PATTERNS OF PSYCHIATRIC MORBIDITY AMONG FIRST TIME REFERRED ADULT PATIENTS ATTENDING TREATMENT AT MATHARI NATIONAL, TEACHING AND REFERRAL HOSPITAL NAIROBI-KENYA

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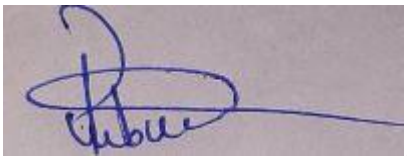
A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILLMENT FOR THE AWARD OF MASTER OF MEDICINE, PSYCHIATRY DEGREE, UNIVERSITY OF NAIROBI.

AUGUST 2020

DECLARATION

I declare that this project is my original work that has not been presented either wholly or in part to any other institution of higher learning for honor of any Degree or any other purpose.

Signature……  …….

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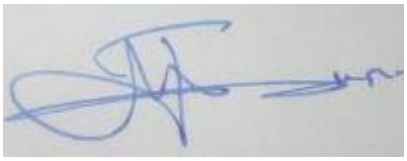
Signature……  ……
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DEDICATION

This project is dedicated to my immediate family and all those suffering from mental health illnesses and have lost hope in life.

ACKNOWLEDGEMENT

I would like to acknowledge everyone who supported me in my training especially my dear husband and children for the patience they exhibited during my long hours of study.

To all my colleagues, friends and parents for their never-ending support.

To the Mathari National Teaching and Referral Hospital team especially all the nurses at the outpatient clinic and the records department personnel for making my data collection time easy.

To my supervisors Dr. John Mburu and Dr. Rachel Kangethe for their support in training and research.

Finally, to the Department of Psychiatry (UON), to the administration of MNTRH, to the ethics board and all the participants who made this project possible.

LIST OF ABBREVATIONS

AD	-	Alcohol Dependence.
ADHD	-	Attention Deficit Hyperactivity Disorder.
AOR	-	Adjusted Odds Ratio.
AUD	-	Alcohol Use Disorder.
AIDS	-	Acquired Immunodeficiency Syndrome.
APA	-	American Psychiatric Association.
ASD	-	Autism Spectrum Disorder
ASSIST	-	Alcohol, Smoking and Substance Involvement Screening Test.
CBD	-	Central Business District.
CIDI	-	Composite International Diagnostic Interview
CMD	-	Common Mental Disorders.
DSM-v	-	The Diagnostic and statistical Manual of Mental Disorders.
ERC	-	Ethics Research Committee.
GAD	-	Generalized Anxiety Disorder.
GAVO	-	General Assistance of Voluntary Organisation.
GRT	-	Gruppo per le Relazioni Transculturali.
HIV	-	Human Immune Virus.
ICD-11	-	International Classification of disease.
ICPE	-	International Consortium in Psychiatric Epidemiology.
ICU	-	Intensive Care Unit.
IQR	-	Inter Quintile Range.
KNBS	-	Kenya National Bureau of Statistics.
KNCHR	-	Kenya National Commission of Human Right
KNH	-	Kenyatta National Hospital.
KNH-UoN	-	Kenyatta National Hospital-University of Nairobi.
MDE	-	Major Depressive Episode
M.I.N.I	-	Mini International Neuropsychiatric Interview
MMED	-	Masters in Medicine.
MMSE	-	Mini Mental Status Examination.
MNS	-	Mental Neurological and Substance use disorders
MNTRH	-	Mathari National Teaching and Referral Hospital.

NCD	-	Neurocognitive Disorders.
NREM	-	Non Rapid Eye Movement.
OCD	-	Obsessive Compulsive Disorder.
OPD	-	Out Patient Department.
PTSD	-	Post-Traumatic Stress Disorder.
REM	-	Rapid Eye movement.
SCID-P	-	Structured Clinical Interview for DSM-111-R Patients
SD	-	Standard Deviation.
SPSS	-	Statistical Package for Social Sciences.
SUD	-	Substance Use Disorder.
UoN	-	University of Nairobi.
USA	-	United State of America.
WHO	-	World Health Organization.
WMH	-	World Mental Health.
YLDS	-	Years Lived with Disease.

OPERATIONAL DEFINITIONS

Mental disorder	-	Also called mental illness or psychiatric disorder is a mental or behavior pattern that brings about significant distress and impairs a person's function.
Morbidity	-	state of having a symptom or having a certain disease
Psychiatrist	-	A medical practitioner who specializes in the diagnosis and management of mental illnesses.
Psychiatry	-	Medical specialty that deals with prevention, diagnosis and treatment of mental disorders.
Psychologist	-	An expert in psychology.
Referral	-	The act of sending someone for consultation, review and further action.
Socio-demographic characteristics	-	this are defined as the characteristics of a population such as age, gender, education level income level, marital status, religion ethnicity etc.

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ABSTRACT

Psychiatric disorders are prevalent in the community and their burden is large compared with other illnesses as they occur early in life and are chronic. Timely and accurate diagnosis of mental illness and appropriate referral is critical in the management of these illnesses. The main objective of this study was to determine the patterns of psychiatric morbidities and sources of referral amongst first time adult patients attending treatment at MNTRH. The sample size obtained was 424 and the respondents were carefully chosen using purposive sampling method. Data collection was through a socio-demographic questionnaire and MINI v7.0.Ethical considerations were adhered to. Data entry and analysis was by SPSS v23.Data from 434 questionnaires was deemed fit for analysis with a response rate of 102%.Majority of the participants were males (63.4%), with a median age of 30 years. Most were single (58.1%) with secondary education (40.6%) unemployed (37.3%) with an income below 5,000(49.8%).Most were seen at outpatient (92.4%), referred by general public (72.6%) Referrals from other health facilities constituted 15.9%. The three most prevalent psychiatric morbidities were psychotic disorders(22.7%),substance use disorder(15.2%) and Mixed alcohol and substance use disorder(13.1%).11.3% of the respondents had more than 1 diagnosis and the most prevalent comorbidity was substance use disorder(non-alcohol) at 30.6%. Psychotic disorders had a significant association with sex, education level and income, while substance use disorder showed a significant association with age, sex, marital status, occupation and income. Barriers to accessing mental health services at the primary health level needs to be evaluated and appropriate measures put in place to overcome them.

CHAPTER ONE: INTRODUCTION

1.1 Background

In order to achieve holistic health, complete mental wellbeing has to be one of the component (Salve, 2013). Mental disorder entails major clinical syndromes mostly marked by distress caused by psychological and behavior related symptoms which bring about loss in functioning (Tadesse et al., 2017). Mental wellbeing has been found to be a vital element of an individual general well-being and it enhances one's progress socio-economically. It plays a great role in a number of outcomes for persons and societies which includes: better way of life; enhanced bodily health; rapid recovery from diseases; less challenges in day to day activities; better educational achievements; improved productivity, employment and earnings; it also contribute to amicable relationships within adults and children (WHO, 2009).

Mental illness has no boundary as its affect both the young and aged in the population (Mbuthia et al., 2018). However, prevalence of psychiatric disorder has been found to be highest in those aged between 24-44 yrs. This has a serious economic and social impact on the individual, family and community as this is the age where a person is most productive (Haldar et al., 2017). During adulthood the most prevalent mental disorders include, anxiety, depression, psychotic and cognitive disorders. The amplified probability of developing mental illnesses during adulthood has been associated with many factors including: brain aging and pathologies, delicate physical health, reduced financial stability, changed living arrangements, and family support system breakdown (Kumar et al., 2017).

Mental illnesses are a growing challenge to the health care globally (Meyer & Ndetei, 2016). Most patients with chronic medical conditions have comorbid mental disorders which brings about suffering and interfere with the treatment of the medical ailments causing them to have a bad prognosis. This in turn make this patients management very complicated with poor outcome and increased medical products consumptions (Mahar et al., 2010). The mental disorders in adults is associated with marked distress which is mostly persistent especially to the ones undergoing treatment in the wards. Comorbidity of physical and mental illness contribute to higher levels of mortality. As such, a review

of epidemiological studies on psychiatric disorders document that at any point in time, over 10% of the global populace are affected by neurological and mental disorder needing specialized interventions (Salve, 2013). Majority of mentally ill patients, need psychiatric involvement mostly due to their primary mental illness or due to the psychological reactions secondary to their physical illness. This goal can be realized by forming and refining usage of liaison and consultation opportunities in the facilities. Timely interventions have been associated with improved quality life in patients and saves on unnecessary consumption of medical services (Mahar et al., 2010).

1.2. Situational Analysis

1.2.1 The Global Situation

The World Health Organization (WHO) posits that the lifetime prevalence of psychiatric disorders in the world ranges in percentage between 18.1 -36.1. This is to mean that more than a third of the population in the world has suffered from mental disorders of different severity at any given time. (Meyer & Ndetei, 2016). The WHO made an observation that at least 10% of the mature and youth populations at any particular time suffer one or more mental illness. Additionally, numerous cross-national researches have shown that mental illness prevalence contribute to 14% worldwide disease burden. Furthermore, prevalence of mental disorders in one's lifetime varies across cultures with some countries prevalence ranging at over 40% include the United States (Mamah et al., 2013).

According to Haldar et al. (2017), for a 23 years period (1990-2013)1, the India's mental disorder burden increased by 44% while that of both substance use and neurological disorders was estimated to increase by 23% in the next 12 years between 2013-2025. Tadesse et al (2017) indicates that in the world people suffering from depression are over 150 million while schizophrenia affect 24 million with a reported 800,000 dying from suicide each year. The biggest burden is with those abusing various substances of abuse with this number reaching billion people A WHO report (2010) indicates that every individual in four individuals in the globe is likely to be afflicted by mental or nervous illnesses in their lives. Shakya (2010) posit that an estimated 15% of Nepal population suffer psychiatric disorders and out of this 1% needs immediate medical attention.

1.2.2 Regional Perspective

In most countries in Africa, accessing mental health services remains a challenge and is usually considered as inefficient, inequitable and inadequate. Low income countries experience a 85% treatment gap compared with 35-50% in countries with high income (Marangu, 2014). The welfare of Africans is further worsened by many problems including, lack of jobs, political and economic instabilities, crime, overcrowding, and divorce, lack of education, broken down homes, inflation and drug addiction which further predisposes Africans to developing mental illnesses. (Nakasujja et al., 2007). Provision of quality care to for the mentally ill patients in the developing world especially those in sub-Saharan Africa remains the 21st century greatest challenge in the health system (Tadesse et al., 2017).

Empirically Sub-Saharan Africa is shown to have a huge mental health burden which is worsened by the fact that more children and young adults are suffering from mental health related problems (Meyer & Ndetei, 2016). Ethiopia has mental illness as the leading health burden at 12.45% and psychiatric disorders are the leaders in the non-communicable diseases with schizophrenia and depression (Tadesse et al., 2017).

Gavo in December 2004 reported that Somali is the world's leading country in terms of mental health burden with an approximated one person in every two families suffering from mental related illness. This could be attributed to the prolonged political instability and ethnical conflicts.

1.2.3 Local Perspective

In Kenya's Health care systems, provision of mental health services has always remained limited due to poor infrastructure, inadequate trained mental health personnel and poor government funding (Meyer & Ndetei, 2016). Most of Kenya's mental related services are funded by the government with very limited facilities and programmes funded by private entities. Kenya is amongst the 54 of the 194 WHO member states nations, with no distinct budget for mental health services. This has greatly contributed to inadequateness of mental health policies, mental awareness activities and management of mental disorders. Unfortunately, Kenya been a developing country is faced by numerous competing health challenges like infectious diseases (HIV), poor nutrition/malnutrition,

unsafe water for drinking, malaria and the ever-rising incidences of chronic conditions like, renal failure, diabetes, cancers and cardiac diseases. This demanding challenges compromises allocation of mental health provision funds (Marangu, 2014).

The mostly diagnosed psychiatric disorders in Kenyan facilities are substance use disorders, depression anxiety and stress related neurosis. This disorders are comorbid with chronic medical diseases (Khasakhala et al., 2009). The highest contributor of mental health burden in Kenya is depression, though abuse of alcohol is also very prevalent but its burden is less than that of those abusing opiates (Meyer & Ndetei, 2016). Ndetei et al (2008) also established that the common mental diagnosis in hospitals are depression, tension disorders, substance use and anxiety. Specialized mental health care in Kenya is carried out at the District level facilities by the few trained psychiatric nurses who run the outpatient clinics while at the provincial level/PGH it's offered by the trained psychiatric nurses manning both the outpatient clinics and inpatient units.

At the national level, the care is given at the 3 main referral hospital which are the Mathari National Teaching and Referral Hospital, Kenyatta National Hospital and Moi Teaching and Referral Hospital (Meyer & Ndetei, 2016). Since 1980, Kenya has trained 74 psychiatrist of whom 54 are practicing in the country. 250 out of the 418 trained psychiatric nurses are currently working in mental health related fields with the rest either working in private institutions and others having migrated in search of greener pastures (Marangu, 2014). Presently, Kenya does not have clear statistics and facts about the frequency of mental disorders in the country. Nevertheless, according to KNCHR (2011) 25 percent of outpatients and 40 percent of admitted patients been attended in Hospitals suffer from mental conditions. As such, there is a probability that the frequency of mental illnesses may have increased from previous studies based on the current reported cases of suicides, homicides and violence been witnessed at the household levels. Based in Nairobi, Mathari National Teaching and Referral Hospital is the biggest mental health facility, providing inpatient services in the country (Marangu, 2014).

1.3 Research Problem

Both mental and behavioral disorders are frequent diseases in the society and have been shown to have a uniform distribution in the world (Shakya, 2010). The prevalence of psychiatric illness is high and they are the leaders in the world's burden of diseases. Psychiatric morbidity is reported to be very high among adult patients, with prevalence' of between 30-60% (Goar et al., 2018). However, a substantial proportion of psychiatric ailments remain undiagnosed and this has led to very low rates of referral of patients for psychiatric care (Malla, Basnet & Pokharel, 2015). In recent past, there has been increased creation of awareness about mental illness especially amongst adults. This has led to improved psychiatric management for both pharmacological and psychological methods (Mahar et al., 2010). However, statistics of studies done in various settings have shown differences in the rates of psychiatric related referrals. It has been noted that high prevalence's of psychiatric morbidity is reported at outpatient units compared to inpatients units (Ajagallay, Das, Salankar & Chanchlani, 2014).

Comparison of the various study done regionally, locally and internationally around this topic is difficult due to the fact that different criteria's were used for diagnosis and patient's populations varied in different study settings. In addition, mental illness patterns vary in different nations creating more differences in the patterns of treatment and referral's. Psychiatric morbidity is common in Kenya contributed partly by the high rates of poverty, internal conflicts, and unemployment HIV/AIDS and internal displacements. There is a 4% prevalence of the major disorder which is comparable with some other high-income nation reported prevalence's (Marangu, 2014). Despite all this mental health related care has received little attention from the government and provision of mental health services remains a low priority area for budget and policy. Meyer and Ndetei (2016) posit that despite Kenya having a high burden of disease resulting from, neurological, mental and substance use related disorder there is an acute shortage of both neurologist and psychiatrist to deal with this menace.

Before 2015 Kenya lacked a formal policy for mental health and this severely limited the necessary reforms geared towards the agenda of mental health (Marangu, 2014). The current estimated number of psychiatrist in Kenya is slightly above 100 of whom ¾ are

serving in the major cities like Nairobi, Mombasa and Kisumu in the Main referral hospitals, (KNH, Moi Teaching and Referral Hospital, MNTRH) Learning institutions and private hospitals. The remaining ¼ are distributed in the level 5 hospitals in some counties. This distribution disparity may contribute to patients been referred for treatment at MNTRH. Thus, the need to assess the correlation between patterns of psychiatric morbidity among first time referred adult patients attending treatment at Mathari Hospital.

1.4 Study Justification

There is data paucity in Kenya on the patterns of psychiatric morbidities amongst first time referred adult patients attending treatment at MNTRH. In the last 15 years, there has been many incidences in Kenya which could impact on the people's mental health which includes traumatic events e.g. Road traffic accidents, flooding's, drought, terrorist attacks, violence and conflicts. A study on the patterns of psychiatric morbidity amongst first time referred adult patients attending treatment at MNTRH is important, as facility serves the whole country and receives many patients from the peripheral facilities. It will help in designing better consultation-liaison services which are geared toward holistic mental health care. It will also compare the situation of our country's mental referral hospital with studies done elsewhere and possibly recommend effective and integrated mental health services provision and referrals to relevant policy makers. The MNRTH hospital administration will be helped to understand the types of morbidities amongst this group of patients for better preparedness in terms of human resource mobilization, financial allocations for medicines and other required items in the management of patients. Referral gaps will be identified and relayed to the relevant policy makers for proper mitigations. Furthermore, knowledge of psychiatric morbidity and referral patterns at MNTRH will be useful for educational purposes for clinicians.

1.5 Research Questions and Objectives

This section covered research question and the objectives of the study.

1.5.1 Research Questions

The research questions for this study were:

1. What are the socio-demographic characteristics of the first time adult's patients attending treatment at MNTRH?
2. What is the prevalence of psychiatric morbidities amongst first time adult's patients attending treatment at MNTRH?
3. What is the association between the patient's sociodemographic characteristics and their psychiatric morbidities amongst the first time adult's patients attending treatment at MNTRH?
4. From where and who refers this first time adults attending treatment at MNTRH?

1.5.2 Broad Objective

The broad objective was to determine the patterns of psychiatric morbidities and sources of referrals amongst first time adults attending treatment at MNTRH.

1.5.3 Specific Objectives

1. To determine the socio-demographic characteristics of the first time adult patients attending treatment at MNTRH.
2. To determine the prevalence of psychiatric morbidities amongst first time adult patients attending treatment at MNTRH.
3. To find out the associations between the socio-demographic characteristics and psychiatric morbidities in this patients.
4. To determine the sources of referral and the persons referring this first time adults patients attending treatment at MNTRH.

1.6 Hypothesis.

Null hypothesis (Ho)

There is no association between selected patient's socio-demographic characteristics (age, sex, marital status, education level, occupation, income) and

psychiatric morbidities amongst first time adult's patients attending treatment at MNTRH.

1.7 Theoretical Framework

Bio-psychosocial framework is a model that was developed in 1977 at Rochester by Drs. George Engel and John Romano. It scientifically considers, an individual's psychological (personality, mood, emotions, thoughts) behaviors such as distress, beliefs, fear/avoidance coping mechanisms and attribution), biological (biochemical and genetic) and social factors (economic, environmental, cultural) e.g. Work related issues and family circumstances and their intricate relations in understanding illness, health and health care delivery. **Biological factors**. Studies have shown that some common mental and behavioral disorders tend to have a strong genetic predispositions. The disorders are usually triggered by an interaction between environmental risk factors and multiple risk genes. Examples of the multiple environmental stressors that may bring out mental pathologies include, fetus been exposed to psychoactive substances, infections, malnutrition, broken down family environments, isolation, neglect, and trauma.

Psychological factors mental illnesses have been found to develop in children who were deprived nurturance of maternal or care givers when they were young. This factors may also been seen as a form of maladaptation that is usually learnt or human actions that are borne of interaction with the social environment and nature. Failure to cope with some stressing life events may bring about some disorders like anxiety and depression. **Social factors** such poverty which causes (homelessness, low education, and deprivation) urbanization, unemployment, and technological change have been related with causation of mental health disorders. A good examples is urbanization which sometimes results into overcrowding, poverty, polluted environments, relying on cash economy, crime, violence, poor social support. All this life stressors exert a negative effects on individual's mental health.

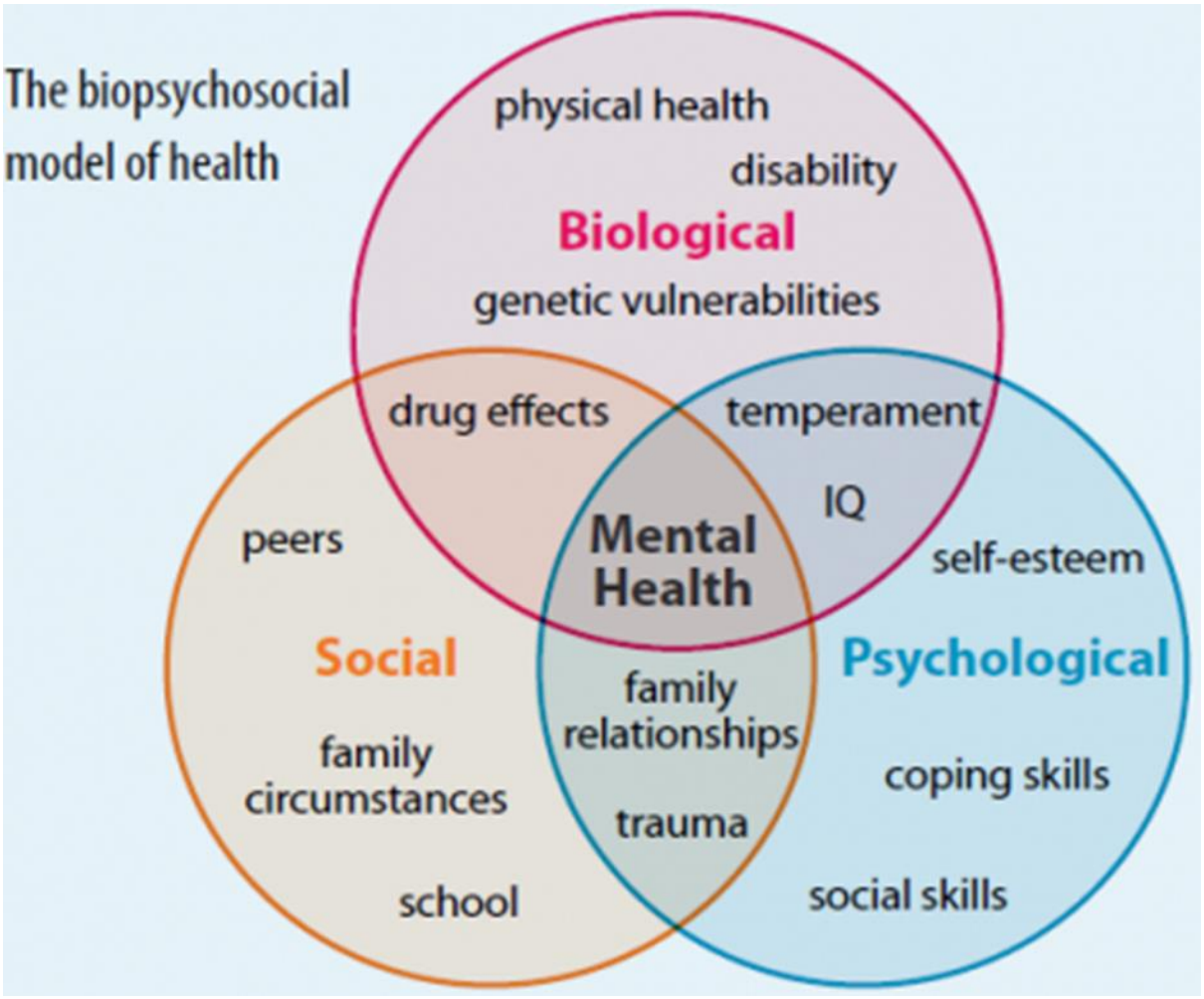


Figure 1.1 bio-psychosocial model - Showing how mental health disorders can results from social, biological and psychological factors

1.8 Variables

Independent variables: The independent variable for this study were the selected socio-demographic characteristics which included age, sex, marital status, education level, occupation and monthly income. These have been found to vary among different studies globally focusing on prevalence of psychiatric morbidities in different setups.

Dependent variable in this study were the psychiatric morbidities like psychotic disorders ,bipolar disorder, substance use disorders, depressive disorders, substance use disorders, alcohol use disorders and mixed alcohol use and substance use disorders, which prevalence's can be influenced by the listed sociodemographic characteristics

CHAPTER TWO: LITERATURE REVIEW

2.1 Psychiatric Morbidity

Psychiatric morbidity refers to psychological and physical decline that is experienced by a person suffering from either psychological or mental illness. (Aishatu et al., 2013). This morbidity changes the development and effect of both disorders, Hence if suitable referral and treatment of patients suffering from mental illness is instituted appropriately a lot of saving on resources and time will be achieved and at the same time improve the patients productivity. (Malla, Basnet & Pokharel, 2015). The virtual predominance of certain mental disorders faced in medical situation is completely different from those witnessed in facilities carrying out specialist mental services. In primary care setting the commonest problems encountered are somatoform disorders, Neurosis, and alcohol related problems. In the settings of intensive care units (ICUs) the commonest disorders are delirium, anxiety and depression.. In Pakistan's hospitalized patients, Delirium was noted to be affecting occurs in 15-30 % of patients (Mahar et al., 2010). As per the World Health Organization, morbidity is a factor of: total population affected, type of illness and illness duration (Aishatu et al., 2013).

2.2. Categories of Mental Disorders

There are two recognized methods for categorizing psychiatric ailments: The International Classification of disease (ICD-11) a product of World Health Organization (WHO) and The Diagnostic and statistical Manual of Mental Disorders (DSM-V) a product of the American Psychiatric Association (APA). The DSM-5 category includes neurodevelopmental ailments, psychotic and schizophrenia ailments, bipolar and associated ailments, anxiety ailments, obsessive-compulsive ailments, trauma and stress associated ailments, eating conditions, sleep-wake ailments, sexual dysfunctions, disruptive, conduct and impulse-control conditions, substance abuse disorder, neurocognitive disorders, personality disorders.

Neuro developmental ailments are a set of illnesses which start at the developing period, and are characterized by developmental deficits that yields deficiencies in individual, societal, educational, or work-related functioning. They comprise of, autism,

intellectual developmental, attention deficit hyperactivity, communication, motor, and specific learning disorders. **Psychotic and schizophrenia disorders** are characterized by abnormalities in five key areas: misbelieves, disordered thinking and behavior or unusual motor behavior, hallucinations and negative symptoms. They are comprised of schizophreniform, delusional, brief psychosis, Schizotypal personality disorder, schizophrenia, medication and substance induced psychosis, catatonia, schizoaffective disorder and medical conditions induced psychosis.

Bipolar and related disorders mainly affects mood and they includes cyclothymic disorder, bipolar I, bipolar 2, bipolar induced by substance and medication, medical conditions induced bipolar, specified bipolar and unspecified bipolar ailments. **Depressive ailments** are marked by the manifestation of hollow, unhappy or ill-tempered frame of mind, together with cognitive and somatic alterations which majorly interrupt the individual's ability to operate. They include disruptive mood dysregulation, dysthymia, premenstrual dysphoric, substance related depression, medical conditions induced, specified and unspecified depressive disorders.

Anxiety disorders exhibit features of unwarranted fear and apprehension and associated behaviors. These disorders vary from one another in the kinds of things or circumstances that bring anxiety, fear, or escaping behavior, and the related cognitive ideation. They comprise of particular phobia, selective mutism, anxiety for separation, panic, agoraphobia, social phobia, anxiety disorder induced by substances, generalized anxiety and medical condition induced anxiety. **Obsessive-compulsive disorders** include obsessions which are recurrent and insistent images, urges or thoughts perceived as undesirable and invasive. While compulsions are repetitive actions or mental deeds that an individual is compelled to do in reaction to an obsession. This disorders includes: hoarding, hair-pulling, body dysmorphic, obsessive-compulsive disorder, excoriation, substance induced obsessive-compulsive disorder and medical condition induced OCD.

Trauma and stress associated disorders include disorders of reactive attachment, acute stress, posttraumatic stress, adjustment and disinhibited social engagement, posttraumatic stress. Dissociative disorders are described as disruption of the usual integration of recall, awareness, self, perception, feelings, body representation, manners and motor control.

These conditions are often found after results of trauma and symptoms are influenced by the closeness to trauma. They includes dissociative amnesia, dissociative identity, and depersonalization. **Somatic disorders** often have major somatic symptoms together with significant distress and dysfunction**. Eating disorders** are described by a frequent disturbance of feeding that brings about altered food intake or absorption that meaningfully damages health, psychosocial and physical functioning. They include: pica, rumination, restrictive food intake, bulimia nervosa, binge eating and anorexia nervosa**.**

Elimination disorders involves the unsuitable removal of feces or urine. This disorder is usually diagnosed in childhood or sometime in adolescence. They include enuresis and encopresis**. Sleep-wake disorders** encompass 10 groups among them hyper somnolence, insomnia, narcolepsy, circadian rhythm disorders, breathing-related conditions, NREM arousal disorders, REM disorder, nightmares, restless legs disorder, and substances induced sleep disorder. Individual's present with problems of sleeping and waking accompanied with dissatisfactions concerning the amount, timing and quality of slumber. Daytime impairment and distress are primary features found in all these conditions.

Sexual dysfunctions are characterized by a major notable problem in individual capacity to sexually react or experience sexual stimulation. They include, erectile dysfunction, delayed ejaculation, female disorder of orgasm and arousal, disorder of genital penetration, hypoactive male sexual desire, substance induced sexual disorder and premature ejaculation**. Gender dysphoria** entail a noticeable mismatch concerning one's expressed sex and assigned sex for a period exceeding 6 months. **Disruptive, conduct and impulse-control conditions** involves difficulties in the one's-control of actions and feelings. They are manifested by acts that go against the civil rights of other bringing the person into major conflict with authority and social standards. They includes intermittent explosions, oppositional defiance, antisocial personality, pyromania, kleptomania, specified disruptive, conduct disorder, unspecified disruptive, conduct and ailments of impulse-control.

Substance abuse disorder includes abuse of caffeine, alcohol; hallucinogens cannabis opioids, sedatives, inhalants; anxiolytic and hypnotics. Generally drugs taken in larger quantities and have a straight activation of the reward system in the brain. This is a

system that is involved in the strengthening of behaviors and the creation of memories. **The neurocognitive disorders (NCDs)** includes delirium, and NCDs caused by vascular, Alzheimer's, Lewy bodies, frontal temporal lesions, Parkinson's disease; traumatic brain damage; HIV, prion and Huntington's disease; substance/medication and other medical condition. Primary clinical deficit in this group of disorders is in intellectual functioning. They are not developmental but acquired. **Personality disorders** are persistent forms of inner experience and an action that differs prominently from the dogmas of the person's culture. It begins usually during adolescence or in the period of early adulthood. It brings about dysfunction and distress. They are in three clusters A, B and C**. Paraphilic disorders** comprise of voyeuristic, frotteuristic, exhibitionistic, sexual sadism, sexual masochism, bondage, transvestic, pedophilic and fetishistic disorder. Paraphilia symbolizes strong and persistent sexual needs different from the interest in genital sex with a consenting human being.

2.3 Review of Studies

2.3.1 Global Studies

A study by Goar et al (2018) examined the psychiatric morbidity, referral patterns and sociodemographic profiles of in-patients referred to Jos University Teaching Hospital consultation-liaison unit. The study used a descriptive study and sampled 142 patients were referred to consultation-liaison unit between August 2014 to July 2015. The study found that the major source of referral was from medical ward and key reasons for referral were to help in management previous psychiatric contact and abnormal behavior. The predominant psychiatric diagnoses included depression, acute organic brain syndrome, alcohol dependence and puerperal psychosis/depression.

Malla, Basnet and Pokharel (2015) looked at the psychiatric morbidity patterns of patients referred for treatment at the outpatient department of Kathmandu Medical College. The study sampled 200 patients' different outpatient departments for a six months period. The finding revealed that most of the respondents were aged 36.03 years; were females (with up to class 7 education, stay at home mums and residing in a nuclear family setup). The study further found that most of the referrals came from the various medical ward. The commonest mental disorders referred from the medical wards was

depression and anxiety and this patients were mainly presenting with unclear somatic complaints e.g. Headache, sleep disturbances, and pain in more than 3 body sites.

Salve et al (2013) looked at patterns of psychiatric morbidities in secondary level care facility in India. The study involved 724 outpatients who attended psychiatric clinic. Majority were females (52.2%) with a mean age of 35.5 years (SD-14.4).Those aged 22.44 years were the majority at 43.5% and the most common psychiatric morbidities as per DSM-IV were, depression(23%)psychotic disorder (14%) and anxiety disorders(14%).

Ajagallay et al (2014) evaluated various specialties for psychiatric referral patterns, this was done in a one year study which found that the most common causes for referral were confusion and changed states of consciousness followed closely by inappropriate talks and mental diagnosis made out of this referral were mainly delirium and psychotic disorders. A conclusion that was made supported timely diagnosis and management of mental illnesses in all those suffering from medical/physical conditions as this was an important factor in patient's recovery and reduction of morbidity and time spent in the hospital.

Risal and Sharma (2013) made an analysis of inpatients in the psychiatric department who had been referred from the various wards within a Tertiary care University Teaching Hospital. In the one year period, a sample of 385patients was studied and the results showed that the most frequent diagnosis from the medical wards was deliberate self-poisoning followed by alcohol related liver diseases. The outstanding psychiatric diagnosis was that of depression encompassing both adjustment and dysthymia disorder. While depression was the commonest issue from those referred from the wards, those from the emergency unit were found to suffer from anxiety disorders. The study documented a significant correlation between the referral source and psychiatric ailments.

Chapagai et al (2013) studied patterns of referral in a psychiatric unit in a Nepal's tertiary hospital. The study employed a descriptive study and covered the period between October 2012 -April 2013 where a sample of 95 patients was selected. The result revealed that females suffered more from stress related disorders and neurotic disorders. It further showed that those referred for liaison services were mainly aged between 21-50

years. The study found that the main reason for referral to liaison psychiatric consultation included: stress disorders, neurotic ailments, substance use related conditions and organic mental illnesses.

Fahmida, Wahab and Rahman (2009) looked at the patterns of diagnosis of mental illnesses in a patients admitted in a private psychiatric facility in Dhaka city which had 20 beds. Total respondents were 304 of which males were 184 (60.53%) and females were 120 (36.47%) Half were aged between 18-37 years (50%).commonest psychiatric morbidities were found to be psychotic disorder (39.4%) mood disorders (18.75%) borderline personality disorder (3.6%) among many with a conclusion that Bangladesh rural and urban areas had a burden of mental illnesses.

Wang and El-Guebaly (2004) studied sociodemographic factors in the population which could be associated with comorbid alcohol dependence and major depressive episodes They extracted data that had been obtained from health survey of Canadian national population(1996-1997)Who's, Composite International Diagnostic Interview Short Form (CIDI-SF) was used to measure AD and MDE. A significant association between AD, MDE and comorbidity and being young (12-24 years), low family income, and marital status (separated, divorced and widowed) was found. A conclusion was made that some of the risk factors for comorbid AD and MDE were being young, single with low income.

2.3.2 Regional Studies

Mwesiga et al (2020) assessed the 1 year prevalence of psychotic disorders occurring in patients seeking treatment for the first time at the Uganda's National Psychiatric Referral and Teaching Hospital. The study looked at patients chart-files retrospectively in March 2019. Models of logistic regression models were used to come up with the fact that in 2018 63% of all first time patients seeking treatment had psychotic related disorders. They had a median age of 29 years with majority being males (62.8%) and unemployed (63.1%).Patients residence was adjusted and females were shown to have a higher prevalence of psychotic disorders compared to males with Pentecostal faith being significantly associated with psychosis.

Tadesse et al (2017) assessed psychiatric admissions patterns and patient's outcome predictors in Jimma University Teaching and Referral Hospital. This was a 3 year period

study which collected data from patient's cards, medical records and charts. Data was analyzed using bivariate and multivariable logistic regression. The study showed better prognosis amongst patient who were married compared with the single(2.81 times better) and also showed better outcomes amongst those admitted for the first time as compared to those with previous history of admission(2.82 times better) . The study concluded that better mental illness outcomes was achieved in those who were married, educated and had no prior history of psychiatric admissions.

Yimam et al (2014) did a cross sectional study at community level community amongst adults in Kombolcha town, North-East Ethiopia. The aim was to find out the Predominance of the Common psychiatric Ailments and establish factors associated with these disorders. 32.4% was the established prevalence. The associated independent predictors included: being female, having low education, being a smoker, positive family history of mental illness, long standing medical conditions, small family size, stressful life events and lack of adequate emotional. Screening at the primary health levels and Proper stress management, was recommended in order to increase the society mental wellbeing. Educating women, and improving their social position and social network was also recommended.

Hauli et al (2011) looked at substance use prevalence, substances used and sociodemographic factors associated with use of substances of abuse among psychiatric patients at BMC, Mwanza-Tanzania. This was a descriptive cross sectional study that collected data using a researcher designed socio demographic questionnaire together with a World Health Organization ASSIST tool. Males were 70.7% with females constituting 29.3%. The respondent's age range was 15-80 years, mean age of 34.8 years. Alcohol was the most abused at 59.3% followed by tobacco at 38.6% and cannabis took the third position with 29.3%). Significant associations was found with education level, marital status, gender, formal employment family history of mental illness and family history of substance use.

In their study, Nakasujja et al (2007) did an African setting descriptive cross-sectional study in a non-psychiatric unit with elderly patients, with an aim of finding out the nature of psychiatric ailments suffered by this group of patients. 127 elderly patients were

recruited and were interviewed via a self-reporting questionnaire, MMSE and SCID. Results showed a prevalence of psychiatric morbidity of 48%, which affected women more than men. The commonest disorder was depression which was also witnessed more in women than men. Dementia was associated with increasing age.

Mudenge.C (2009) did a study on psychiatric morbidities among patients in Ndera Neuropsychiatric Hospital Kigali-Rwanda. I t was a cross-sectional study which involved 394 respondents of whom 58% were males. Most were aged between 21-30 years and were single (51%) highest level of education attained was primary (44%).Commonest psychiatric morbidities were schizophrenia (39.3%) current mania (38.5%) depression (8%) and substance use disorders (6.7%).

Abbo et al (2009) did a study in two Ugandan Districts with an aim of finding out both the predominance and severity of the mental ailments which traditional healers were handling. They had 387 respondents in the study. Of the respondents, 60.2% had a current diagnosable mental illness which comprised of: psychosis at 29.7%, Major depression 5.4%, with Anxiety disorders at 5.6% and mixed Anxiety-Depression at 3.6%. 3.9% of the respondents had suicidal risk. 16.3% of the respondents had one lifetime disorder. Severity was 37.7%, 35.1% and 13.2% for severe, moderate and mild respectively. Those with severe and moderate symptoms had a higher likelihood of using both traditional healers and biomedical services. A similar study like that conducted by Nakasujja et al (2007) was conducted.

In Nigeria by Uwakwe (2000) where he sampled all those aged over 60 years admitted in a non-psychiatric department of a general teaching hospital data was collected using used a Self- Reporting Questionnaires, MMSE and the Geriatric Mental State Schedule. A prevalence of 45.3% was identified which was very close to the previous study done by Nakasujja et al (2007). The commonest disorder was also found to be depression followed closely by dementia and delirium which constitute organic disorders. Other identified disorders were GAD, adjustment disorders, drugs and alcohol abuse. Of note is that the physicians were only able to diagnose 2.8% of these mental ailments and only one case of dementia was referred to the mental health specialist for management. This

showed a gap in awareness amongst the physician about mental disorders affecting the elderly patients.

2.3.3 Local Studies.

Aillon et al (2014) conducted a cross sectional study using MINI Plus version 5 to find out the prevalence, type and comorbidity of mental disorders in a Kenyan primary health center. Out of the 300 participants those with psychiatric disorders were 169=56.3% with majority having major depressive disorders-26.3%, Agoraphobia-16.7%, pain disorders-12.5%, GAD-9.3% and bipolar disorders-9%.They didn't find any significant association between patient's sociodemographic characteristics and psychiatric morbidities.

Ndetei et al (2009) carried out a descriptive cross sectional study where they looked into the predominance of psychiatric illness amongst adults in various levels of hospitals in Kenya. Using different psychiatric tools data was collected from 10 facilities within 4 weeks in November 2005. The total number of patients interviewed were 2,770 both at outpatient and inpatient units. Results showed that mild-severe depression affected 42% of the participants.4.1% had been attended to previously and had a psychiatric working diagnosis which included schizophrenia, depression, other psychosis and bipolar mood disorders.

Ndetei et al (2007) examined all the patients admitted at MNTRH with a diagnosis of "psychosis" for DSM-IV disorders. Data was collected from 138 patients for one month and data analysis done using SPSS. Majority of the patients were males, aged 20-34 years and they were single .The most common diagnosis as per the DSM-IV were bipolar mood disorder, depression, schizophrenia, substance use and anxiety disorder.

Makanyengo, Othieno and Okech (2005) did an assessment retrospective study of the mental health services rendered at KNH with an aim of finding out the nature of mental illness and characteristics of patients attended at the facility. Data was collected from the files of patients who attended various psychiatric units including the patient support center in the year 2002. Results revealed that the main diagnosis was acute and chronic psychosis, alcohol related mental disorders, depression, conversion disorders, dissociative disorders and dementia.

Kamau et al (2004) conducted a study within an African refugee camp with an aim of finding out the frequency of mental disorders. This study was conducted in Kakuma camp. They found PTSD at 38.6%, anxiety at 22.7%, depression at 10.6%, psychosis at 12.3%, and a mixed group of disorders(8.9%)mainly characterized by lack of sleep, psychosomatic issues, and psychosexual disorders. Epilepsy was also present at 6.9%.

2.4 Conceptual model.

This section covers conceptual framework.

2.4.1 Conceptual Framework

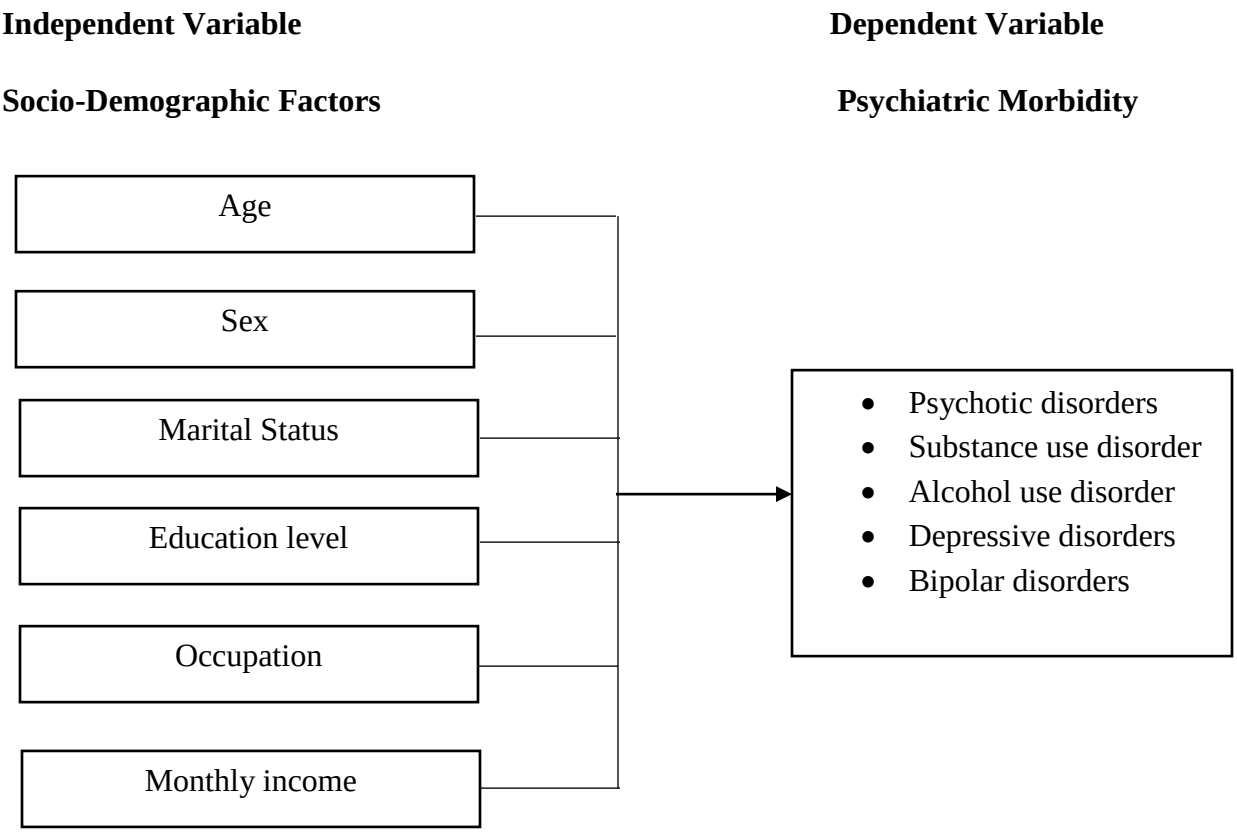


Figure 2.1: The conceptual framework showing the relationship between independent and dependent.

CHAPTER THREE: METHODOLOGY

3.1 Study Design

This study aimed at assessing the patterns of psychiatric morbidity among first time referred adult patients attending treatment at Mathari National, Teaching and Referral Hospital. Thus, to achieve this objective, a hospital based descriptive cross sectional survey was adopted.

3.2 Study Area Description

The study was conducted at Mathari National, Teaching and Referral Hospital in Nairobi, which is the solitary mental health facility in Kenya that was established in 1911. Its located 5km from Nairobi CBD (Central Business District). It's the designated teaching hospital for the psychiatric residents of the University of Nairobi. Its capacity is 600 beds of which 200, are reserved for females. It's served by 12 government deployed psychiatrist of whom two are in the hospital management.10 are in full time clinical services with the help of the Mmed psychiatry residents. It lacks a unit for children and adolescence. The hospital together with the patients who attends it are stigmatized. It mostly attract those who are of low socio-economic status not in a position to afford private care.

3.3 Study Population

Male and female first time patients referred to attend treatment at MNTRH who were above 18 years, and were able to give an informed consent seen at the outpatient clinic in MNTRH and the first time very sickly adults patients admitted and stabilized in the wards, and were able to give informed consent for a period of 4 months between, February 2020-May 2020. On average every month the hospital attends to 300 first time adults' patients. Therefore, the estimated study population was above 1,000 patients.

3.4 Inclusion Criteria

The study included those aged 18 years and were able to give an informed consent, first time referred patients attending treatment at MNTRH outpatient clinic, or the sickly admitted first time patients who had stabilized in the wards.

3.5 Exclusion Criteria

The study excluded all patients under 18 years of age and all existing patients who had been attended at MNTRH before. The study also excluded first time patients who had been attended at the outpatient clinic or admitted to the ward were not able to give an informed consent.

3.6 Sample Size.

The sample was selected using the Fishers formula Fishers et al. (1998) as follows

$$n = \frac{Z^2 P(1-P)}{d^2}$$

Where;

n = the preferred sample.

Z = Standard normal distribution set at 1.96 which correspond with 95% confidence level.

P = probable proportion of an attribute that is present in the population (0.5)

d = preferred level of precision at 0.05 or 5%

Substituting in the formula:

$$n = \frac{1.96^2 * 0.5(1-0.5)}{0.05^2} = 384$$

$n = 384$

To cater for non-responses 10% was added to make it 10/100×384= 38.4 (converted to tens=40) hence **424** patients was assessed.

3.7 Sampling

Patients were selected using non-probability purposive sampling. This method is limited to a group of people who can provide the wanted information either because they are the only ones who have it or conform to some criteria set by the researcher. The researcher selected only the first time adult patient attending treatment at MNTRH Outpatient Clinic

on five working days (Monday-Friday 8 A.M-5P.M) per week who passed the criteria and were agreeable to be part of the survey until the target population of 424 was reached.

3.8. Recruitment and Consenting Procedure

After getting permission from KNH/UON Ethical committee, Authority to collect data was sought from the Mathari Hospital Ethical Committee. General information about the study, its objectives and procedures was explained to the management of the institution and staff at the outpatient department and ward In-charges. The researcher got a room at the outpatient department where she was present from Monday-Friday 8A.M-5 P.M. The department operates day and night (24/7) from Monday to Sunday. New patients who have never sought treatment at MNTRH usually open a new file first before been attended. (The older patients have files which are retrieved once they present their OPD cards). Old patients who files are missing open a new file which is clearly labeled (temporary file/old file missing) hence this ones were not part of the study. After opening a file, the new patients were first attended by the doctor on duty after which the nurse at the station alerted the researcher who explained the study to the patient briefly. The patient was requested to choose one of the accompanying relatives whom he/she was comfortable to joining him during the interview. The chosen relative was mainly of help in interpretations of items the patient was not able to understand and also gave a corroborative history. If the patient was willing he/she was then directed to the researcher's room where a detailed explanation about the study was given. Those who met the study criteria were requested to sign a consent form, which was thereafter countersigned by the accompanying relative. Those not willing to participate or did not meet the researchers criteria were thanked and advised accordingly. Patients who were new but very sickly and required admission, were first admitted in the respective wards and the researcher made a frequent follow up and once stable in the wards the researcher organized to interview the patient on a day while the patient's relatives were present during the visiting hours. The patient was requested to choose one relative he/she was okay to be with during the interview. The researcher then explained the study to the patient and the relative and those willing to participate signed a consent form which was

countersigned by the accompanying relative and then interviewed. Those not willing or did not meet the criteria were be thanked and allowed to continue with their inpatient management. The study participants were interviewed using, a researcher designed sociodemographic questionnaire which was derive from the sociodemographic characteristics of the patient and also a researcher administered Mini International Neuropsychiatric Interview tool (M.I.N.I version 7.0.2) for psychiatric morbidities.

3.9 Data Collection

Data was collected over a period of 25-30 minutes per respondent using a researcher administered, researcher designed sociodemographic questionnaire followed by the Mini International Neuropsychiatric Interview (M.I.N.I version 7.0.2)

3.10 Study Instruments.

3.10.1 Socio-Demographic Data Questionnaire

A questionnaire that captured the demographic characteristics, age, sex, marital status, level of education, occupation, monthly income, religion, county of residence, source of referral, mode of consultation, medical history and history of family mental illnesses. It also established if the patient had any accompanying relative and their relationship. It was administered by the researcher.

3.10.2 M.I.N.I (Mini International Neuropsychiatric Interview)

A brief, organized diagnostic interview for ICD-10 and DSM-III-R mental disorders. It was developed in 1990 in Europe and United states by psychiatrists and clinicians. Updates have been done on it to help in mapping both DSM-IV, MINI 6.0 and DSM-5, MINI 7.0.2. It assesses the 17 most common illnesses in mental health which identification is key in both clinical and research situations. It has been validated and its reliability tested by comparing it to the SCID-P for DSM-III-R and the CIDI. Results showed that this tool has similar validity and reliability properties as that of SCID-P and CIDI. Its main observed advantage is that it can be administered for a shorter duration of time (mean 18.7 ± 11.6 minutes, median 15 minutes. Both studies also sort to find out the inter-rater and test-retest reliability of the MINI. For validating MINI versus SCID-P a study that involved 370 subjects was carried out. Validation against CIDI involved 80

subjects. Overall, the results supported the validity and reliability of the MINI. This is a tool that has been used by many researchers locally with great success.

3.11 Quality Assurance

The researcher at all times maintained research ethics during the study. The primary researcher was responsible for providing the details about the study including aims and objectives, the collection procedure and risks and benefits. She was also responsible for administering the questionnaires to the participants. Participants were required to sign the consent form for data provided to be considered valid for research. The consent was also counter-signed by the accompanying relative. The questionnaires was numbered to aid in data entry but they did not contain personal details of the participant to ensure anonymity and participant confidentiality. The filled questionnaires were stored under lock and key before, during and after data management. During and after data entry and analysis, there was an encrypted code to protect the data on the software.

3.12 Reliability and Validity

Reliability is measured by the consistency and ability of a certain measure to obtain same results every time you carry out a test. Cronbach Alpha Coefficient was used to test the research instrument reliability as it provides an inter-item correlation coefficient.IT has ranges between 0 and 1 with >0.7 considered to be the reliability indicator. Expert opinion from other scholars who used the same collection tools were consulted to ensure the tools validity.

3.13 Ethical considerations.

The data collection began after acquiring approval from the department of psychiatry, KNH-UoN Ethics Committee and MNTRH Ethics committee. Details of this considerations pertaining the study were explained to the participant's and one of their preferred accompanying relatives. These details included consent explanation, risk and benefits to the participants, privacy and confidentiality, voluntary participation and signing of the informed consent form.

Consent explanation included an explanation of the details concerning the title, objectives of the study and the expected time of the respondents' involvement. This was

done in both Kiswahili and English by the researcher. **Risks** where the participants were informed that the study would not include any physically invasive procedures or tests. However, they were informed that they may experience unintentional psychological/emotional harm as they reflect on their illness. Patients and any accompanying relative who got emotionally overwhelmed during the interview were appropriately referred to the hospital psychotherapist on duty for counselling. **Benefits** - participants benefited directly by getting a detailed physical and mental assessment and got detailed information about their illness. They were informed that their participation would provide more understanding on the nature of their mental illness and challenges they faced in the referral pathways to help the hospital administration and policy makers do proper planning for service delivery. **Privacy and confidentiality** where the study participants were assured that their names would not appear in the study tools used to interview them or anywhere in the thesis, instead they would be identified using serial code numbers. However, they were explained that the consent form required their names for legal purposes and that the forms were stored separately from the other research documents. All the soft copy data was to be entered into a password-protected computer and accessed by the researcher only. The hard copy research documents were to be stored in a lock and key cabinet. **Voluntary participation** where the respondents were informed that their contribution was fully voluntary and they were allowed to opt out at any point without any form of discrimination. They were notified that the researcher would not gain any monetary benefits from the study as it was for academic purpose. **Informed consent** where after the participant was made aware that his/her participation in the study was voluntary and that they had understood the nature of the study, including the risks, benefits and confidentiality, he/she was be required to sign an informed consent form. The form included all these issues in writing. All willing participants were given the written informed consent form to sign before being interviewed. The consent was countersigned by the preferred accompanying relative chosen by the patients who were also present at the interview to help in interpretation in case of language barrier and also give a corroborative history.

3.14 Benefits of the Study

The study findings will be of benefit to the administration of Mathari National, Teaching and Referral Hospital as they may use the study recommendations and conclusion to develop appropriate policies on the management and treatment of patients who have been referred with various psychiatric disorders. The study will also be of benefit to various policy-making institutions mostly the ministry of health and county governments in generating strategic policies for referral guidelines of mental illness in Kenya health systems. Finally, the study will be of benefit to medical practitioners and clinicians who may use the study insights to understand more about the management of adult patients suffering from psychiatric disorders and for future research.

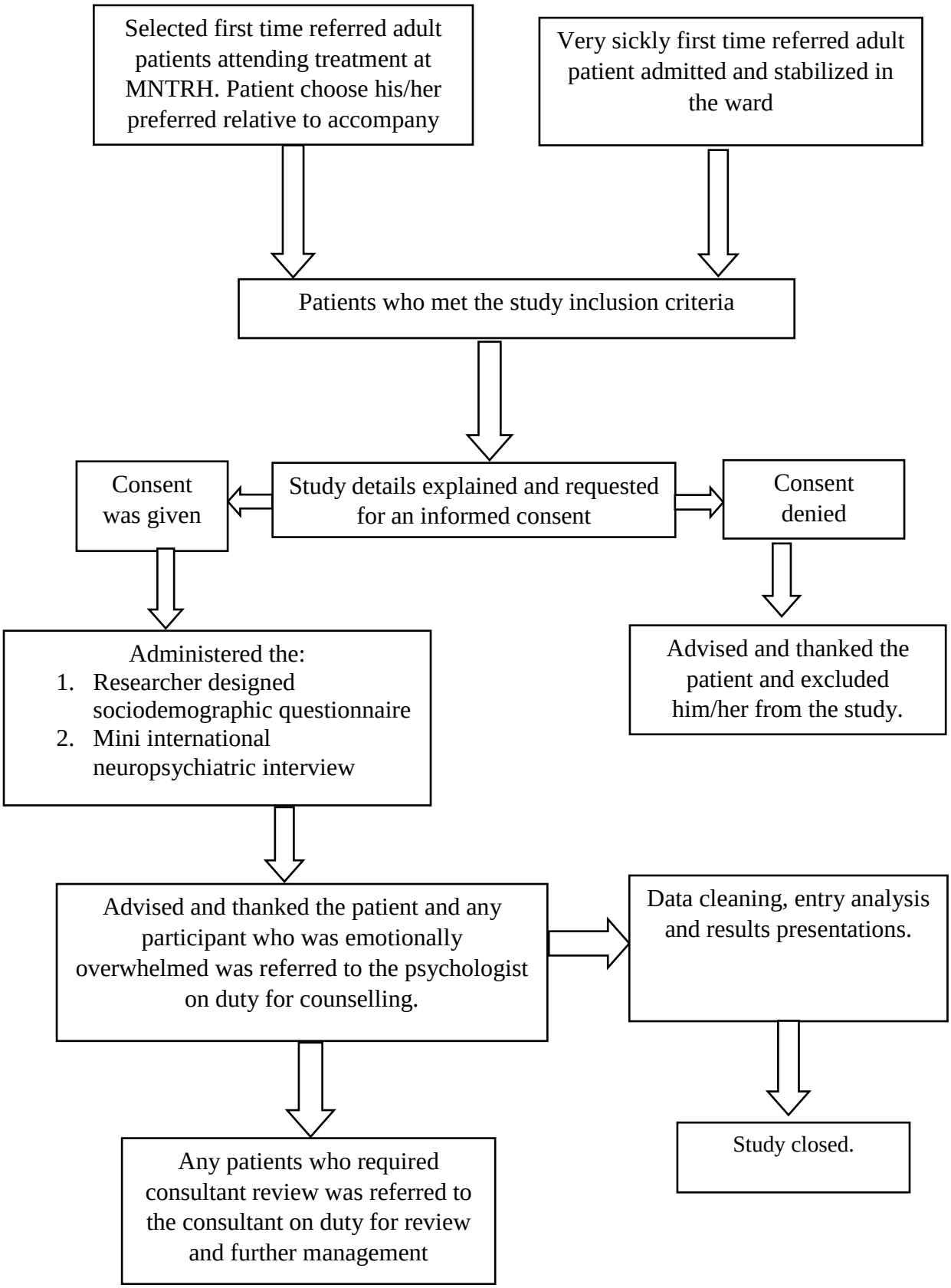
3.15 Risks of Study

There were no physically invasive procedures like drawing blood or any kind of specimen. However, some questions about the patient's illness evoked psychological invasiveness and invaded into patient's privacy. Patient were reminded that they do not have to answer questions they are uncomfortable with and those who were emotionally overwhelmed, were referred to the psychologist on duty within the hospital for counselling and further management. Those patients needing a consultant review were referred for review by the hospital consultant on duty.

3.16 Data Management and Statistical Analysis Plans

The raw data was collected via coded questionnaires which was then be cleaned, entered into a password enabled computer and later given to a statistician to analyse. The filled questionnaires were stored under key and lock. Descriptive and inferential analysis were carried out. Descriptive analysis entailed measures of central tendency like frequencies, percentages, and mean among others while the inferential analysis entailed CHI-square, bivariate and multivariate correlations to determine the associations between psychiatric morbidities and selected sociodemographic characteristics. Data analysis was conducted via SPSSv 23 and results presented using descriptive statistics such as tables, percentages, narratives and charts.

3.17 Study Flow Chart



3.20 Study Closure Plan and Procedure

All soft copy and hard copy materials related to the study were properly categorized and marked for storage in a restricted and classified manner. The results of the study was made available at the University school library for future reference and this study will be published in a peer-reviewed journal.

CHAPTER FOUR: RESULTS AND DATA ANALYSIS

4.1 Introduction

This will entail description of data collected as per the study objectives of sociodemographic characteristics, patterns of psychiatric morbidities, source of referrals and correlation between socio-demographic characteristics and psychiatric morbidities. Results have been presented in form of charts, graphs tables and interpretation of study findings.

4.1.1 Response Rate

Calculated sample was 424 but, 434 participants were interviewed as the number was large on the final days and the researcher did not want to leave out any willing respondents. Therefore 434 questionnaires were analyzed which translates to a response rate of 102%.

4.2 Descriptive Statistics

4.2.1 Sociodemographic Characteristics

Age: The respondents' ages ranged between 18 and 88 years with a mean of 33, a median of 30, a mode of 21 and standard deviation of 13.6. Majority of the participant 42.2% (N=183) were aged between 21-30 years followed by those aged between 31-40 years at 24.9% (N=108) and below 20 years being 12.2% (N=53) respectively. Further, participants aged between 41-50 years were 11.1% (N=48) while those aged between 51-60 years were 4.1% (N=18) whereas those aged between 61-70 years were 2.5% (N=11) with those aged above 70 years being 3% (N=13) respectively.

Sex: Male respondents were the majority at 63.4 % (N=275) while females constituted 36.6 % (N=159).

Marital status: Majority of the participants 58.1 % (N=252) were single whereas the married constituted 29.3 % (N=127) while those who were previously married were 12.7 % (N=55) respectively.

Education level: Most of the respondents 40.6% (N=176) had acquired secondary education followed by those with primary education at 29.5% (N=128). Those with

tertiary education constituted 28.3 % (N=123) while those who had not attained any type of formal education were minority at 1.6 %(N=7) respectively.

Occupation: Majority of the participants 37.3% (N=162) were unemployed followed closely by those in informal employment at 28.1% (N=122). Self-employed were 13.6% (N=59), students were 12.9 % (N=56) and those in formal employment were 7.6% (N=33). The retired participants were 0.5% (N=2) in that order.

Monthly income: Majority were those earning less than Ksh. 5,000 constituted 49.8% (216) while those earnings ranged between Ksh. 10,001 to 20,000 were 29.3% (N=127). Further, the participants whose earnings ranged between Ksh. 5001 to 10,000 were 10.8% (N=47) whereas those who earned between Ksh. 20,001 o 50,000 were 9.4% (N=41) with the least 0.7% (N=3) earning more that were Ksh. 50.000 correspondingly.

Religion: The large majority of the participants 97.5 % (N=423) were Christians while the Muslims were 2.3 % (N=10) with other religious categories constituting 0.2% (N=1) respectively. The summarized details of socio-demographic characteristics are shown on table 4.1 below.

Table 4.1: Socio-Demographic Characteristics

Sociodemographic characteristics	Category	Frequency(N=434)	Percent (%)
Age	Mean Median Mode SD Range	33 30 21 13.6 18-88 years.	
Sex	Male	275	63.4
	Female	159	36.6
Marital status	Single	252	58.0
	Married	127	29.3
	Previously married (separated, divorced, widowed)	55	12.7
Education level	No formal education	7	1.6
	Primary education	128	29.5
	Secondary education	176	40.6
	Tertiary education	123	28.3
Occupation	Retired	2	0.5
	Students	56	12.9
	Formal employment	33	7.6
	Informal employment	122	28.1
	Self employed	59	13.6
	Unemployed	162	37.3
Monthly Income	Below 5,000	216	49.8
	5001-10,000	47	10.8
	10,001-20,000	127	29.3
	20,001-50,000	41	9.4
	>50,000	3	0.7
Religion	Christian	423	97.5
	Muslims	10	2.3
	Others	1	0.2

4.2.2 Residence as per the Counties

The representation was almost similar as that of provinces with Nairobi County registering the highest number at 55.8 % (N=242) followed closely by the counties in its periphery among them Kiambu county with 23.5% (N=102), Murang'a with 4.1% (N=18), Kajiado with 3.2% (N=14) and Machakos with 2.3% (N=10) among many. Others represents the counties, which had one participant each and they include Busia,

Homabay, Isiolo, Kilifi, Laikipia, Makueni, Migori, Mombasa, Transnzoia, and Vihiga respectively. The county's population distribution is represented in the Figure 4.1 below.

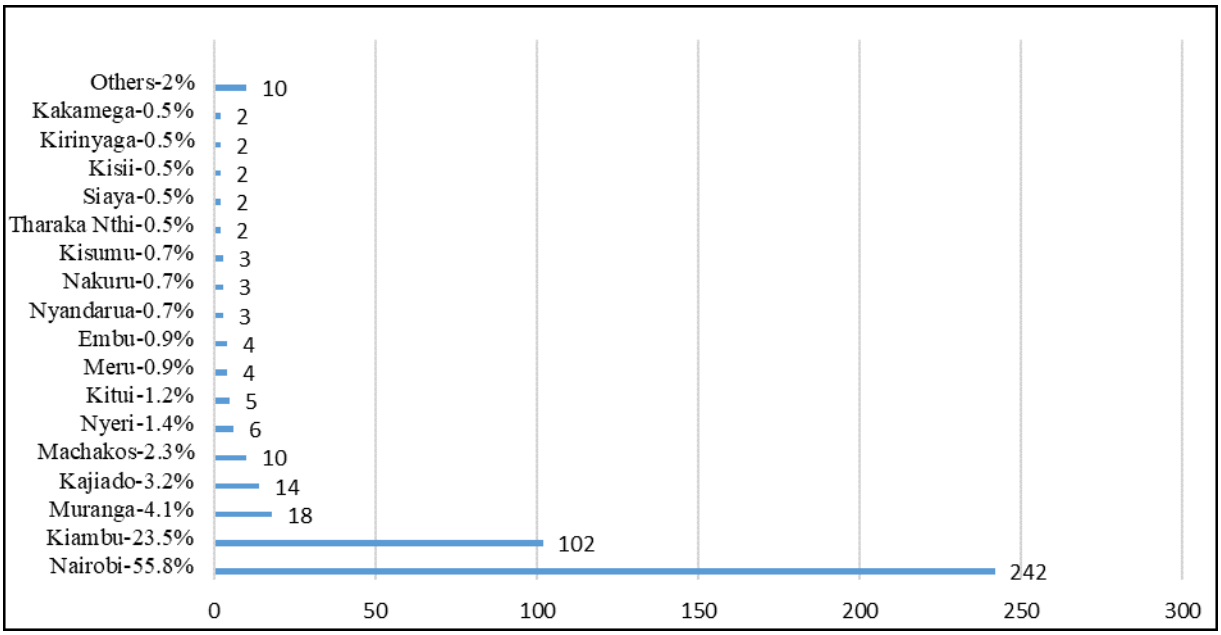


Figure 4.1: Population as per Counties

4.2.3 Family History of Mental Illness

Majority of the participants 84.3% (N=366) did not have a positive family history of mental illness and only 15.7% (N=68) had a positive history of mental illness. The psychiatric morbidities which had a high family history were psychotic disorders at 22% (N=15) followed by Bipolar 1 Disorder with 16.2% (N=11) and major depressive disorder with 13.2% (N = 9) in that order. The family history of mental illness and psychiatric morbidities with positive history is represented in Figure.4.2 and table 4.2 below

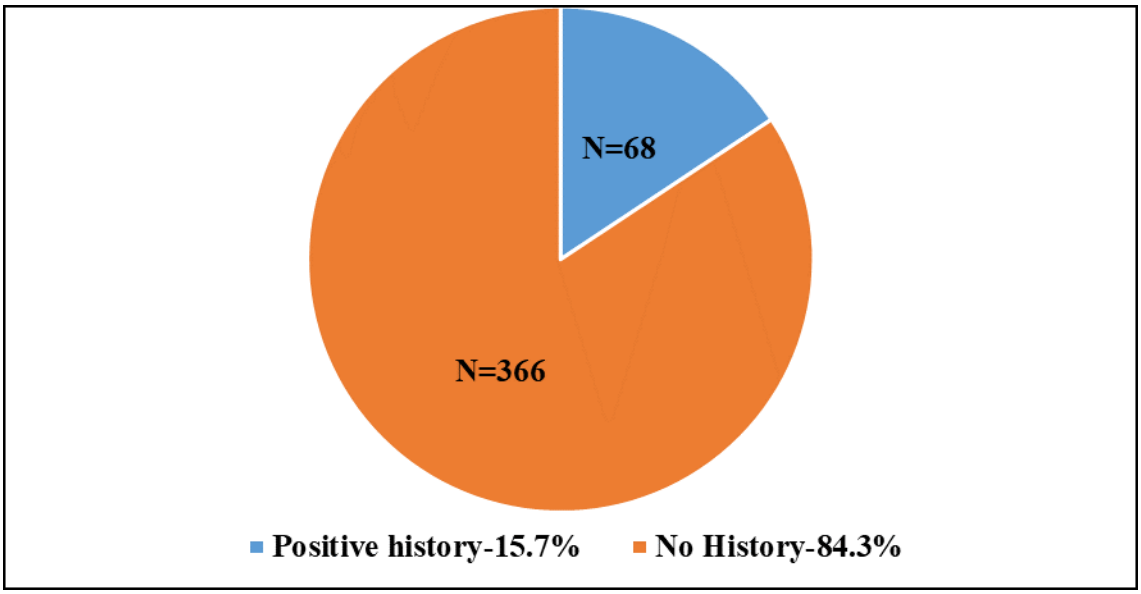


Figure 4.2: Family History of Mental Illness

Table 4.2: Morbidities with Family History of Mental Illness

Psychiatric Morbidities	Frequency	Percent (%)
Major depressive episode	1	1.5
Social anxiety disorder	1	1.5
Alcohol use disorder	8	11.8
Substance use disorder (non-alcohol)	7	10.3
Psychotic disorders	15	22.0
Major depressive disorder	9	13.2
Mood disorder with psychosis	7	10.3
Mixed AUD/SUD	7	10.3
Bipolar I mood disorder	11	16.2
Bipolar II mood disorder	2	2.9
Total	68	100.0

4.2.4 Mode of Consultation and Point of Interview

Most of the participant's consultations were involuntary with 85.9% (N=373) where they were unwillingly brought by their relatives. Those who consulted voluntarily were 12.2% (N=53) and those who consulted as an Emergency having being brought to the hospital by Police/Authority were 1.8% (N=8) respectively. Majority were interviewed at the Outpatient Department at 92.4% (N=401) while those followed up in the ward for interview upon stabilization were 7.6% (N=33). This is represented by figures 4.3 and 4.4 below.

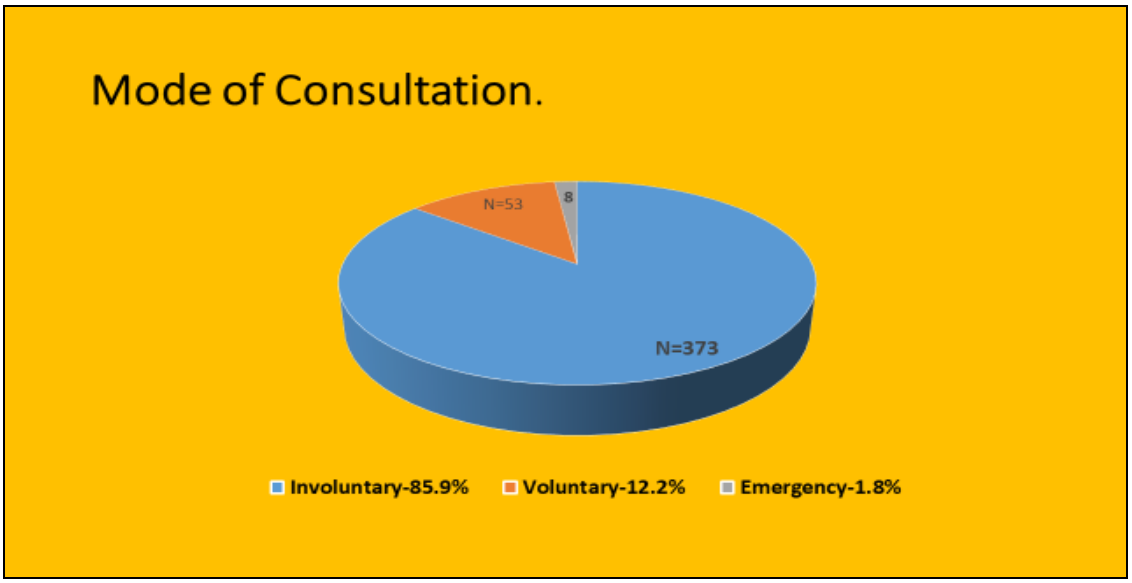


Figure 4.3: Participants Mode of Consultation

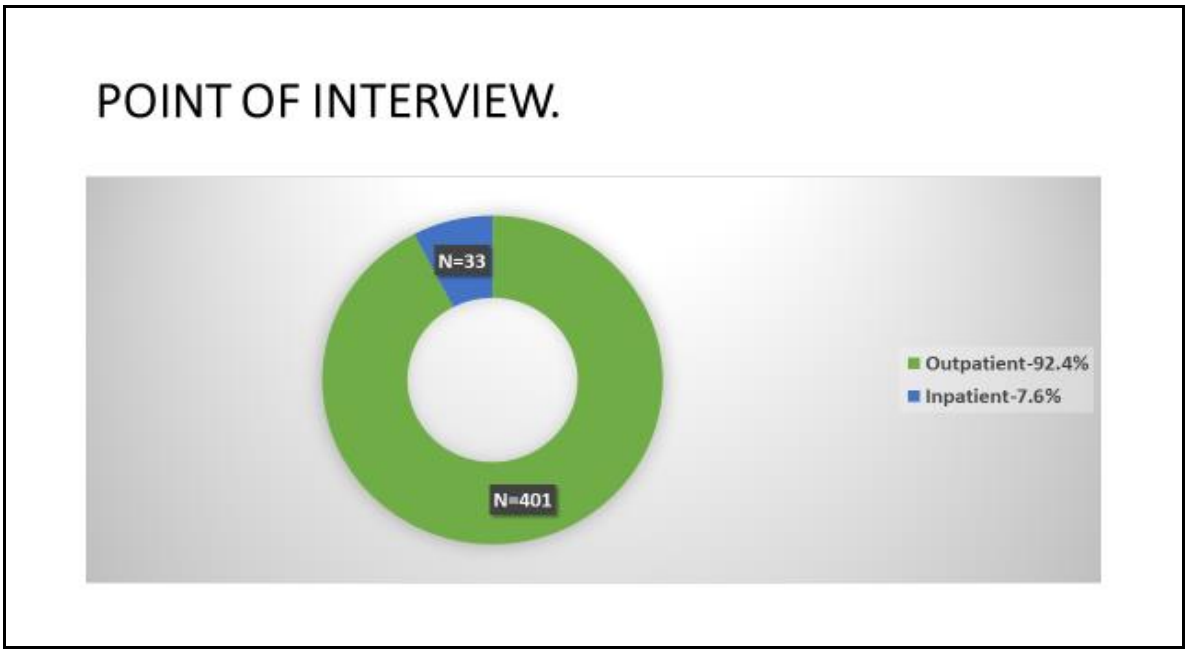


Figure 4.4: Point of Interview

4.2.5 Sources of Referral and Persons Referring

Most of the participants 72.6% (N=315) were referred from the general public (relatives, friends and good Samaritans) while those referred from other health facilities were 15.9% (N=69), Self-referral's comprised of 9% (N=39) and those referred from the Police were 2.5% (N=11). From those referred from health facilities, 45% (N=31) had been referred by clinical officers whereas 33.3% (N=23) had been referred by doctors while the nurses referred 21.7% (N=15) in that order. This is represented by the Figure 4.5 below.

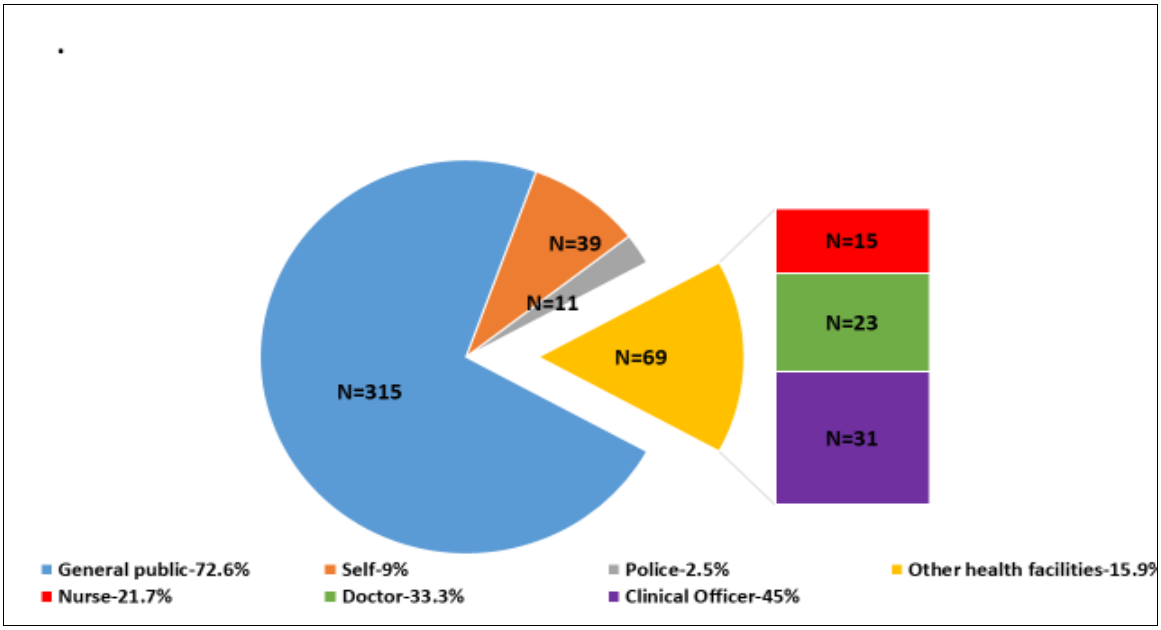


Figure 4.5: Sources of Referrals and Persons Referring

4.3 Psychiatric Morbidities as per the MINI

The first six disorders diagnosed as per the MINI version 7.0 were psychotic disorders at 22.7% (N=98), substance use disorder (non-alcohol) with 15.2% (N=66), mixed SUD and AUD with 13.1% (N=57) respectively. Further, participants with the major depressive disorder were 10.8% (N=47) followed by alcohol use disorder with 9.7% (N=42) and the Bipolar 1 disorder-with 9% (N=39) among many others as shown in figure 4.6.

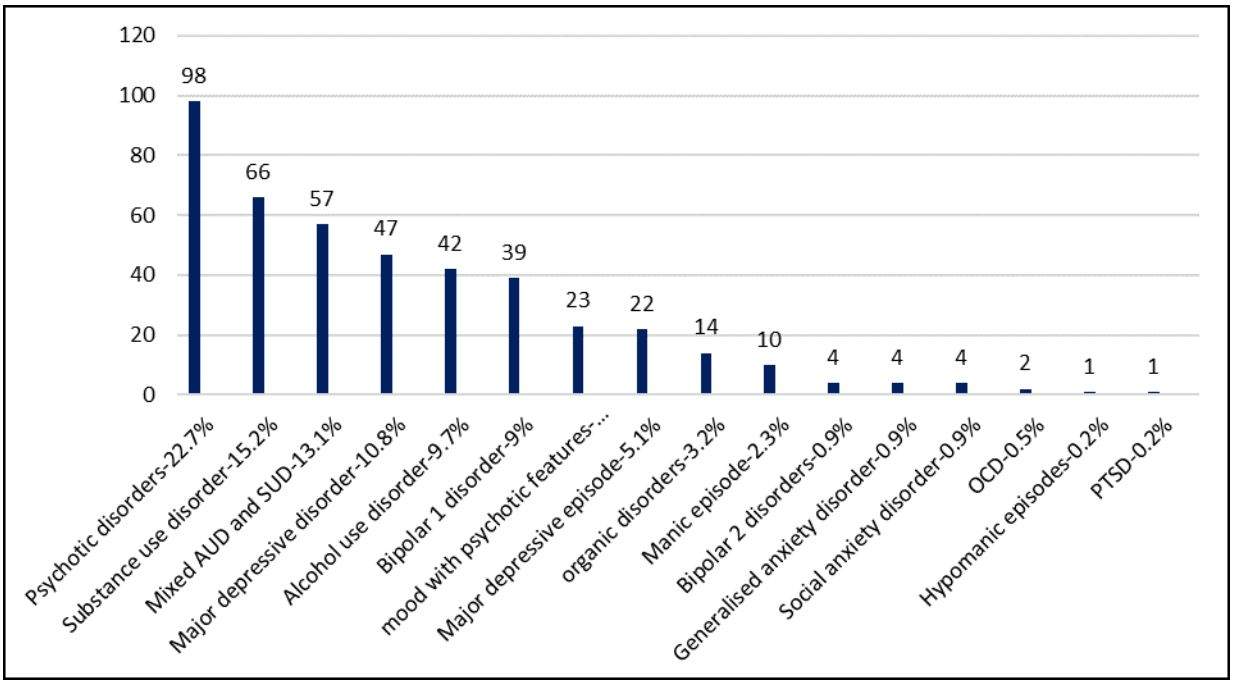


Figure 4.6: Psychiatric Disorders as per the MINI

4.3.1 Dual Diagnosis and Comorbidities

Majority of the participants 88.7% (N=385) had one diagnosis while 11.3% (N=49) has a dual diagnosis. The primary diagnosis which had the highest comorbidities were psychotic disorders with 18.4%, Bipolar 1 disorders with 14.3%, major depressive episodes with 14.3% and major depressive disorders with 12.2% respectively. Most comorbid disorders were substance use disorder (non-alcohol) with 30.6%, alcohol use disorder at 26.5% as illustrated below in table 4.3 and figure 4.7:

Table 4.3: Primary Diagnosis with Comorbidities

Primary Diagnosis with Comorbidities	Frequency	Percent (%)
Major depressive episode	7	14.3
Social anxiety disorder	3	6.1
Alcohol use disorder	1	2.0
Substance use disorder (non-alcohol)	4	8.2
Psychotic disorders	9	18.4
Major depressive disorder	6	12.2
Mood disorder with psychosis	5	10.2
Mixed AUD/SUD	5	10.2
Manic episode	2	4.1
Bipolar I mood disorder	7	14.3
Total	49	100.0

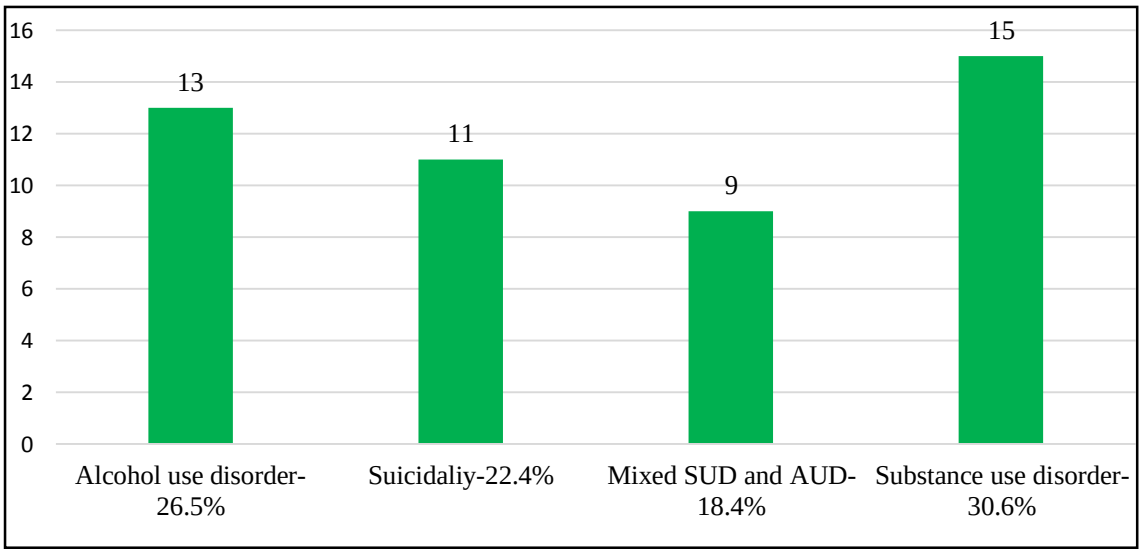


Figure 4.7: Comorbidities

4.3.2 Psychiatric Morbidities versus Referral Sources

On general public (relatives friends and good Samaritans) referrals, majority of patients referred from the general public presented with psychotic disorders at 22.9% (N=72) followed by substance use disorder (non-alcohol) with 18.4% (N=58) then mixed AUD

and SUD with 16.2% (N=51) in that order. Further, 9.5% (N=30) had alcohol use disorders, 8.9% (N=28) had major depressive disorders, 7.6% (N=24) had the Bipolar 1 mood disorder, 6% (N=19) had mood disorder with psychotic features, 4.1% (N=13) had major depressive episode while 3.5% (N=11) and 1.9% (N=6) had organic disorders and manic episodes respectively.

On patients referred from the other facilities, 24.6% (N=17) had psychotic disorders, 15.9% (N=11) had the Bipolar 1 disorder, 11.7% (N=8) were suffering from alcohol use disorders, 7.3% (N=5) suffered substance use disorders (Nonalcoholic) and the major depressive episode respectively with few suffering from psychiatric morbidities.

Self-referrals mainly presented entailed 39.5% (N=14) who had the major depressive disorder followed by 12.8% (N=5) who had psychotic disorders then 10.3% (N=4) having the alcohol use disorders and major depressive episodes with few self-referrals suffering from the other psychiatric morbidities respectively.

Majority 36.4% (N=4) of the police referrals had psychotic disorders, followed by 27.3% (N=4) who had Bipolar 1 disorders then 18.1% (N=2) who suffered from substance use disorders and finally 9.1% (N=1) who had mixed AUD and SUD and manic episodes respectively. All this has been illustrated in table 4.4 below:

Table 4.4: Morbidities versus Sources of Referrals

Psychiatric Morbidity	General Public (N=315)	Other Facilities	Self (N=39)	Authorities/Police (N=11)
Psychotic disorder	72 (22.9%)	17 (24.6%)	5 (12.8%)	4 (36.4%)
Substance use	58 (18.4%)	5 (7.3%)	1 (2.6%)	2 (18.1%)
Mixed AUD and SUD	51 (16.2%)	4 (5.8%)	1 (2.6%)	1 (9.1%)
Alcohol use disorder	30 (9.5%)	8 (11.7%)	4 (10.3%)	0
Major depressive	28 (8.9%)	5 (7.3%)	14 (39.5%)	0
Bipolar 1 mood disorder	24 (7.6%)	11 (15.9%)	1 (2.6%)	3 (27.3%)
Mood disorder with psychotic features	19 (6%)	4 (5.8%)	0	0
Major depressive episode	13 (4.1%)	5 (7.3%)	4 (10.3%)	0
Organic disorders	11 (3.5%)	3 (4.3%)	0	0
Manic episode	6 (1.9%)	3 (4.3%)	0	1 (9.1%)
Bipolar 2 disorder	3 (1%)	0	1 (2.6%)	0
Social anxiety disorder	0	0	4 (10.3%)	0
Generalized anxiety disorder	0	2 (2.9%)	2 (5%)	0
OCD (obsessive compulsive disorder)	0	0	2 (5%)	0
PTSD	0	1 (1.4%)	0	0
Hypomanic episode	0	1 (1.4%)	0	0

4.3.3 Sex versus Psychiatric Morbidities

Most of the male participants were mostly affected by substance use disorder (non-alcohol) with 23.3% (N=64), followed by Mixed SUD and AUD at 19.3% (N=53) then psychotic disorders at 18.2% (N=50) and alcohol use disorders at 13.8% (N=38) correspondingly. Majority of the female respondents were mostly affected by psychotic disorders with 30.2% (N=48), major depressive disorders with 23.3% (N=37), Bipolar 1 Disorders with 11.9% (N=19) and mood disorder with psychotic features 10% (16) respectively. Both males and females were largely affected by psychotic disorders (27.7%), followed by substance use disorder (non-alcohol) at 15.2% then Mixed AUD and SUD (13.1%) and the major depressive disorders (10.8%) as illustrated in table 4.5 below.

Table 4.5: Sex versus Psychiatric Morbidities

Psychiatric Morbidity	Males (N=275)	Females (N=159)	Males and Females (N=434)
Major depressive episode	12 (4.4%)	10 (6.3%)	5.1%
Social anxiety disorder	3 (1.1%)	1 (0.6%)	0.9%
OCD	2 (0.7%)	0	0.5%
Alcohol use disorder	38 (13.8%)	4 (2.5%)	9.7%
Substance use disorder (non-alcohol)	64 (23.3%)	2 (1.3%)	15.2%
Psychotic disorders	50 (18.2%)	48 (30.2%)	22.7%
Major depressive disorder	10 (3.6%)	37 (23.3%)	10.8%
Mood disorder with psychotic features	7 (2.5%)	16 (10%)	5.3%
Generalized anxiety disorder	2 (0.7%)	2 (1.3%)	0.9%
Organic disorders	8 (2.9%)	6 (3.8%)	3.2%
Mixed AUD/SUD	53 (19.3%)	4 (2.5%)	13.1%
Manic episode	4 (1.5%)	6 (3.8%)	2.3%
Bipolar 1 mood disorder	20 (7.3%)	19 (11.9%)	9%
Bipolar 2 mood disorder	2 (0.7%)	2 (1.3%)	0.9%
PTSD	0	1 (0.6%)	0.2%
Hypomanic episode	0	1 (0.6%)	0.2%

4.3.4 Age versus Psychiatric Morbidities

Those below 20 years mostly presented with substance use disorder (non-alcohol)-37.7%, mixed SUD and AUD -20.7% and psychotic disorders with 15% while the ages between 21-30 years had more of psychotic disorders with 21.9%, substance use disorder (non-alcohol)-19.2% and mixed SUD and AUD at 15.8% correspondingly. The ages between 31-40 years-majority had psychotic disorder with 24.1%, alcohol use disorders at 15.7% and major depressive disorder at 12.1%, whereas the ages between 41-50 years presented mostly with psychotic disorders with 27%, alcohol use disorder with 20.8% and major depressive disorders at 16.6% respectively. Moreover, the ages between 51-60 had more of major depressive disorders with 33.3%, psychotic disorders at 22.2% and mood disorder with psychotic features at 16.7% while the 18.2% of the participants aged between 61-70 years were effected by psychotic disorders, major depressive disorders

and organic disorders in that order. Finally, those aged above 70 years were largely affected by psychotic disorders (38.4%), organic disorders (23.1%) and major depressive disorder (15.4%) respectively. This has been illustrated in table 4.6 below

Table 4.6: Ages versus Psychiatric Morbidities

Morbidity	**Below 20yrs (N=53)**	**21-30yrs (N=183)**	**31-40yrs (N=108)**	**41-50yrs (N=48)**	**51-60yrs (N=18)**	**61-70yrs (N=11)**	**Above70 yrs (N=13)**
Major depressive episode	3 (5.7%)	11 (6%)	4 (3.7%)	1 (2.1%)	1 (5.6%)	1 (9.1%)	1 (7.7%)
Substance use disorder (non-alcohol)	20(37.7%)	35(19.2%)	9 (8.3%)	2 (4.2%)	0	0	0
Alcohol use disorder	0	11 (6%)	17(15.7%)	10(20.8%)	2(11.1%)	1 (9.1%)	1 (7.7%)
Psychotic disorders	8 (15%)	40(21.9%)	26(24.1%)	13 (27%)	4(22.2%)	2(18.2%)	5(38.4%)
Major depressive disorder	1 (1.9%)	15 (8.2%)	13(12.1%)	8 (16.6%)	6(33.3%)	2(18.2%)	2(15.4%)
Mood disorder with psychotic features	2 (3.8%)	10 (5.5%)	5 (4.6%)	2 (4.2%)	3(16.7%)	0	1 (7.7%)
Organic disorders	1 (1.9%)	2 (1.1%)	3 (2.8%)	1 (2.1%)	2(11.1%)	2(18.2%)	3(23.1%)
Mixed AUD/SUD	11(20.7%)	28(15.8%)	12(11.1%)	4 (8.3%)	0	1 (9.1%)	0
Manic episode	3 (5.7%)	1 (0.5%)	4 (3.7%)	2 (4.2%)	0	1 (9.1%)	0
Bipolar 1 mood disorder	3 (5.7%)	21(11.5%)	11(10.2%)	3 (6.3%)	0	1 (9.1%)	0
Bipolar 2 mood disorder	1 (1.9%)	2 (1.1%)	0	1 (2.1%)	0	0	0
Social anxiety disorder	0	4 (2.2%)	0	0	0	0	0
OCD	0	1 (0.5%)	1 (0.9%)	0	0	0	0
Generalized anxiety disorder	0	1 (0.5%)	2 (1.9%)	1 (2.1%)	0	0	0
PTSD	0	0	1 (0.9%)	0	0	0	0

4.3.5 Marital Status versus Psychiatric Morbidities

Most of the single participants were largely affected by psychotic disorders (23.4%), substance use disorders (22.2%), Mixed AUD and SUD (14.7%) and Bipolar 1 Mood Disorders (8.7%) in that order. Majority of the married participants was mostly affected by psychotic disorders (24.4%), major depressive disorders (15%), alcohol use disorders (14.2%) and bipolar 1 mood disorder (8.6%) respectively. The previously married (separated, widowed and divorced) participants were mostly affected major depressive disorders (21.8%), Mixed AUD and SUD (20%) as well as psychotic disorders and alcohol use disorders at 14.5% correspondingly. This findings are represented in table 4.7 below.

Table 4.7: Marital Status versus Psychiatric Morbidities

Morbidity	**Single(N=252)**	**Married (N=127)**	**Previously Married (N=55)**
Major depressive episode	13 (5.2%)	8 (6.3%)	1 (1.8%)
Social anxiety disorder	4 (1.6%)	0	0
OCD	1 (0.4%)	1 (0.8%)	0
Alcohol use disorder	16 (6.3%)	18 (14.2%)	8 (14.5%)
Substance use disorder (non-alcohol)	56 (22.2%)	7 (5.5%)	3 (5.5%)
Psychotic disorders	59 (23.4%)	31 (24.4%)	8 (14.5%)
Major depressive disorder	16 (6.3%)	19 (15%)	12 (21.8%)
Mood disorder with psychotic features	11 (4.4%)	9 (7.1%)	3 (5.5%)
Generalized anxiety disorder	1 (0.4%)	3 (2.4%)	0
Organic disorders	7 (2.8%)	4 (3.1%)	3 (5.5%)
Mixed AUD/SUD	37 (14.7%)	9 (7.1%)	11 (20%)
Manic episode	6 (2.4%)	4(3.1%)	0
Bipolar 1 mood disorder	22 (8.7%)	11(8.6%)	6 (10.9%)
Bipolar 2 mood disorder	3(1.2%)	1 (0.8%)	0
PTSD	0	1 (0.8%)	0
Hypomanic episode	0	1 (0.8%)	0

4.3.6 Education versus Psychiatric Morbidities

Majority of the respondents who had no formal education were mostly affected by psychotic disorders (57.1%) then mood disorder with psychotic features, organic disorders and manic episodes with 14.3% respectively. Most of the participants who had

only primary education were mostly affected by psychotic disorders (27.3%), mixed AUD and SUD (16.4%) and major depressive disorder (11.7%) correspondingly. Further, those with secondary education had were largely affected by psychotic disorders (25%), substance use disorder (non-alcohol) with 18.2% and Mixed AUD and SUD (13.6%) in that order. The respondents with tertiary education were largely affected by substance use disorder (non-alcohol) at 17.1%, major depressive disorder (14.6%) and alcohol use disorder (13.8%) respectively. This is as shown in table 4.8 below

Table 4.8: Education versus Psychiatric Morbidities

Morbidity	**No Formal Education (N=7)**	**Primary (N=128)**	**Secondary (N=176)**	**Tertiary (N=123)**
Major depressive episode	0	6(4.7%)	7 (3.9%)	9(7.3%)
OCD	0	0	1 (0.6%)	1(0.8%)
Alcohol use disorder	0	11(8.6%)	14 (7.9%)	17(13.8%)
Substance use disorder (non-alcohol)	0	13(10.2%)	32 (18.2%)	21(17.1%)
Psychotic disorders	4(57.1%)	35(27.3%)	44(25%)	15(12.2%)
Major depressive disorder	0	15(11.7%)	14 (8%)	18(14.6%)
Mood disorder with psychotic features	1(14.3%)	7(5.5%)	10(5.7)	5(4.1%)
Generalized anxiety disorder	0	0	1 (0.6%)	3(2.4%)
Organic disorders	1(14.3%)	7(5.5%)	4(2.3%)	2(1.6%)
Mixed AUD/SUD	0	21(16.4%)	24(13.6%)	12(9.8%)
Manic episode	1(14.3%)	3(2.3%)	4(2.3%)	2(1.6%)
Bipolar 1 mood disorder	0	8(6.2%)	19(10.8%)	12(9.8%)
Bipolar 2 mood disorder	0	1(0.8%)	2 (1.1%)	1(0.8%)
Hypomanic episode	0	1(0.8%)	0	0
Social anxiety disorder	0	0	0	4(3.3%)
PTSD	0	0	0	1(0.8%)

4.3.7 Occupation versus Psychiatric Morbidities

Most students were largely affected by substance use disorders (non-alcohol) with 35.7%, psychotic disorders (16%) and mixed SUD and AUD (8.9%) while those on formal employment were mostly affected by alcohol use disorders (27.3%), major depressive disorder (18.2%) and bipolar 1 disorder (12.1%) respectively. Further, majority of the

respondents in informal employments were mostly affected by psychotic disorders (23%), mixed AUD and SUD (22.1%) and major depressive disorders (7.4%) whereas those on self-employed were mostly affected by major depressive disorders (22%), bipolar 1 and alcohol use disorder (18.6%) and psychotic disorder (17%) correspondingly. The unemployed respondents were mostly affected by psychotic disorders (30.2%), substance use disorder (non-alcohol) with 19.8% and mixed AUD and SUD (14.2%) in that order. Table 4.9 below shows detailed results.

Table 4.9: Occupation versus Psychiatric Morbidities

Morbidity	**Student (N=56)**	**Formal Employment (N=33)**	**Informal Employment (N=122)**	**Self Employed (N=59)**	**Unemployed (N=162)**	**Retired (N=2)**
Major depressive episode	4(7.1%)	2(6.1%)	4(3.3%)	5(8.5%)	7(4.3%)	0
Social anxiety disorder	2(3.6%)	1(3%)	1(0.8%)	0	0	0
Alcohol use disorder	1(1.8%)	9(27.3%)		11(18.6%)	2(1.2%)	0
Substance use disorder (non-alcohol)	20(35.7%)	1(3%)	11(9.1%)	2(3.4%)	32(19.8%)	0
Psychotic disorders	9(16%)	2(6.1%)	28(23%)	10(17%)	49(30.2%)	0
Major depressive disorder	3(5.4%)	6(18.2%)	9(7.4%)	13(22%)	15(9.3%)	1(50%)
Mood disorder with psychotic features	3(5.4%)	2(6.1%)	6(4.9%)	2(3.4%)	10(6.2%)	0
Organic disorders	1(1.8%)	0	6(4.9%)	(1.7%)	5(3.1%)	1(50%)
Mixed AUD/SUD	5(8.9%)	2(6.1%)	27(22.1%)	0	23(14.2%)	0
Manic episode	3(5.4%)	1(3%)	2(1.6%)	1(1.7%)	3(1.9%)	0
Hypomanic episode	0	0	0	0	1(0.6%)	0
PTSD	0	0	0	1(1.7%)		0
Bipolar1 Disorder	5(8.9%)	4(12.1%)	7(5.7%)	11(18.6%)	12(7.4%)	0
Bipolar 2 disorder	0	0	2(1.6%)	1(1.7%)	1(0.6%)	0
GAD	0	1(3%)	0	1(1.7%)	2(1.2%)	0
OCD	0	2(6.1%)	0	0	0	0

4.3.8 Monthly Income versus Psychiatric Morbidities

The participants earning less than Ksh. 5,000 were mostly affected by psychotic disorders (26.9%), substance use disorder (non-alcohol) with 23.1% and Mixed AUD and SUD (10%) whereas those earning between Ksh 5,001-10,000 were majorly affected by mixed AUD and SUD (25.5%), psychotic disorders (19.2%), and substance use disorder (non-alcohol) with 10% respectively. Moreover, the respondents earning between Ksh. 10,001 and 20,000 were largely affected by psychotic disorders (22.8%), alcohol use disorder (17.3%) and major depressive disorders (13.4%) while those earning between Ksh 20,001 and 50,000 largely suffered from alcohol use disorders (29.3%), major depressive disorder (17.1%) and bipolar 1 disorder (12.2%) in that order. Those earning above Ksh. 50,000 were largely affected by alcohol use disorders (66.7%) and major depressive disorders (33.3%) as illustrated in detail under table 4.10 below.

Table 4.10: Income versus Psychiatric Morbidities

Morbidity	**Below 5,000 (N=216)**	**5001-10,000 (N=47)**	**10,001-20,000 (N=127)**	**20,001-50,000 (N=41)**	**Above 50,000 (N=3)**
Major depressive episode	11(5.1%)	3(6.4%)	7(5.5%)	1(2.4%)	0
Social anxiety disorder	2(0.9%)	0	1(0.8%)	1(2.4%)	0
Alcohol use disorder	3(1.4%)	3(6.4%)	22(17.3%)	12(29.3%)	2(66.7%)
Substance use disorder (non-alcohol)	50(23.1%)	5(10.6%)	10(7.9%)	1(2.4%)	0
Psychotic disorders	58(26.9%)	9(19.2%)	29(22.8%)	2(4.9%)	0
Major depressive disorder	18(8.3%)	4(8.5%)	17(13.4%)	7(17.1%)	1(33.3%)
Mood disorder with psychotic features	13(6%)	4(8.5%)	4(3.1%)	2(4.9%)	0
Generalized anxiety disorder	2(0.9%)	0	0	2(4.9%)	0
Organic disorders	7(3.2%)	3(6.4%)	3(2.4%)	1(2.4%)	0
Mixed AUD/SUD	27(12.5%)	12(25.5%)	15(11.8%)	3(7.3%	0
Manic episode	6(2.8%)	1(2.1%)	2(1.6%)	1(2.4%)	0
Hypomanic episode	1(0.5%)	0			0
Bipolar 1 mood disorder	17(7.9%)	3(6.4%)	14(11%)	5(12.2%)	0
Bipolar 2 mood disorder	1(0.5%)	0	2(1.6%)	1(2.4%)	0
PTSD	0	0	1(0.8%)	0	0
OCD	0	0	0	2(4.9%)	0

4.4 Inferential Statistics

In this section, correlation tests and the Chi square tests were used. Both bivariate and multivariate analysis was done to find significance of selected socio-demographic factors (age, sex, marital status, education level, occupation and monthly income) and the 6 leading psychiatric morbidities (psychotic disorders, substance use disorder(non-alcohol), mixed alcohol use disorder and substance use disorder, depressive disorders and bipolar disorders.)

The study tested **the Null hypotheses** that: **There is no association between selected socio-demographic characteristics and psychiatric morbidities**.

4.4.1: Correlation between Psychotic Disorders and Selected Socio-Demographic Characteristics

This test incorporated the respondents who met the criteria for psychotic disorders and those who met the criteria for mood disorder with psychotic features. This summed up to N=121.

On bivariate analysis, psychotic disorders were significantly associated with sex, education level, occupation and monthly income with p values of (P=0.01, P=0.001, P=0.019 & P= 0.029) respectively with females being more affected at 52.9% compared with males at 47.1%. Further, participants with secondary education showed a high prevalence (44.6%) compared to those who had primary education (34.7%), tertiary education (16.5%) and non-formal education (4.1%) respectively. The unemployed were significantly affected at 48.8% in comparison to those who were in informal employment, formal employment, students and self-employed at (28.1%, 3.3%, 9.9% and 9.9% respectively). Further, majority of those earning an income of less than Ksh. 5,000 were more affected (58.7%) with those earning above Ksh. 20,000 being least affected (3.3%). Age and marital status were not found to be significantly associated with psychotic disorders as they had p values of (P=0.397 & 0.283) respectively. However, the most affected were those between ages 21-30 years (41.3%) and those who were single at 57.9% correspondingly.

On multivariate analysis, sex, education level and monthly income remained significant. Males showed a 2.529 less likelihood of presenting with psychosis for the first time as compared with females with a confidence interval of 1.596-4.007 and P value=0.01 respectively. In comparison with those with tertiary education and those with secondary education had a higher likelihood of psychotic disorders with an Adjusted Odds Ratio (AOR) of 0.465 (CI = 0.241-0.897 and p value=0.022). Monthly income was significantly associated at all the considered income brackets with a p value =0.01 for all. Table 4.11 shows the detailed findings as follows.

Table 4.11: Correlation between Psychotic Disorders and Sociodemographic Characteristics

SD characteristic	Groups	N =121	%	x^2 Bivariate P value	Multivariate P value.	Adjusted Odds Ratio (AOR)	95% Confidence Interval(CI) for AOR.	
							Lower Bound	Upper Bound
Age	Below 20years	10	*8.3*					
	21 -30years	50	*41.3*					
	31 -40years	31	*25.6*	6.235				
	41 -50years	15	*12.4*	*p=0.397*				
	51 -60years	7	*5.8*					
	61 -70 years	2	*1.7*					
	Above 70years	6	*5.0*					
Sex	Male	57	*47.1*	19.100	**0.000***	2.529	1.596	4.007
	Female	64	*52.9*	***p=0.000****	Ref	.	.	.
Marital Status	Single	70	*57.9*					
	Married	40	*33.1*	2.526				
	Previously married	11	*9.1*	*p=0.283*				
Education	No formal education	5	*4.1*		0.067	0.191	0.032	1.126
	Primary level	42	*34.7*					
	Secondary level	54	*44.6*	17.098	0.059	0.498	0.242	1.026
	Tertiary level	20	*16.5*	***p=0.001****	**0.022***	0.465	0.241	0.897
					Ref	.	.	.
Occupation	Student	12	*9.9*		0.601	0.662	0.141	3.112
	Formal employment	4	*3.3*					
	Unemployed	59	*48.8*	13.552	0.885	0.905	0.236	3.473
	Informal employment	34	*28.1*	***p=0.019****	0.377	0.545	0.141	2.097
	Self-employed	12	*9.9*					
	Retired	0	*0*		0.085	0.502	0.229	1.100
					Ref	.	.	.
Monthly Income (Ksh)	<5000	71	*58.7*		**0.000***	1.777	1.670	1.884
	5,001 - 10,000	13	*10.7*					
	10,001 - 20,000	33	*27.3*	10.761	**0.000***	1.752	1.630	1.873
	20,001 - 50,000	4	*3.3*	***p=0.029****	**0.000***	1.743	1.633	1.854
	More >50,000	0	*0*		**0.000***	1.625	1.617	1.654
					REF	.	.	.

***significant p value of less than 0.05.**

4.4.2 Correlation between Substance Use Disorders (Non-Alcohol) and Selected Sociodemographic Characteristics

This included respondents who met only the criteria for substance use disorder (non-alcohol). This summed up to **N=66**.

On bivariate analysis substance, use disorders (non-alcohol) was significantly associated with age, sex, marital status, occupation and monthly income which all had a p value of 0.01. Education level was not significantly associated as it had a p value of 0.149. Substance use disorder affected mostly those between ages 21-30 years (50%) with those below 20 years following closely at 30.3%, the least affected were the one aged 41-50 years (3%) with the ones above 50 years reporting no incidences of substance abuse (non-alcohol). Males showed predominance at 97% with females at 3%. Those who were single were the ones largely involved in substance abuse (84.8%) than the married ones (10.6%) while the previously married showed the least involvement (4.5%). The unemployed (48.5%) and students (30.3%) showed a higher prevalence of substance use compared with those in informal employment (16.7%) self-employed (3%) and formal employment (1.5%) respectively with no incidence being recorded in the retired ones. Those with a monthly income of less than Ksh. 5,000 (75.8%) were found to be using substances more compared with those earning above Ksh. 20,001 (1.5%) correspondingly.

On multivariate analysis, all the factors remained significant apart from education. The AOR for mean age was 1.11(CI 1.063-1.162; P value=0.01). Compared with females males showed a 0.056 more likelihood of abusing substances with a confidence interval of 0.013-0.233; p value=0.01. When compared to the previously married the singles were shown to have a significant likelihood of abusing substances AOR 0.259 (CI 0.077-0.874; p value=0.029). In reference to the self-employed, the unemployed AOR 0.250(CI 0.085-0.737; p value0.012) and the students AOR 0.111(CI 0.035-0.349; p value=0.01) were shown to have a higher chance of abusing substances. Monthly income was also shown to be significantly associated at all income brackets with a p value =0.01 for all. This has been illustrated in table 4.12 below

Table 4.12: Correlation between Substance Use (Non-Alcohol) and Socio-Demographic Characteristics

Socio-demographic characteristics	Groups	N =66	%	x^2 Bivariate P value	Multivariate P value.	Adjusted Odds Ratio (AOR)	95% Confidence Interval(CI) for AOR.	
							Lower bound	Upper bound
Age	Below 20years 21 -30years 31 -40years 41 -50years 51 -60years 61 -70 years Above 70years	20 35 9 2 0 0 0	*30.3* *50.0* *13.6* *3.0* *0* *0* *0*	42.560 ***p=0.000****	**0.000*=for mean age**	1.111	1.063	1.162
Sex	Male Female	64 2	*97* *3*	37.867 ***p=0.000****	**0.000** Ref	0.056 .	0.013 .	0.233 .
Marital Status	Single Married Previously married	56 7 3	*84.8* *10.6* *4.5*	22.932 ***p=0.000****	**0.029*** 0.874 Ref	0.259 0.893 .	0.077 0.219 .	0.874 3.633 .
Education level.	No formal education Primary level Secondary level Tertiary level	0 13 32 21	*0* *19.7* *48.5* *31.8*	5.328 p=0.149				
Occupation	Student Formal employment Unemployed Informal employment Self-employed Retired	20 1 32 11 2 0	*30.3* *1.5* *48.5* *16.7* *3.0* *0*	35.029 ***p=0.000****	**0.000*** 0.534 **0.012*** 0.583 Ref	0.111 2.031 0.250 0.711 .	0.035 0.218 0.085 0.210 .	0.349 18.905 0.737 2.404 .
Monthly Income (Ksh)	<5000 5,001 -10,000 10,001 - 20,000 20,001 - 50,000 >50,000	50 5 10 1 0	*75.8* *7.6* *15.2* *1.5* *0*	22.342 ***p=0.000****	**0.000*** **0.000*** **0.000*** **0.000*** Ref	1.878 1.785 1.752 1.629 .	1.677 1.566 1.543 1.609 .	2.079 2.004 1.961 1.653 .

***significant p value of less than 0.05.**

4.4.3 Correlation between Mixed Substance Use Disorder (SUD) and Alcohol Use Disorder (AUD) and Selected Socio-Demographic Characteristics

This included respondents who met the criteria for both Alcohol Use Disorder and Substance Use disorder. This summed up to **N=57.**

On bivariate analysis age, sex marital status and occupation were found to be significantly associated with mixed substance and alcohol use disorders with P values of (P=0.003; P=0.01; P=0.01 ; P=0.01) respectively. There was no significant association between education level, monthly income and mixed substance and alcohol use disorders which had p values of p=0.317; p=0.082 respectively. Those aged between 21-30 years were more affected at 50.9% compared with 31-40 years (21.1%), below 20 years (19.3%) the least affected were those aged 61-70 years (1.8%) with above 70 years having no incidences. Males were 13 times more affected than females with 93% and 7% respectively. The singles were noted to be using more substances and alcohol (64.9%) than those who were previously married (19.3%) and the married ones (15.8%). The informally employed contributed the largest percentage at (47.4%) followed closely by the unemployed (40.4%) with the student and those in formal employment showing lesser use at 8.8% and 3.5% respectively. No incidences were reported among the self-employed and the retired ones.

On multivariate analysis, age, sex, marital status and occupation remained significant. AOR for the mean age was 1.058(CI 1.015-1.104; P value=0.008). The males showed a 0.139 more likelihood of engaging in substance and alcohol use disorders than females with Confidence interval of 0.048-0.404; p value=0.01. Compared with the previously married, the single (p value=0.016) and the married (p value=0.036) showed a 3.292 and 3.088 more likelihood of being involved in substance/alcohol use respectively. In comparison with the self-employed, those in informal employment AOR 0.151(CI 0.041-0.558; p value=0.005) and the unemployed AOR 0.268(CI 0.072-0.990; p value=0.048) showed a higher likelihood of using substances/alcohol. This has been illustrated in table 4.13 below.

Table 4.13: Correlation between Mixed Substance and Alcohol Use Disorders and Sociodemographic Characteristics

Socio-demographic characteristics.	Groups	N =57	%	x^2 Bivariate P value	Multivariate P value.	Adjusted Odds Ratio (AOR)	95% Confidence Interval(CI) for AOR.	
							Lower bound	Upper bound
Age	Below 20years 21 -30years 31 -40years 41 -50years 51 -60years 61 -70 years Above 70years	11 29 12 4 0 1 0	*19.3* *50.9* *21..1* *7.0* *0* *1.8* *0*	13.876 ***p=0.031****	**0.008*=for mean age.**	1.058	1.015	1.104
Sex	Male Female	53 4	*93* *7*	24.797 ***p=0.000****	**0.000*** Ref	0.139 .	0.048 .	0.404 .
Marital Status	Single Married Previously married	37 9 11	*64.9* *15.8* *19.3*	6.873 ***p=0.032****	**0.016*** **0.036*** Ref	3.292 3.088 .	1.254 1.075 .	8.638 8.867 .
Education level. .	No formal education Primary level Secondary level Tertiary level	0 21 24 12	*0* *36.8* *42.1* *21.1*	3.529 *p=0.317*				
Occupation	Student Formal employment Unemployed Informal employment Self-employed Retired	5 2 23 27 0 0	*8.8* *3.5* *40.4* *47.4* *0* *0*	27.459 ***p=0.000****	0.667 0.665 **0.048*** **0.005*** Ref	0.708 0.657 0.268 0.151 .	0.147 0.099 0.072 0.041 .	3.420 4.383 0.990 0.558 .
Monthly Income (Ksh)	<5000 5,001 -10,000 10,001 - 20,000 20,001 - 50,000 >50,000	27 12 15 3 0	*47.4* *21.1* *26.3* *5.3* *0*	8.273 *p=0.082*				

***significant p value of less than 0.05.**

4.4.4 Correlation between Depressive Disorders and Selected Socio-Demographic Characteristics

This included respondents who met the criteria for Major Depressive Episode and those that met the criteria for Major Depressive Disorder**.** This totaled up to **N=69.**

On bivariate analysis, sex, marital status, and occupation were found to be significantly associated with depressive disorders with p values of: p=0.01, p=0.012, p=0.006 respectively. There was no demonstrated significant association with age, education level and monthly income as these had p values of, p=0.093, p=0.079, p= 0.565 respectively. Females showed a higher prevalence of depressive disorders (68.1%) compared to males (31.9%). Depression was observed to be highest amongst the singles (42%) as compared with married (39.2%) and previously married (18.8%) respondents. As compared to the students (10.1%), those who were unemployed (31.9%), self-employed (26.1%), informal employment (18.8%) and those in formal employment (11.6%) were more affected by depressive disorders. Depressive disorders were witnessed more in those aged between 21-30years (37.7%), with those with tertiary education (39.1%) affected more than those with primary and secondary levels of education at 30.4% and 30.4% respectively. Looking at depression in terms of income those earning less than Ksh 5,000 (42%) were more affected compared to high-income earners.

On multivariate analysis, we found that sex and occupation still remained significantly associated with depressive disorders. Females were 4.794 more likely to present with depressive disorders than males with a confidence interval of 2.697-8.523; p value=0.01. In reference to the self-employed, those who were unemployed AOR 2.506(CI 1.183-5.309; p value=0.016) and those in informal employments AOR 2.601(CI 1.134-5.967; p value=0.024) had a higher likelihood of presenting with depressive disorders. This has been illustrated in table 4.14 below.

Table 4.14: Correlation between Depressive Disorders and Sociodemographic Characteristics

Socio-demographic characteristics	Groups	N =69	%	x^2 Bivariate P value	Multivariate P value.	Adjusted Odds Ratio (AOR)	95% Confidence Interval(CI) for AOR.	
							Lower bound	Upper bound
Age	Below 20years 21 -30years 31 -40years 41 -50years 51 -60years 61 -70 years Above 70years	4 26 17 9 7 3 3	*5.8* *37.7* *24.6* *13.0* *10.1* *4.3* *4.3*	10.864 *p=0.093*				
Sex	Male Female	22 47	*31.9* *68.1*	35.024 ***p=0.000****	**0.000*** Ref	4.794 .	2.697 .	8.523 .
Marital Status.	Single Married Previously married	29 27 13	*42.0* *39.2* *18.8*	8.826 ***p=0.012****	0.115 0.454 Ref	1.939 1.362 .	0.852 0.607 .	4.415 3.059 .
Education level.	No formal education Primary level Secondary level Tertiary level	0 21 21 27	*0* *30.4* *30.4* *39.1*	6.789 *p=0.079*				
Occupation	Student Formal employment Unemployed Informal employment Self-employed Retired	7 8 22 13 18 1	*10.1* *11.6* *31.9* *18.8* *26.1* *1.4*	16.519 ***p=0.006****	0.357 0.965 **0.016*** **0.024*** Ref	1.669 1.023 2.506 2.601 .	0.561 0.370 1.183 1.134 .	4.964 2.829 5.309 5.967 .
Monthly Income (Ksh)	<5000 5,001 - 10,000 10,001 - 20,000 20,001 - 50,000 >50,000	29 7 24 8 1	*42.0* *10.1* *34.8* *11.6* *1.4*	2.960 *p=0.565*				

4.4.5 Correlation between Alcohol Use Disorder and Selected Sociodemographic Characteristics

This included respondents who met only the criteria for Alcohol Use disorder. This summed up to **N=42.**

On bivariate analysis, age, sex, marital status, education, occupation and monthly income were found to be significantly associated with alcohol use disorder with p values of: p=0.001, p=0.01, p=0.022, p=0.01, p=0.01 respectively. Level of education was not significantly associated as it had a p value of 0.268. Those aged 31-40 years (40.5%) were found to be the highest in alcohol consumption compared with other ages while those under 20 years were found not to be engaging in pure alcohol use. Males were using alcohol almost ten times more (90.5%) compared with females (9.5%). Alcohol use disorder was noted to be highest in those respondents that were in informal employment (45.2%) as compared to those who were in self-employment (26.2%), formal employment (21.4%), unemployed (4.8%) and students (2.4%) the retired ones showed zero incidences of alcohol use. Concerning monthly income it was noted that those earning between Ksh. 10,001-20,000 Ksh (52.4%) consumed alcohol more than those earning between Ksh. 20,001-50,000 (28.6%), Ksh. 5,001-10,000 (7.1%), less than Ksh. 5,000 (7.1%). Those with income above Ksh. 50,000 consumed alcohol the least (4.8%). More of those who had attained Secondary education (42.1%) were involved in alcohol use than those of primary and tertiary education at 36.8% and 21.1% respectively.

On multivariate analysis, age and sex remained significantly associated with alcohol use disorders. Mean age AOR 0.967(CI 0.937-0.999; p value=0.042). The males had a 0.134 more likelihood of presenting with alcohol use disorder than females with a Confidence interval of 0.043-0.417; p value=0.001. This has been represented by table 4.15 below.

Table 4.15: Correlation between Alcohol Use Disorder and Sociodemographic Factors

Sociodemographic characteristics	Groups	N=42	%	x^2 Bivariate P value	Multivariate P value.	Adjusted Odds Ratio (AOR)	95% Confidence Interval(CI) for AOR.	
							Lower bound	Upper bound
Age	Below 20years 21 -30years 31 -40years 41 -50years 51 -60years 61 -70 years Above 70years	0 11 17 10 2 1 1	*0* *26.2* *40.5* *23.8* *4.8* *2.4* *2.4*	23.316 ***p=0.001****	**0.042*=for mean age.**	0.967	0.937	0.999
Sex	Male Female	38 4	*90.5* *9.5*	14.724 ***p=0.000****	**0.001*** **Ref**	0.134 .	0.043	0.417
Marital Status	Single Married Previously married	16 18 8	*38.1* *42.9* *19.0*	7.621 ***p=0.022****	0.659 0.234 Ref	1.271 1.899 .	0.439 0.660 .	3.683 5.464 .
Education level.	No formal education Primary level Secondary level Tertiary level	0 11 14 17	*0* *26.2* *33.3* *40.5*	3.936 *p=0.268*				
Occupation	Student Formal employment Unemployed Informal employment Self-employed Retired	1 9 2 19 11 0	*2.4* *21.4* *4.8* *45.2* *26.2* *0*	43.412 ***p=0.000****	0.862 0.766 0.468 0.854 Ref	1.270 1.201 2.252 0.916 .	0.086 0.359 0.252 0.361 .	18.816 4.024 20.163 2.326 .
Monthly Income (Ksh)	<5000 5,001 - 10,000 10,001 - 20,000 20,001 - 50,000 >50,000	3 3 22 12 2	*7.1* *7.1* *52.4* *28.6* *4.8*	51.560 ***p=0.000****	**0.000*** **0.013*** 0.070 0.215 Ref	-4.956 -3.379 -2.256 -1.576 .	-7.613 -6.049 -4.700 -4.068 .	-2.229 -1.709 0.188 0.917 .

***significant p value of less than 0.05.**

4.4.6 Correlation between Bipolar Disorders and Selected Sociodemographic Characteristics

This included respondents who met the criteria for manic episodes, hypomanic episodes, bipolar 1 mood disorders as well as those that met the criteria for bipolar 2 mood disorders. This summed up to **N=54**.

On bivariate analysis only sex was found to be significantly associated with bipolar disorders with a p value of 0.013 with more females (51.9%) presenting with bipolar disorders for the first time than males (48.1%). Those aged between 21-30years (44.4%) and those aged 31-40 years (27.8%) showed a higher prevalence than those aged below 20 years (13%), 41-50 years (11.1%) and 61-70 years (3.7%). No bipolar disorders were observed in those aged between 51-60 years and above 70 years. The single (57.4%) respondents were more affected by bipolar disorders when compared with the married (31.5%) and previously married (11.1%). Those who had attained secondary education (46.3%) had higher prevalence as compared with those with primary (24.1%) and tertiary (27.8%) education. In terms of occupation, it was noted that those who were unemployed (31.5%) were more affected in comparison with the self-employed (24.1%), informal employment (20.4%) students (14.8%) while those in formal employment had the lowest prevalence at 9.3%. Majority of those earning less than Ksh. 5,000 (46.3%) had bipolar disorders when compared with those earning between Ksh. 10,001-20,000 (33.3%), Ksh. 20,001-50,00 (13%) and Ksh. 5,001-10,000 (7.4%) respectively.

On multivariate analysis, sex remained significant with the males showing a 2.047 less likelihood of presenting with bipolar disorder for the first mime as compared with females with a confidence interval of 1.153-3.635; p value=0.013 correspondingly. This findings have been illustrated in detail under table 4.16 below.

Table 4.16: Correlation between Bipolar Disorders and Sociodemographic Characteristics

Sociodemographic characteristics	Groups	N =54	%	x^2 Bivariate P value	Multivariate P value.	Adjusted Odds Ratio (AOR)	95% Confidence Interval(CI) for AOR.	
							Lower bound	Upper bound
Age	Below 20years 21 -30years 31 -40years 41 -50years 51 -60years 61 -70 years Above 70years	7 24 15 6 0 2 0	*13.0* *44.4* *27.8* *11.1* *0* *3.7* *0*	8.839 *p=0.183*				
Sex	Male Female	26 28	*48.1* *51.9*	6.151 ***p=0.013****	**0.014*** Ref	2.047 .	1.153 .	3.635 .
Marital Status	Single Married Previously married	31 17 6	*57.4* *31.5* *11.1*	0.227 *p=0.893*				
Education level.	No formal education Primary level Secondary level Tertiary level	1 13 25 15	*1.9* *24.1* *46.3* *27.8*	1.144 *p=0.766*				
Occupation	Student Formal employment Unemployed Informal employment Self-employed Retired	8 5 17 11 13 0	*14.8* *9.3* *31.5* *20.4* *24.1* *0*	7.121 *p=0.212*				
Monthly Income (Ksh)	<5000 5,001 -10,000 10,001-20,000 20,001 - 50,000 >50,000	25 4 18 7 0	*46.3* *7.4* *33.3* *13.0* *0*	2.399 *p=0.663*				

***significant p value of less than 0.05.**

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter entails a discussion of the study findings, study conclusion and finally recommendation based on the findings.

5.2 Discussion

5.2.1 Socio-Demographic Characteristics of the First Time Adult Patients.

Majority of the respondents of this study were aged between 21-30 years with a mean of 33 years (SD-13.6).Most were males (64.3%),single (58.1%),with secondary education(40.6%),unemployed(37.3%)Christians(97.5%) earning below 5,000 Ksh respectively. All this are in keeping with the fact that, according to Kenya National bureau of statistics report (KNBS 2020) Kenyan is considered as a youthful countries with 75%of its population being between 18-35 years. The reports also showed that despite many youths having achieved tertiary education 75% of them are still unemployed. Males are considered to be more aggressive and a danger to themselves and others which might have contributed to most of them been quickly identified and taken for medical attention. The fact that females were few might have been explained by the fact that women are good health seekers and most had major depressive disorders which are not easily identifiable. Similarly, a study by Ndetei et al (2007) showed that, majority of the patients were aged 20-34 years, single, males, of secondary education (40.6%), unemployed (37.3%) earning <5,000 (49.8%) and Christians were (97.5%) Malla, Basnet and Pokharel (2015) majority of the respondents were aged 21-30 years (mean of 37.3), females-66.5%, married-67%, farmers-58%, class 7 level of education-28%, middle income-75% and most belonged to Brahmin caste. Mudenge C.(2009) in Kigali-Rwanda found Majority of participants were aged between 21-30 year(mean-35.4),males-58%, singles-51%, primary level of education-43.8%, unemployed-36.2%, Christians-94% and those earning <10 USD-52%.

The results of residence as per the provinces revealed that most of the respondents (55.8%) were from Nairobi province followed by central and eastern provinces due to their proximity to the capital city. Regarding residence as per the Counties, the study revealed that most of the participants (55.8 %) were from Nairobi County followed

closely by Kiambu, Murang'a, Kajiado and Machakos counties due to their proximity to Nairobi County. Surprisingly enough all the leading counties are all known to have psychiatrist working in their district/PGH hospitals.

The results on the mode of consultation and point of interview revealed that majority of the participant's consultations were involuntary (85.9%) who were unwillingly brought by their relatives. The participants who consulted voluntarily were 12.2%, those brought by Police/Authorities were 1.8% respectively. Outpatient department interviews were the majority at 92.4% while ward interviews upon stabilization were 7.6% respectively. All this are in keeping with the fact that most acutely mentally disturbed patient don't possess the will and ability to seek medical help and someone has to intervene for them to get help. In our case majority were brought by relatives and friends. Those who consulted voluntarily were stable patients with depression and moderate alcohol use who needed help to stop abusing alcohol. Those brought in by authorities were the once exhibiting aggressive violence behavior (psychotic and bipolar 1 disorders) and were being a danger to themselves and others.

Majority of the participants (84.3%) did not have a positive family history of mental illness. Those that a positive family history of mental illness were(15.7%) and they mainly presented with psychotic disorders (22%), Bipolar 1 Disorders (16.2%) and major depressive disorders (13.2%).

5.2.2 Prevalence of Psychiatric Morbidities.

The study found that the six major disorders diagnosed as per the MINI version 7.0 were psychotic disorders (22.7%), substance use disorders (non-alcohol)-15.2%, mixed SUD and AUD (13.1%), major depressive disorders(10.8%), alcohol use disorder (9.7%) and Bipolar 1 disorders (9%) respectively. Majority of the participants 88.7% had one diagnosis while 11.3% has a dual diagnosis with psychotic disorders, bipolar 1 disorders, major depressive episodes and major depressive disorders being the primary diagnosis which had the highest comorbidities. On the other hand, substance use disorder (non-alcohol)-30.6% and alcohol use disorders (26.5%) were the most comorbid disorders. Aillon et al (2014) study in a Kenyan health center found a prevalence of 56.3% with those with dual diagnosis constituting 29.7%,commonest diagnosis were major

depressive disorders-26.3%, Agoraphobia-16.7%, pain disorders-12.5%, GAD-9.3% and bipolar disorders-9%.Mudenge C.(2009) in Kigali-Rwanda found schizophrenia-39.3%,Current mania-38.5%, depression-8% and substance abuse6.7% This might have differed with my study findings due to different country set up and use of different tools. He used the SCID. A study by Ndetei et al (2007) on patients admitted at MNTRH with a diagnosis of "psychosis" for DSM-IV disorders revealed that the most common diagnosis as per the DSM-IV were bipolar mood disorder, depression, schizophrenia, substance use and anxiety disorder.

5.2.3 Association between Socio-Demographic Characteristics and Psychiatric Morbidities.

Under this section, the study reviewed the association between selected socio-demographic characteristics (age, sex, marital status, education, occupation and monthly income) and various psychiatric morbidities (psychotic disorders, substance use disorders (non-alcohol), mixed substance and alcohol use disorders, depressive disorders, alcohol use disorders and bipolar disorders).

Psychotic disorders were found to be significantly associated with being, female, secondary education level and unemployment. This finding were similar to those of Mwesiga et al (2020) who found a significant association of psychotic disorders with females, Pentecost faith and unemployment..Mudenge.C (2009) found that psychotic disorders were significantly associated with being male, unmarried (single divorced and separated) primary education and informal employment (students, employed and business)

Substance use disorders (non-alcohol) were found to be significantly associated with young age (21-30years) male sex, being single and unemployed earning below 5,000ksh. Hauli et al (2011) found significant associations between young age (18-25 years), male sex, single, informal employment and secondary level of education. Bhalla et al (2017) found that substance use disorders were significantly associated with younger age, being male and low income with homelessness.

Mixed substance use disorder and alcohol use disorder were found to be significantly associated with younger age (21-30 years) male sex, being single and those working in informal employments. Similar findings were reported by Hauli et al (2011) found significant associations between young age (18-25 years), male sex, single, informal employment and secondary level of education. Wang and El-Guebaly (2004) collaborates this finding as they found a significant association with younger age (12-24 years) male sex and marital status of being divorced separated or single.

Depressive disorders were found to be significantly associated with female sex and unemployment while in a study done by Mudenge. C (2009) found depressive disorders being significantly associated with female sex, informal employment, low income and marital status of either being single, divorced, separated or widowed. Wang and El-Guebaly (2004) found a significant association with age above 30 years, marital status of being divorced, separated or widowed. A study by Ambugo (2014) in Norway, the United Kingdom, Ghana, and Kenya supports that education and employment status were not significantly related to major depressive episodes across the countries.

Alcohol use disorders was found to be significantly associated with those aged 31-40 years and male sex which is similar to the finding of Hauli et al (2011) who found an association with male sex and informal employment while Wang and El-Guebaly (2004)found a significant association with age of 12-54 years and non-intact family structures(separated and divorced)

Bipolar disorders were found to be significantly associated with female sex. Mudenge C. (2009) found bipolar disorders to be significantly associated with male sex, primary level of education, informal employment, low income and marital status of either being single, separated, divorced or widowed. Basso et al (2013) found to be associated with younger age (20-29 years) marital status of being single, separated divorced and widowed and low income.

5.2.4 Sources of Referral and the Persons Referring.

Most of the participants were referred from the general public (relatives, friends and good Samaritans)-72.6%, other health facilities referring-15.9%, self-referral's,-9% and

police/authorities-2.5%. 15.9% of those referred from other health facilities clinical officers referred -45%, medical doctors-33.3% and nurses-21.7%.This finding is in keeping with the fact that most primary health facilities OPD's are manned by nurses while most district hospital OPD's patients are seen by clinical officers but county referral hospital OPD's are manned by doctors. A similar study in Kigali Rwanda by Mudenge C. (2009) found that most of his respondents were referred from the general public-85.4%,Authorities/police-4.9%,other health facilities-4.4% and self refferals-5.2%A study by Islam, Mullick and Khanam (1993) documented that most of the referrals in their study were done by medical departments-63.69%, general public-27.26%(treated psychiatric patients and or their relatives) self refferals-9.05%.

Looking at morbidities versus referral sources, this study found that Majority of patients referred from the general public had psychotic disorders-22.9%, substance use disorder (non-alcohol)-18.4%, mixed AUD and SUD -16.2% and alcohol use disorders -9.5%.Those from other health facilities presented mostly with: psychotic disorders-24.6%, bipolar 1 disorder -15.9%, and alcohol use disorders (11.7%). The self-referrals majority had: major depressive disorders-39.5%, psychotic disorders (12.8%) and alcohol use disorders (10.3%) Finally those from authorities/police had psychotic disorders-36.4%, Bipolar 1 disorders-27.3% and substance use disorders -18.1%.

5.2.5 Socio-Demographic Characteristics and Psychiatric Morbidities.

The results of sex versus psychiatric morbidities established that males were mostly affected by substance use disorder (non-alcohol)-23.3%, Mixed SUD and AUD -19.3% and psychotic disorders -18.2% while females were largely affected by psychotic disorders -30.2%, Major depressive disorders -23.3% and Bipolar 1 Disorders -11.9%.This might be explained by the fact that alcohol is legal in Kenya and the society is tolerant with males who abuse substances including alcohol and they frown at a female who engages in any kind of substance use. Females presented to the hospital more acutely with brief psychotic disorders compared to men. Women are known to be two times more affected by major depression than men due to various factors including the fact that females seek treatment more for their depressive symptoms as they may interfere with their core role of nurturing others, females are also known to be affected by

hormonal changes especially during pregnancy, after birth and during menopause. A study by Hauli et al (2011) showed more males 70.7% than females 29.3% were involved in substance use disorders. Mwesiga et al (2020) documented that psychotic disorders were found to be more prevalent among the female gender seeking treatment for the first time in Uganda. Ambugo (2014) noted that in the UK, men faced a lower risk of MDE than women across all levels of mastery and the gender gap in MDE is larger at higher levels of mastery.

The findings on age versus psychiatric morbidities established that respondents aged below 20 years were largely affected by substance use disorders (non-alcohol)-37.7% while those aged between 21-30 years were largely affected by psychotic disorders (21.9%).This might be contributed by the fact that the peer pressure experienced during adolescence drives many youth to experiment on many substances of abuse. Psychotic disorder are known to have an onset in early 20's for both male and female and the rampant use of substances in those aged below 20 years might also contribute to development of substance induced psychosis in those aged 21-30 years. Those aged between 31-40 years, 41-50 years were largely affected by psychotic disorder (24.1%and 27%respectively). According to Mwesiga et al (2020) among the patients with psychotic disorders, the median age was 29 years (IQR 24–36). Most of those aged between 51-60 years had more of major depressive disorders (33.3%) while most of those aged between 61-70 years were largely affected by psychotic disorders (18.2%) whereas those aged above 70 years were largely affected by psychotic disorders (38.4%) respectively. Kwobah et al (2017) also reported that having a mental condition was associated with age less than 60 years and having a medical condition.

The results on marital status versus psychiatric morbidities revealed that most of the single participants were largely affected by psychotic disorders (23.4%), substance use disorders (22.2%) and mixed SUD/AUD .This finding can be explained by the fact that single people might be using substances as a way to deal with loneliness or the fact that they have minimal financial obligations. The fact that they suffer more from psychosis might be contributing to them being single or might have been brought about by early onset psychotic disorders or caused by the substances of abuse. Those in marriages were

mostly affected by psychotic disorders (24.4%), major depressive disorders (15%), and alcohol use disorders. Further, the previously married (separated, widowed and divorced) participants were mostly affected by major depressive disorders (21.8%), Mixed AUD and SUD (20%) as well as psychotic disorders and alcohol use disorders at 14.5% correspondingly. According to Wang and El-Guebaly (2004) being young (aged 12 to 24 years); being divorced, separated, or widowed; and having low family income level were positively associated with MDE, AD, and comorbidity.

The findings on education versus psychiatric morbidities established that majority of the respondents who had no formal education were mostly affected by psychotic disorders (57.1%) while most of those who had only primary education were mostly affected by psychotic disorders (27.3%), mixed AUD/SUD (16.4) and major depressive disorders (11.7%).Those with secondary education were largely affected by psychotic disorders (25%), substance use disorder (non-alcohol)(18.2%) and mixed AUD/SUD (13.6%). This might be explained by the fact that mental illnesses that start early in life are likely to interfere with ones productivity in terms of education, employment and income. Those who had tertiary education level were largely affected by substance use disorder (non-alcohol) at 17.1%, major depressive disorder (14.6%) and alcohol use disorders (13.8%). A study by Reneses et al (2015) indicated that the factors associated with mental disorders were the presence of stressful life events in the previous 12months, being woman aged 25 and 34years and having a low education level.

On occupation versus psychiatric morbidities, most students were largely affected by substance use disorders (non-alcohol) -35.7%, while those on formal employment were largely affected by alcohol use disorders (27.3%). Further, majority of the respondents in informal employment were mostly affected by psychotic disorders (23%) whereas those on self-employed were mostly affected by major depressive disorders (22%), the unemployed respondents were largely affected by psychotic disorders (30.2%) . According to Schmid et al (2020), some morbidities can be occupation-related and could negatively affect the working capacity and the employability, which in turn could be related to the suicide.

Lastly, on monthly income versus psychiatric morbidities, majority of those earning less than Ksh. 5,000 were mostly affected by psychotic disorders (26.9%) whereas those earning between Ksh 5,001-10,000 were majorly affected by mixed AUD and SUD (25.5%), respectively. Additionally, most the respondents earning between Ksh. 10,001 and 20,000 were largely affected by psychotic disorders (22.8%) while those earning between Ksh 20,001 and 50,000 largely suffering from alcohol use disorders (29.3%) with those earning above Ksh. 50,000 being largely affected by alcohol use disorders (66.7%) respectively. A study by Schlax et al (2019) documented that the impact of major medical diseases on the development of elevated depressive symptoms was buffered by high income

5.3 Conclusions

The study based on the documented findings concluded that majority of first time referred adult patients attending treatment at MNTRH were aged between 20 and 40 years, were male, most were single, most had acquired secondary education, were unemployed and with income levels of less than Ksh. 5000 respectively. In addition, the study concludes that most of the patients were from Nairobi County and the surrounding Counties and that majority of patients consultations were involuntary where they were unwillingly brought by their relatives. The study also concludes that most of the patients did not have any positive family history of mental illness while those with a positive history of mental illness had mainly Psychotic disorders, bipolar 1 disorders and major depressive disorders.

The study further concludes that the major sources of referrals for first time referred adult patients attending treatment at MNTRH were from the general public (relatives, friends and good Samaritans) and other health facilities where clinical officers made most of the referrals followed by doctors and nurses respectively.

Based on the MINI version 7.0 findings, the study concludes that the commonest disorders among the first time referred adult patients attending treatment at MNTRH were psychotic disorders, substance use disorders (non-alcohol), mixed SUD and AUD, major depressive disorders, alcohol use disorder and Bipolar 1 disorders respectively. First time referred male adult patients attending treatment at MNTRH suffered more from

substance use disorder (non-alcohol), Mixed SUD and AUD and psychotic disorders, while women suffered from psychotic disorders and major depressive disorders and bipolar 1 disorders. The study also concludes that patients aged between 21 and 50 years were largely affected by psychotic disorders in comparison to patients aged below 20 years who were effected by substance use disorders respectively.

Sociodemographic factors of age, sex, marital status, level of education, occupation and monthly income were significantly associated with the six commonest psychiatric morbidities(psychotic disorders, substance used disorder(non-alcohol)mixed AUD/SUD, Alcohol use disorders, depressive disorders and bipolar disorders)

MNTRH remains an important institution being the only referral facility for mental health. This study shows that the facility receives and serve Kenyans from all the counties in the Republic.

5.4 Recommendations

1. Evaluation of the barriers in accessing mental health care in the peripheral facilities and address them.

2. Sensitize the general public on utilizing the mental health services in their localities if available.

3. National guidelines for referral of mental health disorders to be put in place and implemented at the primary health facilities.

4. Come up with reversal- referral mechanisms which will ensure that once the new patients have been reviewed and started necessary management at MNTRH, they can then be referred back to their respective counties or to their most proximate facilities offering mental health services for further follow up. This will provide patients with the required social support and convenience which might promote better long-term follow up.

5.5 Study Limitations

The anticipated study limitations were: lack of representation of community setting or other health facilities since this study was going to be done in MNTRH and its findings cannot be inferred to the above settings.

Language barrier as some scientific language cannot be interpreted in local language and the level of education of the anticipated respondents was not known.

Recall bias due to use of questionnaires, as some patients could not recall their symptoms information's from the past, further worsened by lack of corroborative history for the patients who were not accompanied by a relative during the interview.

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APPENDICES

Appendix I: Participant Information and Consent Form for Enrollment in the Study

Title of Study: **The patterns of psychiatric morbidity amongst first time referred adult patients attending treatment at Mathari National Teaching and Referral Hospital Nairobi, Kenya.**

Principal Investigator and institutional affiliation: Dr.Peninah Waturi Kibuti Mmed. Psychiatry student at the University of Nairobi, College of Health Sciences.

Introduction:

I would like to tell you about a study being conducted by the above named researcher. The purpose of this consent form is to give you the information you will need to help you decide whether or not to be a participant in the study. Feel free to ask any questions about the purpose of the research, what happens if you participate in the study, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When i have answered all your questions to your satisfaction, you may decide to be in the study or not. This process is called 'informed consent'. Once you understand and agree to be in the study, I will request you to sign your name on this form. You should understand the general principles which apply to all participants in a medical research: i) Your decision to participate is entirely voluntary ii) You may withdraw from the study at any time without necessarily giving a reason for your withdrawal iii) Refusal to participate in the research will not affect the services you are entitled to in this health facility or other facilities. I will give you a copy of this form for your records if need be.

May I continue? YES / NO

This study has approval by The Kenyatta National Hospital-University of Nairobi Ethics and Research Committee protocol No. _____

WHAT IS THIS STUDY ABOUT? The researcher listed above is interviewing all male and female patients above 18 years who are attending treatment for the first time in MNTRH. The aim of the study is to find out the mental disorders affecting this group of patients, find out where they have been referred from and by whom and to see if there is a relationship between their mental illness and sociodemographic characteristics. Participants in this research study will be asked some questions pertaining to the above topic by the researcher from two different questionnaires. There will be approximately 424 participants chosen in this study. I am asking for your consent to consider participating in this study.

WHAT WILL HAPPEN IF YOU DECIDE TO BE IN THIS RESEARCH STUDY?

If you agree to participate in this study, the following things will happen:

I Dr. Peninah Waturi Kibuti will interview you in a private area where you feel comfortable answering questions. The interview will last approximately 25-30 minutes. The interview will cover topics such as your demographic details, details of where you have come from and who sent you to this facility, details about your previous and current mental illness, your medical history and family history of mental illness and this will be followed by a detailed structured interview and assessment using a MINI tool. After the interview I will link you to all the services recommended by the primary doctor including directing you to the pharmacy to collect the recommended drugs and to the records department to book your next visit. If necessary I will also refer you to the hospital psychologist for counselling. Those needing Consultant review will also be referred to the consultant on duty. I will ask for a telephone number where I can contact you to find out how you are responding to treatment. If you agree to provide your contact information, it will be used only by people working for this study and will never be shared with others. The reasons why we may need to contact you include follow up and continued medical advice.

ARE THERE ANY RISKS, HARMS DISCOMFORTS ASSOCIATED WITH THIS STUDY?

Medical research has the potential to introduce psychological, social, emotional and physical risks. Effort will be put in place to minimize the risks. One potential risk of been in the study is loss of privacy as you will give me details about yourself and family history. I will keep everything you tell us as confidential as possible. I will use a code number to identify you in a password-protected computer database and will keep all of our paper records in a locked file cabinet. However, no system of protecting your confidentiality can be absolutely secure, so it is still possible that someone could find out you were in this study and could find out information about you.

Answering some questions in the interview may be uncomfortable for you. If there are any questions you do not want to answer, you can skip them. You have the right to refuse the interview or any questions asked during the interview that you consider uncomfortable. It may be embarrassing for you to have disclose to me your previous sexual history. We will do everything we can to ensure that this is done in private.

ARE THERE ANY BENEFITS BEING IN THIS STUDY?

You may benefit by receiving free detailed physical and mental testing, counselling and detailed information about your illness. Also, the information you provide will help us better understand the challenges faced in the referral system and improve mental health service delivery especially in MNTRH. This information is a contribution to science and will help in improving mental health policies and future research.

WILL BEING IN THIS STUDY COST YOU ANYTHING?

This study will not cost you any money and has no monetary gain to me as the researcher as it's purely for academic purpose. But you will be required to sacrifice 25-30 minutes of your time for the interview.

WHAT IF YOU HAVE QUESTIONS IN FUTURE?

If you have further questions or concerns about participating in this study, please call or send a text message to me .My Mobile phone number is 0727480647. For more information about your rights as a research participant you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. 2726300 Ext. 44102 email uonknh_erc@uonbi.ac.ke. I will pay you back for your charges to these numbers if the call is for study-related communication.

WHAT ARE YOUR OTHER CHOICES?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

CONSENT FORM (STATEMENT OF CONSENT)

Participant's statement.

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study principal researcher. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential. By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I agree to participate in this research study: Yes No

I agree to provide contact information for follow-up: Yes No

Participant printed name: _____

Participant signature / Thumb stamp _____ Date _____

Relatives printed name----------Relationship----------

Relatives signature/thumb stamp…….Date……..

Researcher's statement.

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: Dr. Peninah Waturi Kibuti Date: _____

Signature _____

Role in the study: **Principal researcher.**

For more information, you can contact Dr. Peninah Kibuti , at the department of psychiatry, school of medicine, University of Nairobi. Tel no: 0727480647 this can be from 8am to 5pm, Monday through Friday

Witness Printed Name _____Relationship to patient-----

Contact information _____

Signature /Thumb stamp: _____ Date; _____

Appendix II: Swahili Translation of Participant Information and Consent Form for Enrollment in the Study

Utangulizi:

Napenda kukuambia juu ya utafiti unaofanywa na mtafiti aliyetajwa hapo juu. Madhumuni ya fomu hii ya idhini ni kukupa habari utahitaji kukusaidia kuamua ikiwa sio mshiriki katika utafiti. Jisikie huru kuuliza maswali yoyote juu ya madhumuni ya utafiti, nini kinatokea ikiwa unashiriki katika utafiti, hatari na faida zinazowezekana, haki yako kama mjitolea, na kitu kingine chochote kuhusu utafiti au fomu hii ambayo haij wazi. Wakati nimejibu maswali yako yote kwa kuridhika kwako, unaweza kuamua kuwa kwenye masomo au la. Utaratibu huu unaitwa 'ridhaa iliyo na habari'. Mara tu utakapoelewa na kukubali kuwa katika masomo, nitakuomba utie saini jina lako kwenye fomu hii. Unapaswa kuelewa kanuni za jumla ambazo zinawahusu washiriki wote katika utafiti wa matibabu: i) Uamuzi wako wa kushiriki ni hiari ii) Unaweza kujiondoa kutoka kwa masomo wakati wowote bila sababu ya kutoa sababu ya kujiondoa kwako iii)

Kukataa kushiriki utafiti hautaathiri huduma unayostahiki katika kituo hiki cha afya au vifaa vingine. Nitakupa nakala ya fomu hii kwa rekodi zako.

Naweza kuendelea? NDIO LA

Utafiti huu umedhibitishwa na Itifaki ya Kamati ya Maadili ya Kitaifa ya Kenya ya Chuo Kikuu cha Maadili na Utafiti cha Nairobi Na.

HILI NDANI YA KUFUNDA HILI?

Mtafiti aliyeorodheshwa hapo juu anahoji wagonjwa wote wa kiume na wa kike zaidi ya miaka 18 ambao wanahudhuria matibabu kwa mara ya kwanza huko MNTRH. Kusudi la utafiti ni kujua asili ya ugonjwa wa akili kundi hili la wagonjwa linateseka, kujua wapi wametajwa kutoka na na nani na kuona ikiwa kuna uhusiano kati ya magonjwa yao ya akili na tabia ya kijamii. Washiriki wa utafiti huu wataulizwa maswali kadhaa kuhusu mada hapo juu na mtafiti kutoka kwa maswali mawili tofauti. Kutakuwa na washiriki takriban 424 waliochaguliwa katika utafiti huu. Ninaomba idhini yako ya kufikiria kushiriki katika utafiti huu.

NINI KITAKUWAJE KAMA UTAONA KUWA KATIKA FUNDO HILI LA UTAFITI?

Ikiwa unakubali kushiriki katika utafiti huu, mambo yafuatayo yatatokea:

Mimi Dr.Peninah Waturi Kibuti nitakuhoji katika eneo la kibinafsi ambapo unahisi vizuri kujibu maswali. Mahojiano yatadumu takriban dakika 25-30. Mahojiano atafanya Je! Kuna faida zozote za kupata ndani ya masomo haya?

Unaweza kufaidika kwa kupokea upimaji wa akili bure, ushauri nasaha na habari za kina kuhusu ugonjwa wako. Pia, habari unayotoa itatusaidia kuelewa vizuri changamoto zinazokabili katika mfumo wa rufaa. Habari hii ni mchango kwa sayansi na itasaidia katika kuboresha sera za afya ya akili.

KUWA KUJIFUNZA KWENYE FUNDI HILO KULIWEZA KUFANYA

chochote?Utafiti huu hautakugharimu pesa yoyote na hauna faida ya kifedha kwangu kama mtafiti kama faida yake kielimu.

NI NINI KAMA UNA MASWALI KWA FEDHA?

Ikiwa una maswali zaidi au wasiwasi juu ya kushiriki katika utafiti huu, tafadhali pigia simu au utumie ujumbe mfupi wa simu. Nambari yangu ya simu ya rununu ni 0727480647. Kwa habari zaidi juu ya haki yako kama mshiriki wa utafiti unaweza kuwasiliana na Katibu / Mwenyekiti, Kenyatta Kitaifa Hospitali-Chuo Kikuu cha Maadili na Kamati ya Utafiti ya Nambari ya simu Nambari 2726300 Ext. 44102 barua pepe uonknh_erc@uonbi.ac.ke. Nitakulipa kwa malipo yako kwa nambari hizi ikiwa simu ni ya mawasiliano yanayohusiana na **masomo.**

NINI KUNA KESHO ZAKO ZAIDI?

Uamuzi wako wa kushiriki katika utafiti ni wa hiari. Uko huru kukataa kushiriki katika masomo na unaweza kujiondoa kwenye masomo wakati wowote bila ukosefu wa haki au upotezaji wa faida yoyote.

FOMU YA DHAMBI (HABARI ZA KESHO)

Taarifa ya Mshiriki.

Nimesoma fomu hii ya idhini au habari imenisoma. Nimepata nafasi ya kujadili utafiti huu na mtafiti mkuu wa utafiti. Nimepata maswali yangu kujibiwa kwa lugha ambayo naelewa. Hatari na faida zimeelezwa kwangu. Ninaelewa kuwa ushiriki wangu katika utafiti huu ni wa hiari na kwamba naweza kuchagua kujiondoa wakati wowote. Nakubali kwa bure kushiriki katika utafiti huu.

Ninaelewa kuwa juhudi zote zitafanywa kuweka habari kuhusu siri yangu ya kibinafsi. Kwa kusaini fomu hii ya idhini, sijapeana haki yoyote ya kisheria ambayo mimi kama mshiriki wa utafiti wa utafiti.

Ninakubali kushiriki katika utafiti huu: Ndio Hapana

Ninakubali kutoa habari ya mawasiliano kwa ufuatiliaji: Ndio Hapana

Mshiriki aliyechapishwa jina:

_____

Mshiriki wa saini ya mshiriki /muhuri wa Thumb _____ Tarehe _____

Jamaa zilizochapishwa jina ---------- Urafiki ----------

Jamaa saini / stendi ya kidole …… .Date …… .. ..

Taarifa ya mtafiti.

Mimi, aliyetengwa, nimeelezea kikamilifu maelezo muhimu ya utafiti huu kwa mshiriki aliyetajwa hapo juu na ninaamini kwamba mshiriki ameelewa na ametoa ridhaa yake kwa hiari na kwa hiari yake.

Jina la mtafiti: Dr. Peninah Waturi Kibuti. Tarehe: _____

Sahihi _____

Jukumu katika utafiti: Mtafiti mkuu.

Kwa habari zaidi, unaweza kuwasiliana na Dk. Peninah Kibuti, katika idara ya magonjwa ya akili, shule ya matibabu, Chuo Kikuu cha Nairobi. Simu no: 0727480647 hii inaweza kuanzia 8 asubuhi hadi 5 jioni, Jumatatu hadi Ijumaa

Shahidi Iliyochapishwa _____Maana ya uvumilivu kwa mgonjwa_____

Habari ya mawasiliano

Saini / muhuri wa Thumb: _____ Tarehe; _____

Appendix III: Socio-Demographic Questionnaire

Date……..

Serial number----------

1. Age in years----------

2. Sex Male ☐ Female ☐ (tick where appropriate)

3. Marital status

Single ☐

Married ☐

Separated ☐

Divorced ☐

Widowed ☐

Cohabiting ☐

4. Highest level of education.

No formal education ☐

Primary ☐

Secondary ☐

Tertiary (college and university) ☐

5. Occupation.

Student ☐

Formal employment ☐

Business person ☐

Unemployed ☐

☐

Others

Specify----------

6. Income per month (in KSH)

<5,000 ☐

5,000-10,000 ☐

10,000-20,000 ☐

20,000-50,000 ☐

>50,000 ☐

7. Religion.

Christians ☐

Muslims ☐

Others ☐

Specify……

8. Area of residence (according to the older Kenyan's provinces).

Nairobi ☐

Central ☐

Rift valley ☐

Eastern ☐

Western ☐

Coast ☐

Nyanza ☐

North eastern. ☐

Specific county of origin……..

10. Family history of mental illness.

YES ☐

NO ☐

IF YES, which mental disorder……

Assigned clinical diagnosis----------

11. Mode of admission

Voluntary ☐

Involuntary ☐

Emergency ☐

12. Source of referral

Relatives ☐

Police ☐

Local chief ☐

Another facility ☐ …… (Name of referring facility)

Referred by…… (Doctor, Clinical Officer, Nurse, psychologist, counselor)

13. History of medical conditions

Which medical condition……..……..

How long have you been suffering from it ……..…….

Medication for the condition……..……..

14. Indicate the referral reason

……
……
…….

15. Any Accompanying relative…YES ☐ NO ☐

Relationship of the accompanying relative……..

Appendix IV: Kiswahili translation of Socio-Demographic Questionnaire

Tarehe……..

Nambari ya serial---------- ----------

1. Umri katika miaka ---------- ----------

2**. Jinsia** Kiume ☐ Kike ☐ (Jibu pale inapofaa)

3. Hali ya ndoa.

Moja ☐

Kuolewa ☐

Kinachotengwa ☐

Talaka ☐

Mjane ☐

Kufanya kazi ☐

4. Kiwango cha juu cha elimu.

Hakuna elimu rasmi ☐

Msingi ☐

Sekondari ☐

Sekondari (chuo kikuu na chuo kikuu) ☐

5**. Kazi.**

Mwanafunzi ☐

Ajira rasmi ☐

Mtu wa biashara ☐

Isiyo na ajira ☐

Wengine ☐

Bainisha ----------

6**. Mapato kwa mwezi (katika KSH)**

<5,000 ☐

5,000-10, 000 ☐

10,000-20,000 ☐

20,000-50,000 ☐

> 50,000 ☐

7. Dini.

Wakristo ☐

Waislamu ☐

Wengine ☐

Taja ……

8. **eneo la makazi (kulingana na majimbo ya zamani ya Kenya).**

Nairobi ☐

Katikati ☐

Rift bonde ☐

Mashariki ☐

Magharibi ☐

Pwani ☐

Nyanza ☐

Kaskazini mashariki. ☐

Kata maalum ya asili ……

10. **Historia ya familia ya ugonjwa wa akili.**

NDIYO ☐

HAPANA ☐

KAMA NDIYO, ni shida gani ya akili ……

Utambuzi wa kliniki uliotengwa ---------- ---

11. Njia ya kiingilio

Kwa hiari ☐

Inayohusika ☐

Dharura ☐

12. Chanzo cha rufaa

Jamaa ☐

Polisi ☐

Mkuu wa mtaa ☐

Kituo kingine ☐ …… (Jina la kituo cha kutaja)

Imetajwa na …… (Daktari, Afisa wa Kliniki, Muuguzi, mwanasaikolojia, mshauri)

13. Historia ya hali ya matibabu

Ni hali gani ya matibabu ……

Umekuwa ukiteseka kwa muda gani …….

Dawa kwa hali ……. ……

14. Onyesha sababu ya rufaa

……

…… …….

15. Jamaa yeyote anayeandamana ... NDIYO ☐ HAPANA ☐

Urafiki wa jamaa anayeandamana ……

Appendix V: Study Timeline/Timeframe

	Activity	**Time**
1.	Proposal development	Jan-May 2019.
2.	Department presentation	June 2019.
3.	Ethical committee clearance	December 2019.
4.	Pilot study and Pre-test of data collection	January 2020.
5.	Data collection	February-May 2020.
6.	Data analysis	June 2020.
7.	Report writing	July 2020.
8.	Presentation	July 2020.

Appendix VI: Study Budget

	Activity	**Cost**
1.	Preparation, printing and photocopying of data collection tools	30,000
2.	Traveling and fuel charges to and from Mathari hospital	15,000
3.	Purchase and installation of SPSS software	7,000
4.	Statistician and SPSS training	10,000
5.	Final thesis printing and bidding	9,500
	Subtotal	61,500
6.	Miscellaneous (10% of the budget)	7150
	Total	78, 650

Appendix VII:Mini International Neuropsychiatric Interview Version 7.0.0(English)