-3 Low 4-26 Moderate 27+ High
b. Alcoholic Beverages		0-10 Low 11-26 Moderate 27+ High
c. Cannabis		0-3 Low 4-26 Moderate 27+ High

d. Cocaine		0-3 Low 4-26 Moderate 27+ High
e. Amphetamine type stimulants		0-3 Low 4-26 Moderate 27+ High
f. Inhalants		0-3 Low 4-26 Moderate 27+ High
g. Sedatives or Sleeping Pills		0-3 Low 4-26 Moderate 27+ High
h. Hallucinogens		0-3 Low 4-26 Moderate 27+ High
i. Opioids		0-3 Low 4-26 Moderate 27+ High
j. Other - specify		0-3 Low 4-26 Moderate 27+ High

	What do your scores mean?
Low:	Low risk of health and other problems from your current pattern of use.
Moderate:	At risk of health and other problems from your current pattern of substance use.
High:	High risk of experiencing severe problems (health, social, financial, legal, relationship) as a result of your current pattern of use and are likely to be dependent

Are you concerned about your substance use? **0= no** **1= yes**

APPENDIX X: ASSIST v3.1-swahili version

A. WHO - ASSIST V3.0

KITAMBULISHO CHA MHOJIWA ☐ NCHI ☐☐ KLINIKI ☐

KITAMBULISHO CHA MGONJWA ☐ TAREHE ☐☐☐☐☐☐

UTANGULIZI (Tafadhali soma kwa mgonjwa)

Asante kwa kukubali kushiriki katika mahojiano haya mafupi juu ya pombe, bidhaa za tumbaku na dawa zingine. Nitakuuliza maswali kadhaa juu ya uzoefu wako wa kutumia vitu hivi katika maisha yako yote na katika miezi mitatu iliyopita. Dutu hizi zinaweza kuvuta sigara, kumeza, kung'olewa, kuvuta pumzi, sindano au kunywa kwa njia ya vidonge (onyesha kadi ya dawa).

Baadhi ya vitu vilivyoorodheshwa vinaweza kuamriwa na daktari (kama amphetamini, sedatives, dawa za maumivu). Kwa mahojiano haya, hatutarekodi dawa ambazo hutumiwa kama ilivyoagizwa na daktari wako. Walakini, ikiwa umechukua dawa kama hizo kwa sababu zingine isipokuwa dawa ya dawa, au umezitumia mara kwa mara au kwa viwango vya juu kuliko ilivyoagizwa, tafadhali nijulishe. Wakati tunavutiwa pia kujua juu ya utumiaji wako wa dawa anuwai haramu, tafadhali hakikisha kuwa habari juu ya utumiaji kama huo itachukuliwa kama siri kabisa.

Question 1

Katika maisha yako, ni ipi kati ya vitu vifuatavyo umewahi kutumia? Matumizi yasiyo ya matibabu tu)	**0=Hapana**	**1= Ndio**
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)		
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)		
c. Bangi (marijuana, pot, grass, hash, etc.)		
d. Kokeini (coke, crack, etc.)		
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)		

f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)		
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)		
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)		
i. Opioids (heroin, morphine, methadone, codeine, etc.)		
j. Nyingine - taja:		

Jibu maswali 2 hadi Swali 5:
0 = Kamwe, 1 = mara moja, 2 = mara mbili, 3 = kila wiki, 4 = kila siku au karibu kila siku

Response Card (ASSIST Maswali ya 2 – 5)

Kamwe: haikutumika katika miezi 3 iliyopita

Mara moja au mbili: mara 1 hadi 2 katika miezi 3 iliyopita.

Kila mwezi: mara 1 hadi 3 kwa mwezi mmoja.

Kila wiki: mara 1 hadi 4 kwa wiki.

Kila siku au karibu kila siku: siku 5 hadi 7 kwa wiki.

Question 2

Katika miezi mitatu iliyopita, umetumia mara ngapi vitu ulivyovitaja	**0**	**1**	**2**	**3**	**4**
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini (coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					

h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja::					

Question 3

Katika miezi mitatu iliyopita, ni mara ngapi umekuwa na hamu kubwa au hamu ya kutumi	**0**	**1**	**2**	**3**	**4**
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini (coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja::					

Question 4

Katika miezi mitatu iliyopita, ni mara ngapi utumiaji wako wa dawa za kulevya umesababisha shida za kiafya, kijamii, kisheria au kifedha?	0	1	2	3	4
a) Shida za kiafya					
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini (coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					

i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja:					
b) shida za kijamii					
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini (coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja:					
c) shida za kisheria					
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini(coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja:					
d) shida za kifedha					
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini (coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					

g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja:					

Question 5

Katika miezi mitatu iliyopita, ni mara ngapi umeshindwa kufanya kile ambacho kwa kawaida kilitarajiwa kutoka kwako kwa sababu ya matumizi yako ya dawa za kulevya	**0**	**1**	**2**	**3**	**4**
a. a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)					
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)					
c. Bangi (marijuana, pot, grass, hash, etc.)					
d. Kokeini (coke, crack, etc.)					
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)					
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)					
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)					
i. Opioids (heroin, morphine, methadone, codeine, etc.)					
j. Nyingine-taja:					

Jibu la swali la 6-8:
0 = kamwe, 1 = ndio, lakini sio katika miezi 3 iliyopita, au 2 = ndio katika miezi 3 iliyopita

Swali la 6

Je! Rafiki au jamaa au mtu mwingine yeyote amewahi kuonyesha wasiwasi juu ya matumizi yako ya	**0**	**1**	**2**
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)			
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)			
c. Bangi (marijuana, pot, grass, hash, etc.)			
d. Kokeini(coke, crack, etc.)			

e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)			
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)			
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)			
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)			
i. Opioids (heroin, morphine, methadone, codeine, etc.)			
j. Nyingine-taja:			

Swali la 7

Je! Umewahi kujaribu na ku0shindwa kudhibiti, kupunguza au kuacha kutumia	**0**	**1**	**2**
a. Bidhaa za tumbaku (sigara, tumbaku inayotafuna, sigara, n.k.)			
b. Vinywaji vya pombe (bia, divai, pombe, n.k.)			
c. Bangi (marijuana, pot, grass, hash, etc.)			
d. Kokeini (coke, crack, etc.)			
e. Vichocheo vya aina ya Amfetamini (speed, diet pills, ecstasy, etc.)			
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)			
g. Sedatives au Vidonge vya Kulala (Valium, Serepax, Rohypnol, etc.)			
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)			
i. Opioids (heroin, morphine, methadone, codeine, etc.)			
j. Nyingine-taja			

Swali la 8

Je! Umewahi kutumia dawa yoyote kwa sindano? (Matumizi yasiyo ya matibabu tu)			

Kwa kila dutu (iliyoandikwa a. Kwa j.) Ongeza alama zilizopokelewa kwa maswali 2 hadi 7 yakijumuisha. Usijumuishe matokeo kutoka kwa Q1 au Q8 katika alama hii. Kwa mfano, alama ya bangi itahesabiwa kama: Q2c + Q3c + Q4c + Q5c + Q6c + Q 2c + Q 3c + Q 4c + Q 5c + Q 6c + Q 7cQ7c

Kumbuka kuwa Q 5 ya tumbaku haijaandikishwa, na imehesabiwa kama: Q 2a + Q 3a + Q 4a + Q 6a + Q 7a

Alama Mahususi za Uhusika wa Dawa ya kulevya

Dawa ya kulevya	Alama	Kiwango cha Hatari
b. Vinywaji vya Pombe		0-10 Chini 11-26 Wastani 27+ Juu
c. Bangi		0-3 Chini 4-26 Wastani 27+ juu
d. Kokeini		0-3 chini 4-26 wastani 27+ juu
e. Vichocheo vya aina ya Amfetamini		0-3 chini 4-26 wastani 27+ juu
f. Inhalants		0-3 chini 4-26 wastani 27+ juu
g. Sedatives au Vidonge vya		0-3 chini 4-26 wastani 27+ juu
h. Hallucinogens		0-3 chini 4-26 wastani 27+ juu
i. Opioids		0-3 Chini 4-26 wastani 27+ juu
j. Nyingine - taja		0-3 chini 4-26 wastani 27+ juu

	Alama zako zinamaanisha nini?
Chini:	Hatari ndogo ya afya na shida zingine kutoka kwa mtindo wako wa sasa wa matumizi.
Wastani:	Katika hatari ya afya na shida zingine kutoka kwa mtindo wako wa sasa wa utumiaji wa dutu.
Juu:	Hatari kubwa ya kupata shida kali (kiafya, kijamii, kifedha, kisheria, uhusiano) kama matokeo ya mtindo wako wa matumizi na inaweza kuwa tegemezi.

Je! Una wasiwasi juu ya utumiaji wako wa dawa za kulevya?	**0**= Hapana	**1**= Ndio

APPENDIX XI: Work Plan

TIME	ACTIVITY
MAY-DECEMBER 2020	Proposal development
JANUARY 2021	Proposal presentation
FEBRUARY- MARCH 2021	Seek UON/KNH ERC approval
APRIL-AUGUST 2021	Do corrections as advised by UON/KNH ERC and seek approval of corrected version
SEPTEMBER –OCTOBER 2021	Data collection, analysis and thesis writing
NOVEMBER –DECEMBER 2021	Presentation of research results

APPENDIX XII: BUDGET

No	CORE ACTIVITY	ITEM/PARTICULAR	COST KSH
1.	Consolidation of literature	Library and internet search Travelling expenses 30 days @ Ksh 1,000 Lunch expenses 30 days @ 300	10,000 30,000 9,000
2.	Design and development of research instrument	Typing and photocopying research instrument.	10,000
3.	Pretesting research instrument	Transport 2 days @Ksh 500 Lunch expenses 2 days @Ksh 300	1,000 600
4.	Data Collection	Transport expenses 60 days @ 1000 Lunch expenses 60 days @ 300	60,000 18,000
5.	Data processing and analysis	One statistician	35,000
6.	Report writing	Typing, photocopying and binding	20,000
7.	Ethics fee	2000	2000
8.	Sub total		193,600
9.	10% contingencies		19,360
10.	TOTAL		214,960