PREVALENCE OF SUBSTANCE USE DISORDERS AMONG FORENSIC PSYCHIATRY INPATIENTS AT WINDHOEK CENTRAL HOSPITAL FORENSIC UNIT, NAMIBIA

DR HILEN IRENE MEKONDJO NDJABA

MD (HKMU) DAR ES SALAAM

DEPARTMENT OF PSYCHIATRY

UNIVERSITY OF NAIROBI

A DISSERTATION IN PART FULFILLMENT FOR THE AWARD OF THE DEGREE FOR MASTERS OF MEDICINE IN PSYCHIATRY, UNIVERSITY OF NAIROBI

AUGUST, 2013

DECLARATION

I, Dr Hilen. M. Ndjaba do hereby declare that this is my original work and that I have not presented the same to any other University for the award of a degree.

Signed…….

Date ……..

APPROVAL

The following supervisors were involved in the development of this dissertation:

1. Prof. David M. Ndetei

MBChB (Nairobi), D.P.M (London) MRC Psych. FRC Psych.(UK), MD (Nairobi), Certificate in Psychotherapy (London).

Professor of Psychiatry, University of Nairobi

Signature:…… Date:……

2. Dr. Mary Kuria

MBChB, MMED, PhD Psych. (UON)

Senior Lecturer Department of Psychiatry, University of Nairobi

Signature:……. Date …….

3. Dr. F.R. Owiti

MBChB (UON), MRC Psych. (London)

Lecturer Department of Psychiatry, University of Nairobi

Signature:……. Date:……

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ACKNOWLEDGEMENT

I sincerely give thanks to my supervisors for their guidance/support and encouragement during the development of this proposal. I feel indebted to the University of Nairobi for providing me the opportunity of pursuing post graduate studies in the department of psychiatry.

My greatest gratitude goes to my husband Shihaleni Ellis and our Quadruplets Ella, Ellen, Ebben and Tylvas for their support and understanding. Thanks for allowing me once more to be away from home.

Finally, I would like to thank the Namibian Government/Ministry of Health and Social Services and Ministry of Higher Education for the financial support. Dr N Mthoko and Ms A Barandonga, staffs at forensic unit WCH, my colleagues at UON thanks for your unwavering support.

LIST OF ABBREVIATIONS:

ASSIST	Alcohol, Smoking, and Substance Involvement Screening Test
CPA	Care Plan Approach
DSM-V TR	Diagnostic and Statistical Manual 4th Edition Text Revised
ECA	Epidemiological Catchment Area
KAP	Knowledge Attitudes and Practice
KNH	Kenyatta National Hospital
LSD	Lysergic Acid Diethylamine
MOHSS	Ministry of Health and Social Services
MSU	Maximum Security Unit
NCS	National Co morbidity Survey
OPD	Out Patient Department
OR	Odd Ratio
OT	Occupational Therapy
PHC	Primary Health Care
SPD	State President Decision
PS	Permanent Secretary
SPSS	Statistical package for Social Science
SUD	Substance Use Disorder
UON	University of Nairobi
USA	United State of America
WCH	Windhoek Central Hospital
WHO	World Health Organization

DEFINITION OF OPERATIONAL TERMS

Substance Abuse:

Substance abuse can simply be defined as a pattern of harmful use of any substance for mood altering purposes. Medline's medical encyclopedia defines drug abuse as "the use of illicit drugs or the abuse of prescription or over-the-counter drugs for purposes other than those for which they are indicated or in a manner or in quantities other than directed.

The WHO defines a drug as a term of varied usage. In medicine, it refers to any substance with the potential to prevent or cure disease or enhance physical or mental welfare, and in pharmacology, any chemical agent that alters the biochemical and physiological processes of tissue or organism.

Therefore a drug is a substance that is, or could be, listed in pharmacopoeia. In common usage, the term often refers specifically to psychoactive drugs, and often, even more specifically, to illicit drugs, of which there is non-medical use. Professional formulations, example “alcohol and other drugs” often seek to make the point that caffeine, tobacco, alcohol and other substances in common non-medical use are also drugs in the sense of being taken at least in part for their psychoactive effects.(Lexicon of alcohol and drug terms published by WHO)

Psychoactive Substance or drug is a substance that, when ingested, affects affect and cognitive mental processes (example cognitive or affect). This term and its equivalent, psychotropic drug, are the most neutral and descriptive terms for the class of substances, illicit or illegal, of interest to drug policy.

Forensic Psychiatry is a specialized branch of psychiatry where the medical and legal worlds overlap. In its narrowest sense, is concerned with assessment and treatment of mentally ill offenders as well as the assessment of the dangerousness of individuals who may not yet have committed an offence. Certain patients may require treatment and rehabilitation in a secure environment, such as a special hospital.

Forensic patients are those patients who have been referred by the courts for assessment or who have been declared as not criminally responsible or unfit to stand trial by the criminal justice system and admitted to a forensic mental health system.

ABSTRACT:

The prevalence and incidence of substance related disorders is on the increase worldwide. Substance abuse and mental disorders are important cause of disease burden accounting for 8.8% and 16.6% of the total burden of disease in low income and lower middle – income countries, respectively. The prevalence is even higher among forensic patients, however 50 to 80% of patients in forensic settings with co-morbid substance related disorders remain unrecognized and/or are misdiagnosed.

The study Aim: To establish the prevalence of substance abuse among the forensic psychiatric inpatients at Windhoek Central Hospital, Namibia.

The study method - descriptive cross-sectional. A convenient sample of 75 forensic inpatients were interviewed. Socio-demographic data questionnaire and structured clinical interview - ASSIST screening questionnaire were used. Descriptive and inferential analysis was done using the statistical package for social science (SPSS) version 17.

Results: Prevalence of substance use disorder was found to be 82.7% among 75 forensic in patients. The patients with substance use problems were on average younger. The study participants' age ranged from 19 to 65 years. Mean age was 38.5 years. Males were 90.7% as compared to 9.3%. Sixty two (82.7%) had been previously admitted for psychiatric illness with duration of stay raging from a day to 8 years. Previous admission for psychiatric illness was significantly related with level of formal education (p =0.02). Fifty (67%) of the patients had a diagnose of schizophrenia and only 7% had a diagnose of substance abuse as per records. While (53.3%) violence offences including murder were the common index offences. Alcoholic beverages, tobacco and cannabis were the leading substance of abuse in that order. While alcoholic beverages were reportedly being the most frequently used prior to admission, tobacco 52 (72%) is the most substance used. Cannabis use and its substance involvement score was statistically significant associated with gender (p = 0.016). There was a statistically significant association between cannabis use and the index offence (p = 0.019) and patient age showed a statistically significant with substance abuse (p= 0.03). Prevalence of substance abuse was found to be 82.7% among 75 forensic in patients.

Conclusion: There is high prevalence of substance use disorder among inpatients admitted in forensic psychiatric unit Windhoek Central Hospital, Namibia.

CHAPTER 1:

1.1 INTRODUCTION

Substance abuse policy in Namibia is on its final draft and is ready and has been submitted for approval. Namibia is regarded as a transit route for drugs such as cocaine, heroin and mandrax tablets. According to the minister of health ('The Namibian' 23rd June 2009), this is no longer the case as these drugs are now consumed in the country. Various surveys have shown that the problem of both alcohol and drug abuse are increasing (WHO Mental Health ATLAS – 2005). Little is known about the prevalence of substance abuse among the patients admitted at forensic psychiatric unit, WCH, Namibia.

However, recent studies have confirmed causal relationship between major psychiatric disorders and concomitant substance abuse. 50% to 80% of forensic patients abuse substances and 15% to 20% have substance abuse disorders. Moreover, the high prevalence of psychiatric co morbidities could lead to extreme violent behavior and consequently to serious criminal offences such as physical assault, rape, armed robbery, attempted murder, murder and homicide, all due to an altered brain function and generating psychosis – like symptoms.(Palijan et al., 2009).

Although numerous previous studies had shown that the rate of violent behavior in the community is not much higher in patients with serious mental disorders (schizophrenia) than in healthy controls, that rate is substantially higher in patients with psychiatric co morbidity and substance abuse(Palijan et al., 2009). A high proportion of patients in forensic psychiatric facilities are diagnosed with co morbidities, most often with schizophrenia, paranoid psychosis, organic brain syndrome, various personality disorders and co morbidity substance abuse. These patients represent a high risk group for violence within forensic psychiatric facilities, and repetitive violent behavior in the community.

Understanding the neurobiological basis of aggressive behavior among persons with mental disorders, it clearly has important social and clinical implications.(Lincoln et al., 2006)

Studies have demonstrated that patients with both major mental illnesses and substance abuse disorders have more extensive criminal histories and demonstrate a higher level of risk and need when compared with the major mental illness alone(Ogloff et al., 2004a).There is an increasing number of severely mentally ill persons in the criminal justice system.

Further studies need to be done with the purpose of finding out whether it is the abuse of substance, its effects or the issue of chronic use which are the contributing factors to ill health. (Lamb et al., 2007)

Despite extensive public health campaigns, the consequences of alcohol intoxication continue to be a serious public health concern among all other substances of abuse. Alcohol intoxication for example, is a prevalent feature of crime, especially violent crime.(McClelland and Teplin, 2001)

1.2. Background

For the past several years numerous studies in the field of forensic psychiatry confirmed a close relationship between violent offenders and co morbid substance use. Studies revealed that 15 – 20% forensic cases have comorbid substance abuse disorders. This co morbid substance abuse in violent offenders were usually unrecognized and/or misdiagnosed (Palijan et al., 2009). In Namibia substance abuse is a growing concern, like the rest of the world, Illegal drug use and abuse is at all-time high as noted by health minister, (The Namibian 23.06.2009). Drug abuse contributes to evils of drinking and driving, women and child abuse, corruption, money laundering, poverty, unemployment and disability. A survey done by Blue crosses Namibia, a faith based NGO in 2004 revealed that the most vulnerable groups are the youth who mostly are from secondary school, college and university.

However fewer studies have been done in Africa about the prevalence of substance abuse among forensic patients and specifically none has been conducted in Namibia to investigate the magnitude of substance abuse among the forensic inpatients. Substance abuse is of particular concern in forensic mental health services as it increases the risk of crime and violence(Balyakina et al., 2013).

The Epidemiological Catchment Area (ECA) had shown that having a mental disorder doubles the risk of an alcohol abuse disorder and the risk increases by four times for drug related disorders. The ECA surveys of psychiatric patients and prisoners show even higher levels of co morbidity, with a life time prevalence of substance abuse disorders of 16.7% in the general population and 39% in patients with mental illness.

The use of alcohol and drugs is an increasingly important issue in the management of forensic inpatients, even in secure units.(Regier et al., 1990)

1.3 Problem Statement

Despite the harmful effects of substance abuse on individuals, family, society, there is no clear enforcement of the laws in place. The sale of alcohol has been regulated, and smoking in public place banned and use of illicit drugs is prohibited, but people continue abuse all sorts of drugs which result in development of abnormal behaviors which lead an individual committing crime(Palijan et al., 2009). Offenders found to suffer from mental disorder have been observed and treated at the forensic unit, a secured unit with limited visiting time and number of visitors. Mental health services need to be adequately resourced to address co-occurring mental health and substance use problems and these services need to be appropriately structured to effectively screen, manage and treat this group (Butler et al., 2011)). Nevertheless, the prevalence of substance abuse among forensic patients has hardly been analyzed. If the issue of substance abuse among forensic psychiatric patients is not treated with the seriousness it deserves and its increased used curbed, cases of violence, crime and mental disorders continue to increase. This in long run will make it difficult for Namibia to manage substance abuse related disorders and prevent use of illicit drugs.

1.4 Justification of the Study

Substance abuse has a great negative impact on individual and community as a whole. Substance abuse among mentally ill is not only destructive to them, but it also potentially increases the probability of violent behavior and crime. It is an increasingly important issue in the management of inpatients, even in secure units where visitors to secure units may be a source of illegal drugs and alcohol (Mericle and Havassy, 2008).

Fewer studies of this kind have been conducted elsewhere and specifically none has been done in Namibia. Little is known about the prevalence of substance abuse among the patients admitted at forensic psychiatric unit, WCH. Therefore this study aims to establish the magnitude of the problem in the forensic inpatients at Forensic Unit of Windhoek Central Hospital, Namibia. Since comorbid substance abuse in mentally ill forensic patients usually are unrecognized and misdiagnosed by the medical staffs, it is important for this study to be done so as to demonstrate the findings and provide recommendations for policy guidelines regarding integrating substance abuse to the discipline of forensic psychiatry.

CHAPTER 2:

2.1 LITERATURE REVIEW

Substance abuse continues to be a problem among younger and older population. The prevalence of substance abuse has only to an extent been studied among youth, the in and out psychiatric patients and only fewer among the forensic inpatients. Of these fewer studies have been done in Africa. Studies done elsewhere in the world in the general population and mentally ill, they indicate that substance abuse is on the increase, and the youth being the most vulnerable group to this new trend.

In recent years, a number of studies have linked mental health problems, substance use and offending. These findings have been reflected in government directives aimed at targeting substance use problems within mental health services. A current study surveyed the proportion of patients with substance use problems in 87 forensic patients, and the service response by Lambeth Forensic Services as measured by care planning and substance use interventions. The study showed 76% of patients had historical substance use problems and 35% of patients were currently using drugs or alcohol, only in patients whose substance use problems had been documented in their care plan approach (CPA) or addressed therapeutically was the percentage significantly lower (Derry, 2008).

Namibia is one of the countries in the Africa, where fewer studies that relate to substance abuse have been done. A survey done in 1999 on substance abuse among young people in Namibia and 2002 National wide KAP Baseline Survey on Alcohol use and abuse in Namibia are some of the only published studies and none on forensic inpatients.

2.1 In Africa

In a comparative study of drug abuse among rural and urban secondary schools, drug abuse was most prevalent between age16 and 20 years in both rural and urban schools. More males were found to use/abuse drugs than females. 56% of urban students compared with 49% of their rural counter parts had an experience with alcohol use; this was followed by tobacco, which was used by 32% of rural students (21%). Cannabis was used by 14.99% of urban students as compared to 12% of rural students. However, cocaine and opiates were abused more by rural students

Alcohol, tobacco and inhalants were the most abused drugs in both urban and rural schools in that order. (Kuria, 1996)

A study on the economic – social – political aspects of illicit drugs use in Kenya found a wide range of use of drugs of abuse including narcotics, none of which was being used intravenously at that time. They established that most substances were abused in combination with others and that the most vulnerable group was in the 16 – 20 year of age.(Ndetei et al., 2009)

In another study of substance abuse in an outpatient attending rural and urban health centers in Kenya, substances commonly used in descending order of frequency were alcohol, tobacco, khat and cannabis, only alcohol and tobacco were extensively used. Lifetime prevalence rates of alcohol use for the two urban health centers were 54% and 62% compared to 54% for the rural health centers. For tobacco the lifetime prevalence rates were 30% for Jericho, 28% for KU and 38% for Muranga. The differences between the rural and urban samples were not statistically significant. More males than females had used alcohol (average lifetime use 80.8% for males compared to 30.6% for females: $p<0.05$) and tobacco (average lifetime use 56.4% for males compared to 5.6% for females $p<0.05$).

It further noted that the rate of substance abuse were generally low with the exception of alcohol and tobacco. Socio-cultural factors might be responsible for the differences noted. It is suggested that preventive measures and education should be emphasized at the primary care level.(Othieno et al., 2000)

In a study done among the Forensic inpatients at Maximum Security Unit in Mathari Hospital, Nairobi, found a prevalence of 74.8% of substance abuse (Bunyassi-Asuga, 2008).The most commonly abused substance being tobacco product. This coupled with low screening rates could have an important impact on the quality of treatment provided, including missing opportunities for substance abuse intervention. However, she found that the major determinants for violence were male gender and low levels of employment and substance abuse. This study found depressive illness the most common co-occurring major mental disorder found in the forensic inpatients.

A prospective descriptive prevalence survey was undertaken over a three-month period about the occurrence of co morbid substance use disorder among acute psychiatric inpatients at Stikland

Hospital in Western Cape, South Africa. During this period, data was collected on psychiatric patients (N=298) who were hospitalized in the acute psychiatric wards at Stikland. This included patient demography, psychiatric and substance use history. Urine was also collected and analyzed for substances commonly abused in the Western Cape.The study found co-morbid SUD (abuse or dependence) in 51% of patients. In addition, a diagnosis of a substance-induced psychiatric disorder was made in 8% of these patients, 1% were diagnosed with a substance-induced mood disorder, while 7% was diagnosed with a substance induced psychotic disorder. Patients diagnosed with a co-morbid SUD were younger than those without a SUD and more likely to have been involuntary admissions. These patients also displayed more violence prior to admission that contributed to their admission and were more likely to have used cannabis or methamphetamine as their preferred drug of abuse. Only a small group of patients had documented evidence of any prior interventions for their SUD.SUD are prevalent among psychiatric inpatients and contribute to their morbidity.(Weich and Pienaar, 2009)

In another study done among 604 White and Coloured male offenders in the Cape (South Africa) referred for inpatient psychiatric observation, 52% habitually indulged heavily in alcohol, drugs (mostly dagga (cannabis)) or both. Indulgence in alcohol alone was frequently associated with violence and sexual assaults, alcohol and drugs together less, and drugs alone least. Those who indulged in drug-taking (i.e. dagga, LSD and hard drugs) were less frequently associated with violence, rape and other sex crimes than were those who did not; 60% of sex offenders were non-abusers. Out of 101 severely psychopathic patients in the sample, only 1 who indulged in drugs but not alcohol was charged with a crime of violence or sex. There was no evidence of a potentiating action between alcohol and dagga towards violent behavior. Dagga appeared to diminish the action of alcohol, and may inhibit urges toward violence and rape in aggressive persons and psychopaths.(Hemphill and Fisher, 1980)

In a study done in Nigeria, 567 respondents were analyzed. Their mean age was 17.0 years (S.D +/- 1.69). The most commonly used drugs and their current prevalence rates were salicylate analgesics, 48.7%; stimulants, 20.9%; antibiotics, 16.6%; alcohol, 13.4%; hypnosedatives, 8.9% and tobacco, 3.0%. Current and lifetime use of alcohol as well as current, past and lifetime use of tobacco occurred significantly more commonly among the males. Past and lifetime use of tobacco was significantly more common in the rural school. For the majority of respondents,

initiation into drug use started at a very early age (14 years or below). The majority were mild current users of the drugs, except tobacco for which the majority were daily users.(Fatoye and Morakinyo, 2002). Secondary school students in south western Nigeria engage in use of commonly available drugs like their counterparts elsewhere.

Ghana, Accra at Psychiatric Hospital a details of personal data, criminal activity and the clinical diagnosis at the time of offence of one hundred and thirty (130) mentally ill offenders were collected and analyzed, to determine the common psychiatric disorders implicated in crime, and the vulnerable age group of such offender patients. Further, their current mental state was examined. The crime rate was found to be highest among late adolescents and young adults. The commonest psychiatric disorders implicated in various criminal acts were the psychotic states especially schizophrenia and drug induced psychotic state. Moreover there was a small group of offenders diagnosed as suffering from harmful drug use without associated psychoses. The duration of these mentally ill offenders was found to be very long although the majority showed no evidence of florid psychotic symptoms. (Turkson, 1997)

2.2 International Perspective

A National Co morbidity Survey (NCS), done United States on mental disorder as a risk factor for substance use, abuse and dependence at 10 years. An aggregate analyses demonstrated significant prospective risks posed by baseline mental disorders for the onset of nicotine, alcohol and illicit drug dependence with abuse over the follow-up period. Particularly strong and consistent associations were observed for behavioral disorders and previous substance use conditions, as well as for certain mood and anxiety disorders. Conditional analyses demonstrated that many observed associations were limited to specific categories of use, abuse or dependence, including several mental disorders that were non-significant predictors in the aggregate analyses. The study further stated that many mental disorders were associated with an increased risk of later substance use conditions, but important differences in these associations were observed across the categories of use, abuse and dependence with abuse.(Swendsen et al., 2010)

A study on patients at the Thomas Embling Hospital in Victoria, Australia, was assessed to determine the prevalence of substance abuse disorders and mental illnesses within this population. The study revealed that the majority of patients (approximately 74%) have a lifetime substance abuse or dependence disorder. Information was collected concerning patients' criminal

histories and the Level of Service Inventory, Revised, was completed for each patient who participated. The study suggested that, patients with both major mental illnesses and substance abuse disorders have more extensive criminal histories and demonstrate a higher level of risks and needs when compared with patients with major mental illness alone.(Ogloff et al., 2004b)

A larger longitudinal study was done at the University of California, San Francisco, USA. 106 patients with co morbid illness from mental health (N=106) and drug treatment (N=120) settings were compared regarding diagnosis, drug use, and problem severity. Data were obtained by using the Diagnostic Interview Schedule for DSM-IV and the Addiction Severity Index. The study found few differences between groups emerged. There were no diagnostic differences except that schizophrenia spectrum disorders were more common among mental health (43%) than drug treatment (31%) patients. Although more drug abuse than mental health subjects reported drug use in the 30 days before treatment entry, the average number of days of drug use in this period was not different. These findings document the high prevalence of severe mental illness in drug treatment clients and of serious drug problems in mental health patients. Only minimal differences emerged between the groups and none that indicated need for specialized treatments in separate systems of care(Havassy et al., 2004)

In Australia, a study was done with a sample comprised 1478 individuals (1208 men, 270 women) from two surveys of prisoners' mental health: the 2001 New South Wales Inmate Health Survey, and a consecutive sample of prison receptions. Individuals were drawn from all of the state's 29 prisons. Mental health and substance use disorders were assessed using the Composite International Diagnostic Interview.The study overall prevalence of any mental disorder was 42.7% and the prevalence of any substance use disorder was 55.3%. With the exception of alcohol use disorder, women had higher rates than men of mental illness and substance use disorders. The prevalence of a co-occurring mental illness and substance use disorder in the past 12 months was 29% (46% among women vs. 25% among men). The association between cannabis use disorder and psychosis was significant for men only [odds ratio (OR)=2.4]. Among women there was a significant association between affective disorder and co-occurring alcohol use disorder (OR=2.4), and stimulant use disorder (OR=2.4). The study results highlighted the high prevalence of co-occurring substance use and mental illness among prisoners. These results indicated that mental health services in prisons need to be adequately resourced to address co-

occurring mental health and substance use problems, and these services need to be appropriately structured to effectively screen, manage and treat this group.(Butler et al., 2011)

In a study done on the prevalence of alcohol and substance misuse in patients with the forensic intellectual disability services; and the introduction of a drug and alcohol awareness course. About half of the patients audited had co-morbid harmful use or dependence with the problem being equally prevalent in men and women. Whilst alcohol and cannabis were the commonest drugs of abuse, cocaine, stimulants and opiates were abused by a small but significant number. Of those with harmful use or dependence, 35 per cent had used the drug in the immediate lead up to their index offence. A diagnosis of personality disorder and past history of convictions for violent offences was significantly more likely to be present in the group with harmful use or dependence. There were no differences on major mental illnesses or pervasive developmental disorders.(Plant et al., 2011)

In Finland, a study done to examine the relative differences in the use of illegal substances (i.e., amphetamine, cannabis, opiates) among forensic patients who have committed a violent crime compared with the general population. The study population consisted of 190 persons, who were involuntarily ordered to hospital treatment as forensic patients in Finland. Among forensic patients, the lifetime prevalence of cannabis use was 2-fold, amphetamine use 40-fold, and opiate use over 60-fold higher than estimated from the general population in Finland. Cannabis use was 1.5-fold more common than amphetamine use among forensic patients and 1.3-fold more common among no forensic patients. The prevalence's of cannabis-related diagnoses were 4.7- and 3.7-fold more common than opiate use among forensic and no forensic patients, respectively. The study shows that cannabis, amphetamine, and opiate use are associated with an increased risk of becoming a forensic psychiatric patient, but no substantial differences were observed among patients with psychosis diagnosis in the relative risk increase for cannabis versus amphetamine versus opiate use, indicating that none of these drugs are uniquely associated with violent offending among mentally ill.(Kivimies et al., 2012)

In a population survey study done in Canada for a 12-month period, on prevalence of co-occurring substance use and other mental disorders mental disorders were found to be higher among those with illicit drug use, alcohol use, problems and dependence, compared with those

with less severe problems. Sex and age differences mirrored population differences in pure disorders. (Rush et al., 2008)

2.3. Research Scope

2.3.1 Aim

To establish the prevalence of substance abuse/use among forensic psychiatry inpatients at forensic unit, Windhoek Central Hospital, Namibia

2.3.2 Specific Objectives

1. To determine the prevalence of substance abuse among forensic psychiatry patients admitted at Windhoek centrals Hospital, Forensic Unit, Namibia.

2. To determine the association between substance abuse and nature of index offence of these forensic inpatients

2.3.3 Null Hypothesis

Forensic Patients admitted to Windhoek Central hospital, Forensic Unit, Namibia do not abuse substances.

2.3.4 Alternative Hypothesis

Forensic Patients admitted to WCH, Forensic Unit, Namibia do abuse substances.

CHAPTER 3:

3.0 METHODOLOGY

3.1 Study design

The study was a cross-sectional descriptive study.

3.2 Study area

The study was conducted at Windhoek Central Hospital, Forensic Unit, Namibia.

This forensic unit was built in 1994 after the country's independence. Before its construction forensic patients were being referred to Bloemfontein, South Africa for admission. It was found that this whole process was very expensive and relatives could not afford to visit their patients and the country as an independent state needs its own Unit. The unit started its operations in 1996, and admits two categories of patients. Those sent from the court for observation (pre-trial) and those that come for treatment after it is found that they are unfit for trial (State President Decision Patient) SPD.

The forensic unit has three (3) units.

1. Maximum Security with 16 beds capacity, it admit 1st time SPD
2. Medium Security with 37 beds capacity, this admit female for observation, female SPD and male SPD.
3. Rehabilitation with 27 beds capacity, admit SPD who are well and prepared to be discharge home. It is half way home type of setup.

Forensic Unit has also an OT section with carpentry workshop and gymnastic for patients.

3.3 Study Population

The study population consisted of forensic inpatient at Windhoek Central Hospital, Forensic Unit.

3.4 Inclusion Criteria

1. Forensic inpatients at the unit
2. Those above the age of 18 years.

3. Those who gave informed consent to participate in the study.

3.5 Exclusion Criteria

1. Those with debilitating severe mental illness or physically ill

3.6 Sample Size

The bed capacity is for eighty (80) patients and all the population at forensic unit that met the inclusive criteria were interviewed.

3.7 Sampling Method

A convenient sampling method was used. 75 forensic psychiatry inpatients fulfilled the criteria and gave informed consent. They were then interviewed. 5 patients did not give informed consent due to severe mental debilitation and did not meet the criteria.

3.8 Study Instruments

3.8.1 Socio-Demographic Data

This is a researcher designed questionnaire, designed to captures important demographic variables like age, sex, religion, marital status, occupation level of education, as relevant to mental health.

3.8.2 Structured Clinical Questionnaire

Structured clinical interview for alcohol, smoking and substance involvement screening test (assist).

The assist is the alcohol, Smoking and Substance Involvement Screening Test. It is a brief screening questionnaire to find out about people's use of psychoactive substances. It was developed by the World Health Organization (WHO) and an international team of substance use researchers as a simple method of screening for hazardous, harmful and dependent use of alcohol, tobacco, and other psychoactive substances. The questionnaire covers: Tobacco, alcohol, Cocaine, Cannabis, amphetamine type stimulants, sedatives, opioids and, other drugs.

The ASSIST is especially designed for use by health care workers in a range of health care settings. It may also be useful for professionals who work with people with high risk problems related to substance use.

According to the WHO, primary health care is first level of contact that individuals, the family and community have with their national health care system and constitutes the 1st part of a continuing health care process. PHC relies on a range of different health workers, including physicians, nurses, midwives, social workers, psychologists, auxiliaries and community workers, certain therapists, as well as traditional practitioners, all who have been suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community.

The ASSIST provides information about the following:

I. The substances people have ever used in their lifetime,

II. The substances they have used in the past three months,

III. Problems related to substance use,

IV. Risk of current or future harm,

V. Dependence,

VI. Injecting drug use.

The ASSIST can help warn people that they may be at risk of developing problems related to their substance use in the future and it can provide an opportunity to start a discussion with a client about their substance use. It can identify substance use high-risk substance use as a contributing factor to the presenting illness. The ASSIST can be linked to brief intervention to help high-risk substance users to cut down or stop their drug use and so as to avoid the harmful consequences of their substance use.

3.9 Data Analysis and Processing

Descriptive and inferential analysis was done using the Statistical Package for Social Science (SPSS) Version 17. The results were presented in narratives and tables.

3.10 Study Implementation

The researcher interviewed the forensic inpatients at forensic unit five days in a week from (Monday to Friday) over a period of 6 weeks. 4 patients were interviewed per day, and there were time different spent in each interview with maximum of 1h30.

Patients were sorted out for inclusive criteria; those who did not meet the criteria were thanked and excluded from the study. For those who were eligible and willing to participate in the study, the study was explained to them and informed consent form was signed. Study instruments were administered by researcher and serial numbers were assigned instead of names.

At the end of the interview the patient was thanked and the interview was terminated.

3.11: Ethical Considerations

3.11.1 Authority to carry out the study

Approval to carry out the study was obtained from the department of Psychiatry, University of Nairobi and ethical clearance was obtain from ethics committee at Research Division Committee – Ethical Clearance, Ministry of Health and Social Services (MoHSS), Windhoek, Namibia. Permission to carry out research at forensic unit was obtained from PS (MoHSS)

3.11.2 Consent

A written informed consent was sought from the participants after full detailed explanation of the study in the language conversant to them.

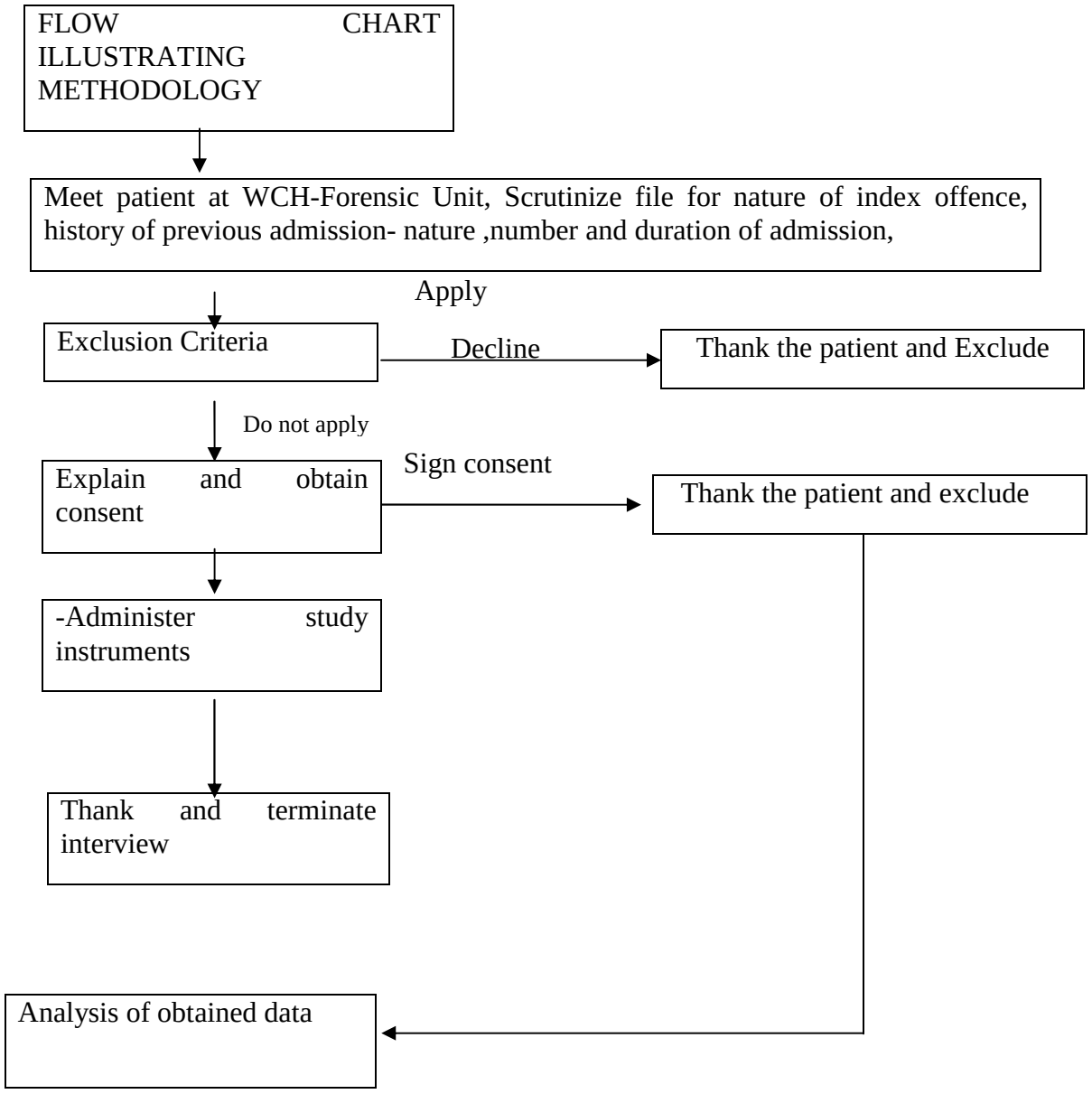
There after participants were explained for that participation in the study was voluntary and that information collected was to be used only for purposes of the study and not otherwise, and that there would be no material gain from the study.

Participants were explained for that no any invasive procedures were to be used, and no risks were involved.

Study participants were also assured of confidentiality and that their names would not be used on the study documents or for further publication purposes. Instead they were only to be identified by serial numbers. The inpatient number was solely used for the purpose of identifying those with a substance abuse problem.

However, participants were required to write their names on the consent form (for legal purpose). This form was stored separately from the research document under lock and key. Access to data was limited to the researcher and the supervisors.

3. 12. Flow Chart



CHAPTER 4

4.0 RESULTS

Socio-demographic characteristics

The study recruited 75 forensic psychiatric inpatients at WCH, between August and September 2012 from thirteen regions of the country. The analysis of the basic socio-demographic characteristics of patients, history of psychiatric illness and screening test for alcohol, tobacco and substance involvement showed the following:

4.1 Socio-demographic characteristics

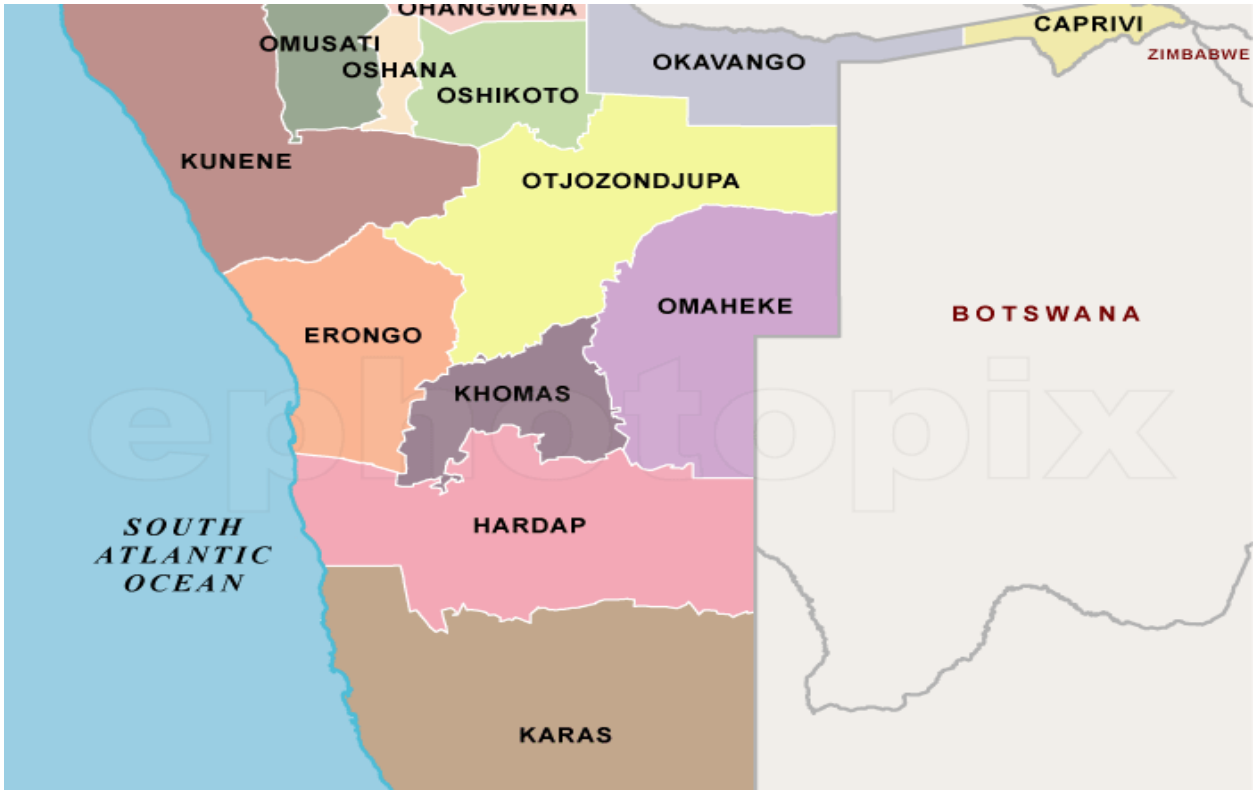
Table 1 below summarizes the main demographic characteristics of forensic patients in this study. The average age of patients was 38.5 years (SD ± 9.3) with an age range between 19 years to 63 years. The most common age groups among these participants were 25 to 34 years accounting for 26 (34.7%) patients and 35 to 44 years representing 25 (33.3%) patients.

Males comprised 90.7% of admissions and 72 (96%) patients were Christians. Most of the patients 42 (56%) had primary level education. The forensic inpatients in this study commonly reported being single 61 (81.3%) and with regard to occupation 46 (62.2%) were either employed or unemployed 20 (27%).

Table 1: Socio-demographic characteristics of admissions into forensic psychiatric unit at WCH

	Frequency	Percent
Age		
19-24 years	4	5.3
25-34 years	26	34.7
35-44 years	25	33.3
45-54 years	17	22.7
55-65 years	3	4
Sex		
Female	7	9.3
Male	68	90.7
Religion		
Christian	72	96.0
Other	3	4.0
Formal education		
No formal school	11	14.7
Primary school	42	56.0
Secondary school	22	29.3
Marital status		
Single	61	81.3
Married	11	14.7
Occupation		
Employed	46	61.3
Self employed	6	8.1
Unemployed	20	27.0
Other	2	2.7

Figure 1: MAP OF NAMIBIA



Majority of the patients came from 4 regions of the country (66.0%) Oshikoto(13.3%), Omaheke(13.3%), Kavango(10.7%) and Erongo(10.7%) and 34% from the rest of the Regions.

4.2 Psychiatric History

Thirty six (48%) patients reported a family history of mental illness and 39 (52%) of patients did not report a family history of mental illness. There was no statistically significant difference in the prevalence of family history of mental illness among males 32 (47.1%) and females 4 (57.1%), Fisher's exact test; p value = 0.7 (Table 2). The average age of patients with a family history of mental illness (mean = 38.7 years) was not significantly different from that of patients without family history of mental illness (mean = 38.4 years), t statistic = 0.14, p value = 0.89.

Table 2: Family history of mental illness and association with age and sex of forensic patients at WCH

	Family history of mental illness		P value
	Yes	No	
Sex			
Male	32 (47.1%)	36 (52.9%)	0.7
Female	4 (57.1%)	3 (42.9%)	
Average age ± SD	38.7 years ± 9.1	38.4 years ± 9.7	0.89

The most common index offence 40 (53.3%) among these forensic patients was violence offences (Figure 1). All the 18 (24%) cases with index sexual offences were males. Females were admitted with two index offences: criminal damage (n = 1) or violence offence (n = 6). None of the demographic factors included in this study including age, sex, marital status or education showed statistically significant associations with the nature of index offences committed by patients ($p > 0.05$).

Figure 2 Index offences among forensic psychiatric admission at WCH, Namibia

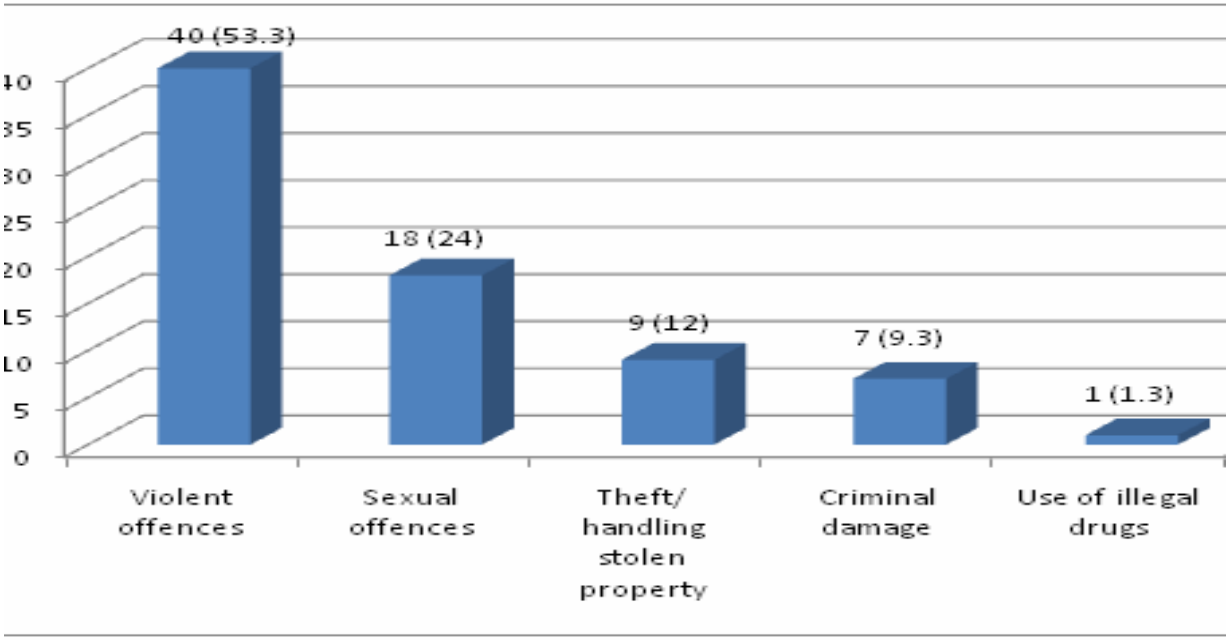


Table 3: Level of formal education and history of previous admission in a psychiatric unit

	Previous psychiatric admission		P value
	Yes	No	
Formal education			
No formal schooling	6 (54.6)	5 (45.6)	0.02
Primary school	35 (83.3)	7 (16.7)	
Secondary school	21 (95.5)	1 (4.5)	

- Previous psychiatric admission was significantly related with level of formal education (p = 0.02)

Sixty two (82.7%) patients had been previously admitted for psychiatric illness. The previous duration of stay in a psychiatric facility ranged from a single day to a maximum of 8 years. The median length of stay during previous admission was 30.5 days (interquartile range 14 days to 91.5 days).

Previous psychiatric admission was significantly related with level of formal education (Fishers exact p = 0.02), table 3. The prevalence of previous admission increased with level of formal education from 54.6% among patients with no formal education to 83.3% and 95.5% in primary and secondary education levels, respectively.

All the patients admitted with index offences of criminal damage, use of illegal drugs and theft or handling stolen goods reported having been previously admitted to a psychiatric unit, compared to 75% of patients admitted for violent offences and 83.3% of admissions for sexual offences (p = 0.065).

4.3 Current Psychiatric Diagnosis

As shown in table 4 below the most common diagnosis among inpatients in the forensic unit was schizophrenia 50 (67%). Diagnoses of epilepsy and substance abuse were the next most common and each of these diagnosis was made in 5 (7%) patients.

Table 4: Psychiatric diagnosis in patients at WCH forensic psychiatry unit

	Frequency	Percent
Schizophrenia	50	67%
Substance abuse	5	7%
Mild Mental Retardation	3	4%
Bipolar	2	3%
Antisocial personality	1	1%
Epilepsy	5	7%
Organic brain syndrome	1	1%
No Diagnosis	8	11%

- ❖ Schizophrenia was the most common diagnosis, 11% with no diagnosis and only 7% had substance abuse as a diagnosis.

4.4 Substance involvement and patient factors

Table 5 below shows that patients admitted to the WCH forensic unit with substance use/abuse problems were on average younger than the admissions without substance use/abuse problems. The average age of patients with either moderate or high risk ASSIST score was 37.6 years compared to an average age of 42.8 years among patients at low risk of substance abuse (p = 0.07). The prevalence of substance use/abuse was not significantly different among male and female patients (p = 0.60), or among patients with the various index offences (p = 0.18). Previous admission into a psychiatric unit and nature of the previous admission did not show a significant association with prevalence of substance use/abuse.

Table 5: Associations between overall prevalence of substance use/abuse and patient characteristics

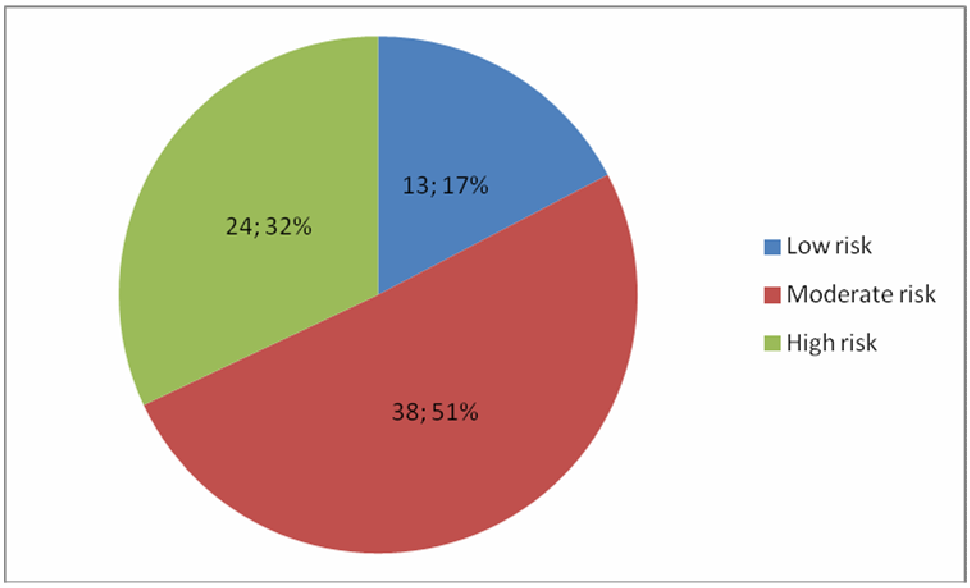
	ASSISST score		
	Low	**Moderate/ high**	**P value**
Sex			
Male	11(16.2)	57(83.8)	0.60
Female	2(28.6)	5(71.4)	
Mean age, SD*	42.8(7.9)	37.6(9.4)	0.07
Index offence			
Violent offences	10(25)	30(75)	0.18
Sexual offences	1(5.6)	17(94.4)	
Other (Theft, criminal damage, drugs)	2(11.8)	15(88.2)	
Previous admission			
Yes	11(17.7)	51(82.3)	1.00
No	2(15.4)	11(84.6)	
Nature of admission			
General medical condition	2(9.1)	20(90.9)	0.47
Mental illness-civil	6(22.2)	21(77.8)	
Mental illness-forensic	3(23.1)	10(76.9)	

- ❖ No significant associations between overall prevalence of substance abuse and patient characteristics

4.5 Prevalence of substance use

The overall prevalence of substance use defined by a moderate or high risk score on the ASSIST substance involvement score was 82.7% representing moderate or severe risk of health and other problems or dependence on at least one substance in 62 out the 75 forensic patients at WCH (Figure 3). Among these patients at risk of substance involvement 24 (32%) patients were at high risk of health problems or current dependence for at least one substance while 38 (50.7%) were at moderate risk of health or other problems.

Figure 3: Prevalence of substance use among forensic patients at WCH based on ASSIST substance involvement score was 82.7%



4.6 Substance involvement and patient factors

Table 5 below shows that patients admitted to the WCH forensic unit with substance abuse problems were on average younger than the admissions without substance use/abuse problems. The average age of patients with either moderate or high risk ASSIST score was 37.6 years compared to an average age of 42.8 years among patients at low risk of substance use/abuse ($p = 0.07$). The prevalence of substance use/abuse was not significantly different among male and female patients ($p = 0.60$), or among patients with the various index offences ($p = 0.18$).

Previous admission into a psychiatric unit and nature of the previous admission did not show a significant association with prevalence of substance use/abuse.

Table 5: Associations between overall prevalence of substance abuse and patient characteristics

	ASSISST score		
	Low	Moderate/ high	P value
Sex			
Male	11(16.2)	57(83.8)	0.60
Female	2(28.6)	5(71.4)	
Mean age, SD*	42.8(7.9)	37.6(9.4)	0.07
Index offence			
Violent offences	10(25)	30(75)	0.18
Sexual offences	1(5.6)	17(94.4)	
Other (Theft, criminal damage, drugs)	2(11.8)	15(88.2)	
Previous admission			
Yes	11(17.7)	51(82.3)	1.00
No	2(15.4)	11(84.6)	
Nature of admission			
General medical condition	2(9.1)	20(90.9)	0.47
Mental illness-civil	6(22.2)	21(77.8)	
Mental illness-forensic	3(23.1)	10(76.9)	

*t-test

Multivariable analysis of the independent predictors of the overall prevalence of substance abuse conducted using a logistic regression model is shown in table 6. Of the factors adjusted for in the model including nature of admission diagnosis, patient gender and hospital admission diagnosis only patient age showed a statistically significant association with substance abuse. The overall prevalence of substance abuse varied with patient age and the odds of substance abuse declined with increasing age in years (OR = 0.9, 95% CI 0.82-0.99, p = 0.03).

Table 6: Multivariable logistic regression of prevalence of substance abuse and patient characteristics

	Odds Ratio	[95% Conf Interval]		P value
Age	0.90	0.82	0.99	0.03
Patients' sex				
Male	1.00			
Female	1.50	0.16	13.60	0.72
Hospital admission diagnosis				
General medical condition	1.00			
Mental illness- forensic	0.19	0.03	1.35	0.10
Mental illness-civil	0.32	0.04	2.64	0.29
Index offence				
Violent offence	1.00			
Sexual offence	10.50	0.88	125.61	0.06
Other (criminal damage/ theft/ illegal drugs)	3.28	0.47	22.88	0.23

- Only patient age showed a statistically significant association with substance abuse. The overall prevalence of substance abuse varied with patient age and the odds of substance abuse declined with increasing age in years (OR = 0.9, 95% CI 0.82-0.99, p = 0.03).

4.7 Specific substances abused

The specific substance involvement scores are presented in table 7 below. Alcohol, tobacco and cannabis were the leading substances of abuse and 24 (32%) of patients were at high risk of health and other problems and/ or dependence on alcohol while 54 (72%) and 33 (44%) were at

moderate risk of health and other problems from current patterns of tobacco and cannabis use, respectively.

Table 7: Prevalence of specific substance use

	Substance involvement scores (Risk level)		
	Low (0-3)	Moderate (4-26)	High (27+)
Tobacco	19 (25.3%)	54 (72%)	2 (2.7%)
Alcohol	51 (68%)	-	24 (32%)
Cannabis	42 (56%)	33 (44%)	-
Cocaine	72 (96%)	-	3(4%)
Amphetamine	72 (96%)	-	3(4%)
Inhalants	69 (92%)	-	6(8%)

4.8 Specific substance abuse and patient characteristics

Tobacco products

Table 7 shown that there was evidence of an association between patients age and tobacco products abuse. The average age of patients with moderate or high risk of tobacco product abuse was 37.4 years compared to an average age of 41.7 years in patients at low risk of tobacco product abuse ($p = 0.07$). There was no evidence of a statistical significant association between tobacco product abuse and patient gender, index offence committed, previous admission or nature of previous admission (P values > 0.05), table 8.

Table 8: Association between tobacco product abuse and patient characteristics

	Tobacco ASSISST score		
	Low	**Moderate/ high**	**P value**
Sex			
Female	3(42.9)	4(57.1)	0.36
Male	16(23.5)	52(76.5)	
Mean age, SD*	41.8(8.9)	37.4(9.3)	0.07
Index offence			
Violent offences	12(30)	28(70)	0.30
Sexual offences	2(11.1)	16(88.9)	
Other (Theft, criminal damage, drugs)	5(29.4)	12(70.6)	
Previous admission			
Yes	17(27.4)	45(72.6)	0.50
No	2(15.4)	11(84.6)	
Nature of admission			
General medical condition	5(22.7)	17(77.3)	0.81
Mental illness-civil	8(29.6)	19(70.4)	
Mental illness-forensic	4(30.8)	9(69.2)	

- There was no evidence of statistically significant association.

The findings of the multivariable logistic regression of patient characteristics on tobacco abuse are shown in Table 9. The single factor that independently predicted tobacco abuse was patient age. The odds of tobacco abuse declined significantly with increasing patient age (OR = 0.91,

95%CI 0.84-0.98), p = 0.01. Patient gender, hospital admission diagnosis and index offence did not show independent associations with tobacco abuse.

Table 9: Multivariable logistic regression of patient characteristics on tobacco products abuse

	Odds Ratio	[95% Conf Interval]		P value
Age	0.91	0.84	0.98	0.01
Patients' sex				
Male	1.00			
Female	2.56	0.38	17.37	0.34
Hospital admission diagnosis				
General medical condition	1.00			
Mental illness- forensic	0.58	0.13	2.53	0.46
Mental illness-civil	0.80	0.15	4.24	0.80
Index offence				
Violent offence	1.00			
Sexual offence	4.50	0.67	30.19	0.12
Other (criminal damage/ theft/ illegal drugs)	0.92	0.21	4.04	0.91

4.9 Alcoholic beverages

Abuse of alcoholic beverages was highly prevalent with 24 (32%) of patients being at high risk of developing severe problems and were likely dependent on alcohol. Table 10 shows that none of the patients characteristics including age, sex and index offences committed showed a significant association with alcoholic beverages dependence or abuse.

Table 10: Association between alcoholic beverages abuse and patient characteristics

	Alcohol ASSISST score		
	Low	**Moderate/ high**	**P value**
Sex			
Female	6(85.7)	1(14.3)	0.42
Male	45(66.2)	23(33.8)	
Mean age, SD*	39.4(9.0)	36.2(10.0)	0.23
Index offence			
Violent offences	30(75)	10(25)	0.38
Sexual offences	11(61.1)	7(38.9)	
Other (Theft, criminal damage, drugs)	10(58.8)	7(41.2)	
Previous admission			
Yes	40(64.5)	22(35.5)	0.20
No	11(84.6)	2(15.4)	
Nature of admission			
General medical condition	14(63.6)	8(36.4)	0.55
Mental illness-civil	16(59.3)	11(40.7)	
Mental illness-forensic	1076.9)	3(23.1)	

- There was no statistically significant association.

In the adjusted multivariable analysis for independent predictors of alcohol abuse none of the factors of interest (patient age or gender, hospital admission diagnosis and index offence) showed a statistically significant association with alcohol abuse (Table 11).

Table 11: Multivariable logistic regression of alcohol abuse and patient characteristics

	Odds Ratio	[95% Conf Interval]		P value
Age	0.98	0.92	1.04	0.52
Patients' sex				
Male	1			
Female	2.91	0.29	28.68	0.36
Hospital admission diagnosis				
General medical condition	1.00			
Mental illness- forensic	1.12	0.33	3.84	0.86
Mental illness-civil	0.54	0.11	2.67	0.45
Index offence				
Violent offence	1.00			
Sexual offence	1.33	0.34	5.30	0.68
Other (criminal damage/ theft/ illegal drugs)	1.33	0.35	5.00	0.68

- There was no statistically significant association.

4.10 Cannabis

Cannabis use and its substance involvement score was statistically significantly associated with gender ($p = 0.016$), Table 12. All the cannabis users were males and 33 (48.5%) of males were at moderate or high risk of health or other problems or dependence on cannabis based on their current patterns of cannabis use.

There was also a statistically significant association between cannabis use and the index offence committed by forensic patients ($p = 0.019$). Up to 72% of index sexual offences were committed

by patients who were at moderate or high risk of cannabis involvement. Patients' age (p = 0.56) and previous admission (p = 0.66) were not significantly associated with moderate or high risk of cannabis involvement.

Table 12: Association between cannabis abuse and patient characteristics

	Cannabis ASSISST score		
	Low	**Moderate/ high**	**P value**
Sex			
Female	7(100)	0	0.016
Male	35(51.5)	33(48.5)	
Mean age, SD*	39.1(9.1)	37.8(9.7)	0.56
Index offence			
Violent offences	25(62.5)	15(37.5)	0.019
Sexual offences	5(27.8)	13(72.2)	
Other (Theft, criminal damage, drugs)	12(70.6)	5(29.4)	
Previous admission			
Yes	34(54.8)	28(45.2)	0.66
No	8(61.5)	5(38.5)	
Nature of admission			
General medical condition	8(36.4)	14(63.6)	0.10
Mental illness-civil	17(63)	10(37)	
Mental illness-forensic	9(69.2)	4(30.8)	

DISCUSSIONS:

Introduction

This is the 1st forensic based study on substance abuse in forensic psychiatric inpatients population in Namibia.

Interestingly majority of the patients came from four regions of the country. Therefore a need arises for a study to be done to ascertain this presentation.

Previous studies on substances use were base on general populations and among students.

The sociodemographic and patient characteristics: The male female ratio is that males outnumbered females in this study, this is similar to what was found in Kenya and Tanzania.(Bunyassi-Asuga, 2008)(Hauli et al., 2011)

The explanation is that males tend to smoke, drink alcohol and use other substance more than female.

The increase use of substance in young people is probably a reflection of increase in curiosity, peer pressure, self medication or independence away from home/parents and these are important social factors.

Previous admission for psychiatric illness

Previous psychiatric admission was statistically significant related with level of formal education p=0.02

The statistically association between previous admission and level of education could be due to the fact that educated people have a high sense of control over their health and disposable incomes.

Environmental factors or genetic predisposition and role models explain the increased relation between drug use in the patient and psychiatric or family history of mental illness. Many mental disorders are associated with increase risk of substance use .(Swendsen et al., 2010)

Psychiatric disorders as indicated in the clinical records

This study found that substance use was unrecognized and/or misdiagnosed. Only 7% had a diagnosis of substance abuse recorded in their clinical notes. This may reflect the possibility of inadequate substance screening among the forensic inpatients. The findings are similar to other studies that have shown substance use disorders often go unrecognized(Butler et al., 2011) (Palijan et al., 2009)

Schizophrenic disorder was the most common diagnosis in the patients files, and this finding is similar to other findings (Havassy et al., 2004) .Bunyassi, 2008 found depressive episode to be more common (46.2%) and schizophrenia was second at 42.3%. A possible explanation in these findings could be that she had used SCID while this study used clinical diagnosis as recorded in the patients file.

Index offences and crime

Violent offences, including murder, manslaughter and robbery with violence, were the most frequently index of offences committed among forensic inpatients at Windhoek Central Hospital and accounted for 53.3%. This can be explained by the impulsive – aggressive behavior that is associated with substance use and especially alcohol use(Roozen et al., 2013). These findings were similar with study done in Kenya by Lilian Bunyassi Makanda, 2008 (68.1%).

This study found a statistically significant association between the nature of index offence and the use of cannabis (p=0.019). This is similar to a study which found that patients with both major mental illness and substance abuse disorders have more extensive criminal histories and demonstrate a high level of risks and needs when compared with patients with major mental illness alone (Ogloff et al., 2004a)

Types of substance use and prevalence:

The 82.7 % prevalence of substance use in this study is similar with the ranges reported in Kenya and Australia.(Ogloff et al., 2004a) (Derry, 2008) (Bunyassi-Asuga, 2008)

However this study found a remarkably high prevalence of substance use compared with a study done in South Africa which found 52% prevalence in a study among 604 white and colored male

offender (Hemphill and Fisher, 1980). Plant et al, 2011 found a prevalence of 50% of alcohol and substance misuse in patients with forensic intellectual disability(Plant et al., 2011).

The tobacco (74.7%) use is high than 58.5% reported by Bunyassi, 2008 and higher than 38.6% reported by Hauli et al, 2011, Tanzania, although Hauli's study was among the general psychiatric patients. The high use could be possibly explained by the fact that tobacco is socially and legally permitted by the society and law enforcement. In this unit the patients are allowed to smoke twice daily, this may explain the high prevalence of tobacco use.

Twenty four (32%) of participants had used alcohol within three months prior to this study and they were patients admitted to the unit within the three months. This rate of alcohol use is lower than the 57.3% found at Bugando Medical Centre, Mwanza, Tanzania.(Hauli et al., 2011). This is likely because the forensic unit is a secure place and alcohol is prohibited in the unit unlike tobacco.

Although the cause and effect of relationship between alcohol use and indeed any other substance use and psychiatric disorders were not investigated in this study it is possible that patients could use alcohol as self medication to cope with their psychiatric symptoms.

The rate of 44% cannabis use found in this study was higher than 31.9% found by Bunyassi, 2008, Kenya, 29.3% by Hauli et al,2011, Tanzania. These rates were found in patients admitted to the unit within three months prior to this study and among those in the half way home – Rehabilitation. These patients can access the drugs as they work outside the unit as part of the rehabilitation process and community integration.

The 4% prevalence of cocaine and amphetamine correspond with findings by Bunyassi, the 4% of cocaine. This could be explained by the relative unavailability of cocaine because of the high costs and strict law enforcement in place and this can be the same explanation for the relative low level of amphetamine . This is different from the use of inhalants which remains low(8%) despite low cost and relative availability, the reasons for these are possibly the strict control by law enforcement in place.

The use of Opiods and Diazepam was not reported in this study and this is because these are only sold if prescribed by a doctor. It is gratifying that there were no hallucinogens or inject able drugs despite screening for them using ASSIST.

This gratification is more so given the harmfulness of hallucinogens in precipitating overt psychiatric symptoms and the inject able drugs as a vehicle for HIV transmission.

Limitation

Researcher depended on patient record file for clinical diagnosis

Recommendations

1. The medical staff already attached to the forensic unit should be trained on how to screen for and manage substance use disorders**.**
2. Enforce within the forensic unit the existing policy that regulates smoking in public places.

Conclusion

There is high level of substances use disorder among patients admitted in forensic psychiatry unit Windhoek Central Hospital, Namibia.

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APPENDICES**:**

Appendix I (a): Consent Form:

Informed consent explanation. To be read and questioned in a language in which the study subject is conversant (English and indigenous languages).

My name is Dr. Hilen Irene Mekondjo Ndjaba, I am pursuing a degree of Master's of Medicine in Psychiatry at the University of Nairobi. I am a Namibian and doing a study entitled prevalence of substance abuse among the forensic psychiatry inpatients at WCH, forensic unit, Windhoek, Namibia as part of my degree award fulfillment. This study will be carried out by myself.

My supervisors are:

I. Prof. David M. Ndetei

II. Dr. M. Kuria and

III. Dr. F.R Owiti

who are all lecturers in the department of psychiatry, University of Nairobi.

The aim of this study is to find out the prevalence of substance use among the patients admitted to forensic psychiatry unit.

This study will be conducted by me under the supervision of my supervisors.

This is a medical/academic research and you are required to understand the following which apply to all medical research.

Your participation is completely voluntary and you may withdraw from study at any time in the course of the interview.

Refusal to participate will not in any way affect your health services/benefits which you are entitled to. After reading the explanation, don't hesitate to ask any questions incase you need clarifications.

I will ask you questions which will take about one hour of your time.

No invasive procedure such as drawing of blood will be involved on risks will be posed to you.

All information obtained from this study will remain confidential and your privacy will be upheld. Serial numbers instead of your name will be used in this study for identification, however your name will only appear on the consent form which will be signed and kept separately from the study documents for legal purposes.

There will be no material gain from this study.

However the overall study will be of benefit to the Ministry of Health and the Namibian Government in general in terms of intervention, comprehensive care of mentally ill and legal implementation/action concerning substance use in the country.

If you have any questions related to this study or your health, you can reach me on my email address (mndjaba@yahoo.co.uk) or you can contact me through +264811273383, Namibia or +254710574832, Kenya.

Any concerns may also be forwarded to the Research Division Committee – Ethical Clearance MoHSS, WHK, Namibia.

You may also conduct my supervisors through Department of Psychiatry, UON.

Appendix I (b): Consent Form

I, the undersigned do here by volunteer to participate in this study. The nature and purpose has been fully explained to me by Dr. Hilen I. M. Ndjaba

I understand that all the information obtained will be used for this study only and that I can withdraw my consent at any time without losing benefits which I am entitled.

Participant's Name _____ Serial NO _____

Signature/Thumbprint _____

Date: / / Place: _____

Witnessed (Dr. H.I.M. Ndjaba}

Signature _____ Date: / /

Place:_____

Appendix 2: Questionnaires

2(a) Socio-demographic questionnaire

Date: / /

Serial No: _____

Inpatient No: _____

1. Age (years) _____
2. Sex _____
3. Residence _____
4. Religion: (a) Christian ( ) (B) Others Specify:_____
5. Highest level of education:
    a) No formal school ( )
    b) Primary school ( )
    c) Secondary school ( )
    d) Tertiary (collage ( ) University ( )
    e) Others (specify):_____
6. Marital Status:
    a) Single ( )
    b) Married ( )
    c) Others specify_____
7. Occupation:
    a) Student ( )

b) Employed ( )

c) Self employed ( )

d) Unemployed ( )

e) Others specify:_____

8. Family history of mental illness

a) Yes ( )

b) No ( )

9. Nature of index offences (as per patient file)

a) Violent offences – (including murder) ( )

b) Sexual offences ( )

c) Theft and handling of stolen goods ( )

d) Criminal damage (properties, arson) ( )

e) Use of illegal drugs ( )

10. History of previous admissions:

a) Yes ( )

b) No ( )

If yes:

i) Number of previous admission:

a) 1 ( )

b) 2 ( )

c) > 2 ( )

ii) Duration of previous admission:

a) No of days ( )

b) No of months ( )

c) No of years ( )

iii) Nature of previous admission:

a) General medical condition ( )

b) Mental illness – civil ( )

c) Mental illness – forensic ( )

11. Date of admission (current admission)_____

Appendix 3: The Alcohol, Smoking and Substance Involvement Screening and Test (ASSIST)

1. In your life, which of the following substances have you <u>ever used</u>?	**0=No**	**1 = Yes**
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)		
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo)		
3. Cannabis (marijuana, pot, grass, hash, bhang)		
4. Cocaine (coke, crack, etc.)		
5. Amphetamine type stimulants (speed, diet pills, ecstasy)		
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)		
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)		
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)		
9. Opioids (heroin, morphine, codeine, Brown sugar)		
10. Other - specify:		

Q2 – Q5 tick: 0=Never, 1=once or twice, 2=Monthly, 3=Weekly 4=Daily or almost daily					
2. In the past 3 months, how often have you used the substances you mentioned?	**0**	**1**	**2**	**3**	**4**
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo)					
3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					
3. During the past 3 months, substance you have mentioned in Q1 how often have you had a strong desire or urge to use them?					

1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo)					
3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
7. Sedatives or Sleeping Pills (Val ium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					
4. **During the past 3months, how often has your use of drugs mentioned in question Q1 led to health, and social, legal or financial problems**?	**0**	**1**	**2**	**3**	**4**
a) Health Problems					
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo)					
3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					
b) Social Problems					
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo.)					

3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					
c) Legal Problems					
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo.)					
3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					
d) Financial					
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, ombike, otombo.)					
3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					

7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					
5. During the past 3 months, how often have you failed to do what was normally expected of your because of your use of:					
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)					
2. Alcoholic beverages (beer, wine, spirits, (ombike, otombo.)					
3. Cannabis (marijuana, pot, grass, hash, bhang)					
4. Cocaine (coke, crack, etc.)					
5. Amphetamine type stimulants (speed, diet pills, ecstasy)					
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)					
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)					
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)					
9. Opioids (heroin, morphine, codeine, Brown sugar)					
10. Other - specify:					

Q6-Q8 Tick 0=No, never, 1=Yes, but not in the past 3 months, or 2=Yes in the past 3months

6. Has a friend of relative or anyone else ever expressed concern about your use of	**0**	**1**	**2**
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)			
2. Alcoholic beverages (beer, wine, spirits,.)			
3. Cannabis (marijuana, pot, grass, hash, bhang)			
4. Cocaine (coke, crack, etc.)			
5. Amphetamine type stimulants (speed, diet pills, ecstasy)			
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)			
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)			
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)			

9. Opioids (heroin, morphine, codeine, Brown sugar)			
10. Other - specify:			
7. Have you ever tried to control, cut down or stop using			
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)			
2. Alcoholic beverages (beer, wine, spirits, (ombike, otombo.)			
3. Cannabis (marijuana, pot, grass, hash, bhang)			
4. Cocaine (coke, crack, etc.)			
5. Amphetamine type stimulants (speed, diet pills, ecstasy)			
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)			
7. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)			
8. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)			
9. Opioids (heroin, morphine, codeine, Brown sugar)			
10. Other - specify:			
8. Have you ever used any drug by injection (non-medical use only)?			
1. Cocaine (coke, crack, etc.)			
2. Amphetamine type stimulants (speed, diet pills,)			
3. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol,)			
4. Hallucinogens (LSD, acid, mushrooms, PCP, Special K,)			
5. Opioids (heroin, morphine, codeine, Brown sugar)			
6. Other - specify:			

Specific Substance involvement scores

Substance	**Score**	**Risk level**
1. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)		**0-3 low** **4-26 moderate** **27+ High**

2. Alcoholic beverages (beer, wine, spirits, (ombike, otombo.)		**0-10 low** **11-26 moderate** **27+ High**
3. Cannabis (marijuana, pot, grass, hash, bhang)		**0-3 low** **4-26 moderate** **27+ High**
4. Cocaine (coke, crack, etc.)		**0-3 low** **4-26 moderate** **27+ High**
5. Amphetamine type stimulants (speed, diet pills, ecstasy)		**0-3 low** **4-26 moderate** **27+ High**
6. Inhalants (nitrous, glue, petrol, paint thinner, etc.)		**0-3 low** **4-26 moderate** **27+ High**

Appendix 4: Ethical Clearance

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198	**Ministerial Building**	**Tel: (061) 2032510**
Windhoek	**Harvey Street**	**Fax: (061) 222558**
Namibia	**Windhoek**	**E-mail: eshaama@mhss.gov.na**
Enquiries: Ms. E.N Shaama	**Ref:** 17/3/3	**Date:** 19 June 2012

OFFICE OF THE PERMANENT SECRETARY

Dr. H.M. Ndjamba
Department of Psychiatry
University of Nairobi
Kenya

Dear Dr. Ndjamba

Re: Prevalence of substance abuse among forensic psychiatry inpatients at Windhoek Central Hospital Forensic Unit

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for completion of your Master's Degree of Medicine in Psychiatry;
3.2 No other data should be collected other than the data stated in the proposal;
3.3 A quarterly report to be submitted to the Ministry's Research Unit;
3.4 Preliminary findings to be submitted upon completion of study;
3.5 Final report to be submitted upon completion of the study;
3.6 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,

MR. ANDREW NDISHISHI
PERMANENT SECRETARY

"Health for All"