PREVALENCE OF CLUSTER B PERSONALITY DISORDERS AND RELATED FACTORS AMONG CLIENTS ATTENDING METHADONE CLINIC AT MUHIMBILI NATIONAL HOSPITAL

By

Tasiana D. Njau

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Clinical Psychology of the Muhimbili University of Health and Allied Sciences

Muhimbili University of Health and Allied Sciences
October, 2013

CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the Muhimbili University of Health and Allied Sciences, a dissertation titled ***"Prevalence of Cluster B Personality Disorders and Related Factors among Clients Attending Methadone Clinic At Muhimbili National Hospital"*** presented in partial fulfillment of the requirements for the Master of Science Degree in Clinical Psychology of Muhimbili University of Health and Allied Sciences.

_____

Dr. Frank Masao (MMed) – Psychiatrist
(Supervisor)

_____

Date

_____

Dr. Khalifa Mrumbi (PhD) – Clinical Psychologist
(Co-supervisor)

_____

Date

DECLARATION AND COPYRIGHT

I, **Tasiana D. Njau** declare that this **dissertation** is my original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature _____ **Date** _____

This dissertation is a copyright material protected under Berne Convention, the copyright act 1999 and other international and national enactments, in that behalf, on intellectual property. It may not be reproduced by any means, in full or in part, except for the short extracts in fair dealing, for research or private study, critical scholarly review or discourse with an acknowledgement, without the written permission of Directorate of Postgraduate Studies, on behalf of the author and the Muhimbili University of Health and Allied Sciences.

ACKNOWLEDGEMENTS

First of all I would like to thank the Almighty God for enabling me to conduct this research. My sincere appreciation should go to all clients attending MAT Clinic at MNH, and especially those who participated in this research. I may not remember them individually, but collectively they have shaped and inspired me, and given life to this research work.

I am grateful to my supervisors, Drs. Frank Masao and Khalifa Mrumbi for all the inspiration, time, encouragement and efforts they gave in close supervision towards proposal preparation, implementation and to this final write up. I thank them for the unweaving belief that I could do this. I am thankful to the Epidemiologist, Dr. Elia Mmbaga (MD) and my senior colleague Mr. Noel Kilonzo (Msc. Clinical Psychology), for their unwavering support and guidance in proposal writing and final dissertation, especially in areas of study design and data analyses.

My sincere word of appreciation goes to Dr. Jessie Mbwambo for her professional support throughout this process. I would also like to express my thanks to Drs. Margaret Hogan and Pamela Kaduri, for providing constructive comments and assistance especially in the references and literature searches. I would like to thank all academic and clinical members of the Department of Psychiatry and Mental Health for their valuable inputs at various stages of this work including; Prof. Gad. Kilonzo, Prof. Sylvia Kaaya, Drs. Samuel. Likindikoki Said Kuganda, Kissah Mwambene, Praxeda Swai, Cassian Nyandindi, Ester Steven Fausta Philip, Theonest Rutayugwa Ms.Lusajo Kajula, as well as MAT staffs specifically John Mwijage, Zainabu Mndeme, and Emma Ngoya.

Throughout the course of working on this dissertation, Dr. Bruno Sunguya, and my post-graduate colleagues in the Department of Psychiatry and Mental Health have provided great support and encouragement that I will always be grateful. Special acknowledgement should go to the Tanzanian Government through the Ministry of Health and Social Welfare for sponsoring my postgraduate studies and funding this research.

TABLE OF CONTENT

CERTIFICATION ii
DECLARATION AND COPYRIGHT iii
ACKNOWLEDGEMENTS iv
LIST OF TABLES v
ABSTRACT vi
CHAPTER ONE 1
1.1 INTRODUCTION 1
1.2 BACKGROUND 2
1.3 LITERATURE REVIEW 4
1.3.1 Personality Disorders 4
1.3.2 Opioid Use Disorders 6
1.3.3 Co-morbidityof Cluster B Personality and Substance Use Disorders 8
1.3.4 Personality Disorders and HIV Risk Behaviors among People who Inject Drugs 10
1.3.5 Personality Disorders and Misconduct Behaviours on Treatment Settings 13
1.4 STATEMENT OF THE PROBLEM 14
1.5 RATIONALE OF THE STUDY 15
1.6 THEORETICAL AND CONCEPTUAL FRAMEWORK 15
CHAPTER TWO 16
2.0 RESEARCH QUESTIONS AND OBJECTIVES 17
2.1 Research Questions 17
2.2 Broad Objective 17
2.3 Specific Objectives 17
CHAPTER THREE 18
3.0 METHODOLOGY 18
3.1 Operational Definitions 18
3.2 Description of Study Area 19
3.3 Study Design 20
3.4 Study Duration 20
3.5 Study Population 20
3.6 Sample Size Estimation 22

3.7 Sampling Procedures 22
3.8 Inclusion Criteria 23
3.9 Exclusion Criteria 23
3.10 DATA COLLECTION INSTRUMENTS 23
3.10.1 A Structured Interview Schedule 23
3.10.2 AStructured Clinical Interview for DSM-IV-TR Axis II Personality Disorders (SCID-II) 24
3.11 Data Collection Procedures 25
3.12 Recruitment of Research Assistants 26
3.13 Data Analysis 26
3.14. ETHICAL CONSIDERATIONS 27
3.14.1 Ethical Clearance 27
3.14.2 Consenting Process 27
3.14.3 Confidentiality 27
3.14.4 Risk and Benefit of Participation 27
CHAPTER FOUR 28
4.0 RESULTS 28
4.1 Description of Social Demographic Characteristics of the Study Population 28
4.2 Description of HIV Risk Behaviors of the StudyPopulation 30
4.3 Description of Reported Misconducts of the Study Population in the Treatment Setting 32
4.4 Prevalence of Cluster B Personality Disorders among the Study Population 34
4.5 Bivariate Analysis 35
4.5.1 Association between Cluster B Personality Disorders and Socio-Demographic Factors 35
4.5.1 Association between Cluster B Personality Disorders and HIV Injecting and Sexual Risk Behaviors 35
4.5.1 Association between Cluster B Personality Disorders and Misbehaviors in Treatment Setting 35
4.6 Multivariate Analysis 36
4.6.1 Association of Cluster B Personality Disorders and Socio Demographics 36
4.6.2 Association of Cluster B Personality Disorders HIV Risk Behaviors 36
4.6.3 Association of Cluster B Personality Disorders and Misconduct Behaviors 37

CHAPTER FOUR....39
4.1 DISCUSSION....39
4.2 STUDY LIMITATIONS....45
CHAPTER 5....46
5.1 CONCLUSIONS....46
5.2 RECOMMENDATIONS....46
REFERENCES....48
APPENDICES....57
Appendix I: Informed Consent (English Version)....57
Appendix II: Structured Interview Schedule English Version English Version....59
Appendix 111: Informed Consent Form Kiswahili Version....62
Appendix 1V: Structured Interview Schedule Kiswahili Version....64
Apendix V: Structured Clinical Interview for Dsm-IV Axis-II Personality Disorders (SCID-II) (English Version)....68
Apendix :Vi Structured Clinical Interview for Dsm-IV Axis-II Personality Disorders (SCID-II) Swahili Version....78

LIST OF ABBREVIATIONS

APA:	American Psychiatric Association
DSM IV-TR:	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision
MAT:	Medication Assisted Therapy
MNH:	Muhimbili National Hospital
MUHAS:	Muhimbili University of Health and Allied Science
PWIDs:	People Who Inject Drugs
SUD:	Substance Use Disorder
WHO:	World Health Organization
SCID 11:	Structured Clinical Interview for DSM-IV-TR Axis II Personality Disorders
HIV:	Human Immunodefficiency Virus
AIDS:	Acquired Immunal Defficiency syndrome
PEPFAR:	President's Emergency Plan for AIDS Relief
CDC:	Centre for Disease Control and Prevention
PD:	Personality Disorder
ASPD:	Ant Social Personality Disorder

LIST OF TABLES

Table 1: Distribution of Socio-Demographic Characteristics of the Study Participants 29

Table 2: Distribution of HIV Risk Behaviors of the Study Participants by Gender..... 31

Table 3: Distribution of Misconduct Behaviors of the Study Participants by Gender 33

Table 4: Prevalence of Cluster B personality Disorders of the Study Participants 34

Table 5: Hierarchical Multivariate Logistic Regression of Cluster B Personality..... 38

ABSTRACT

Background: Co-morbidity between personality disorders and psychoactive substance use disorders is reported to be significantly high with serious negative implications on HIV prevalence and health services provision. Presence of this co-morbidity in clinical setting was noted to result into increased HIV related risks, and misconduct behaviours that interfere with treatment plans and hence poor clinical outcomes. Eventhough there are many studies reporting this co-morbidity and its negative impact with significant findings in western countries, there is scarcity of literature addressing this commorbidity in sub Saharan Africa.

Objective: This study was aimed at assessing the prevalence of cluster B personality disorders and related factors (HIV related injecting and sexual risk behaviours and misconduct behaviours) among clients attending methadone clinic at Muhimbili National Hospital (MNH) in Dar-es –Salaam Tanzania.

Materials and Methods: This was a hospital based cross-sectional analytical study that utilized a convenient sample of all recovering population of people who inject drugs attending methadone clinic at MNH during the time of data collection from October 2012 to January 2013. A structured interview schedule was used to collect socio-demographic particulars; participant's HIV risk behaviors, and rates of misconducts while Structured Clinical Interview for axis II personality disorders (SCID-II) was used to diagnose personality disorders. Captured data was entered, recorded and cleaned through computer software (SPSS version 18). Univariate data analysis was applied while Pearson Chi square (X^2) and p-value ($p < 0.05$) statistical tests was used to assess the significant associations between outcome measures of interest and non-continuous factors assessed. Multivariate data analysis using backward logistic regression model for all the variables with $p< 0.20$ was applied to determine the strengths of associations of related factors of interest and cluster B personality disorder in order to adjust for confounders.

Results: A total of 414 study participants were included in the analysis in which men comprised the majority 91.03% (n=378) of participants. The overall prevalence of cluster B personality disorder in this study population was found to be 77.4% (n=309) in which antisocial personality disorder was the most prevalent 34.60 % (n=143), followed by borderline personality disorder 30.80% (n=127), narcissistic personality disorder 30.40% (n=126), and the least prevalent was histrionic personality disorder that was found in 16.5% (n=68) of all study participants.

The multivariate hierarchical logistic regression analysis revealed that participants with cluster B personality disorders were two and half more likely to be single than married (AOR 2.62, 95% CI: 1.27.-.5.39; p=0.01); four times more likely to be unemployed [AOR 4.02 (1.17-5.27) p=0.000]; two folds more likely to have sexual contacts with more than one partner in one day [AOR 2.24 (1.040-4.84) p= 0.039] almost twelve folds more likely to share syringes during drug injections [(AOR 11.86 (2.159-16.51) p =0.04], two and a half more likely to practice vijipoint [AOR 2.66(1.16-6.31) p= 0.002], three times more likely to be warned because of misbehaviour [AOR 3.112(1.35-7.19) p=0.001)], two times more likely to continue use of cannabis and heroin after stabilization dose [AOR 2.36(0.17-3.96) P=0.012], and [AOR 2.07(2.05-3.23) P= 0.009] and three times more likely to fail to restate back to work after treatment [AOR 3.203(1.14-5.73) p=0.023] as compared to participants without cluster B personality disorders.

Conclusion and Recommendations: The overall prevalence of cluster B personality disorder in this study population was found to be very high and significantly associated with HIV risks (sexual and injection) behaviours as well as misconduct behaviours at the treatment setting. The findings of this study indicate a need for careful assessment of personality disorders in methadone programs for the purposes of additional interventions beyond drug treatment. Furthermore, it recommends research on the prevalence of all personality disorders among drug using and in general populations as well as on the causal relationship of personality disorder - substance abuse co-morbidity.

CHAPTER ONE

1.1 INTRODUCTION

The main aim of this study was to assess the relationship between personality disorders and psychoactive substance use disorders by determining the prevalence of cluster B personality disorders. Structured Clinical interview for DSM-IV personality disorder (SCID II) was used to diagnose cluster B personality disorders in a recovering population of people who inject drugs and who were attending methadone clinic at MNH during the period of data colection. While research on the subjects of personality disorders and psychoactive substance use disorders co-morbidity have recently increased,[1,2,3] there is scarcity of published studies addressing this co-morbidity among people who inject drugs in sub-Saharan Africa and Tanzania in particular.

Various studies have reported that the association for this co-morbidity is significantly high and suggested that these disorders have serious negative implications for management plans such as increase in HIV related risk behaviours, poor adherence to treatment, more disruptive behaviours within treatment settings,[3]greater early treatment dropout rate, higher relapse rates,[2,4,5]greater severity of substance use problems, higher rates of continued substance use, greater psychosocial impairment,[6] and poor response to treatment plans.[2-7]

This study has assessed the impact of co-morbid between substance use disorders and personality disorders on HIV risk behaviours (sexual and injection), and rates of misconducts during MAT services. Sexual risk behaviors included number of sexual contacts in the past 30 days, condoms uses, multiple sexual contacts, and trading for sex. Injection risks behaviorsincluded sharing of injection equipments, blood flushing practices, and vijipointi practices. Rates of misconducts during MAT services was defined by number of missed doses, violence/abusive behaviors, continue use of substances after stabilization phase of methadone dose and failure to reinstating back to work/study after initiating MAT.

Better knowledge and understanding around the co-morbidity of the disorders could be helpful in improving the treatment outcomes of this special population in mental health practice and especially for methadone programs that are slated to scale up soon in Tanzania.

1.2 BACKGROUND

Opioid dependence is one of the psychoactive substance use disorders with tendencies toward chronicity and relapsing nature.[8,9] It is unfortunate that patients with opioid dependence have traditionally been a difficult population to engage and sustain in any form of health related treatment approaches[2]. The difficulties to undergo and sustain treatment are probably associated with some of the features of opioid dependence such as most of a patient's time is involved in taking, recovering from, or obtaining drugs, continue opioid use despite the harmful consequences knowledge, uncontrolled desire to continue using opioid and personality disorders co-morbidity.[2,3,4]

There are various types of management approaches to individuals with opioid dependence that include psychosocial intervention and/or pharmacotherapeutic approaches recommended worldwide. Both approaches have been proven to be effective especially when used in combination.[10] Methadone is one of the pharmacological interventions for managing opioid dependence which can be instituted in a short term basis for safe withdrawal process (detoxification), and in a long term basis for opioid maintenance/substitution therapy.[11]

Methadone which is a synthetic opioid agonist at kappa, delta, and mu receptors in the brain was introduced in United States of America for the first time in the 1960's and significantly breakthrough in the medical treatment of opioid addiction.[12] Methadone assisted treatment which is also referred to as Methadone Maintenance Therapy (MMT) or Methadone Substitution Therapy (MST) has been reported to be safe and effective treatment that may enable patients to lead functional lives, something that was often not possible using only drug - free approaches. While the use of methadone has been in the practice for more than five

decades, this service was not available in African context and only recently was introduced in few African counties, majority in privately owned service providers.

In sub-Saharan Africa, Tanzania was the first country to approve use of methadone for opioid dependence in February 2011 for PWIDs as outpatient services in the public government hospital under the support of President's Emergency Plan for AIDS Relief (PEPFAR) through Center for Disease Control and prevention (CDC) Tanzania office.

While a significant number of patients with psychoactive substance use disorderare abusing multiple substances, one of the very important defining dimension among substance abusers in general population is personality disorders.[13] Personality disorder as defined is a disorder associated with a pervasive pattern of disregard for and violation of the rights of others. Personality disorders have been reported to be associated with use of psychoactive substances, which may also highly be associated with other mental disorders such as schizophrenia, mood and anxiety disorders. [14, 15, 16]

The concept of personality disorder is more relevant in the clinical management of drug using population than other approaches to personality assessment. The available evidence suggests that approximately two-thirds of psychoactive drug users in any given form of treatment have personality disorders, with cluster B personality disorders being the commonest.[13] While in Western countries numerous studies have investigated personality factors in opioid dependence,[15,] little is known in sub-Saharan Africa in addressing personality disorders in the drug injecting population under methadone program.

1.3 LITERATURE REVIEW

1.3.1 Personality Disorders

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR),[16] offers one of the most widely used conceptualizations for understanding personality disorders and includes them on Axis II of its multiaxial system of diagnostic formulation. The DSM-IV-TR broadly defines personality disorders as "an enduring pattern of inner experience and behavior that deviates markedly from the expectation of the individual's culture," and specifies that this pattern is demonstrated in at least two areas, including cognition, affectivity, interpersonal functioning, and impulse control. The DSM-IV-TR also indicates that to be characterized as a personality disorder, the pattern must be inflexible, pervasive, leading to significant distress or impairment, and have an onset during adolescence or early adulthood period and diagnosis can only be done after 18 years of age.

There are ten categories of DSM-IV-TR personality disorders. The classification scheme is unwieldy as personality disordered patients rarely belong to just one category of personality disorder. However, the DSM clustering system provides a useful solution to this problem by grouping the sub-categories of DSM-IV-TR personality disorder into three broad 'clusters'.[16] The 'odd, eccentric' cluster A (paranoid, schizotypal and schizoid personality disorders), the 'dramatic' cluster B (borderline, antisocial, histrionic and narcissistic personality disorders), and the 'anxious' cluster C (avoidant, dependent and obsessive-compulsive Personality Disorders).[16]

According to DSM IV TR, paranoid personality disorder is characterized by irrational over suspicions and mis-trust to others, schizoid personality disorder presents with lack of interest in social relationships, seeing no point in sharing time with others, and schizotypal personality disorder is characterized by odd behavior or thinking.[16] Further, antisocial personality disorderis marked by "a pervasive pattern of disregard for, and violation of, the rights of others that begins in childhood or early adolescence and continues into adulthood." Borderline personality disorder typically involves unstable moods as well as unstable interpersonal relationships, behavior, identity, and sense of self. The DSM-IV-TR describes histrionic

personality disorder as “pervasive attention-seeking behavior including inappropriate sexual seductiveness and shallow or exaggerated emotions,” while narcissistic personality disorder is described as “a pervasive pattern of grandiosity, need for admiration, and lack of empathy”. Avoidant personality disorder is characterized by social inhibition, feelings of inadequacy, extreme sensitivity to negative evaluation and avoidance of social interaction. Dependent personality disorder is described as pervasive psychological dependence on other people and obsessive-compulsive personality disorder is characterized by rigid conformity to rules, moral codes and excessive orderliness.[16]

In clinical practice, individuals are generally diagnosed by an interview with a clinical psychologist or psychiatrist based on a mental status examination, which may take into account observations by relatives and others. Diagnosing personality disorders are processes which involve interviews with scoring systems such as the Millon Clinical Multiaxial Inventory (MCMI-III) and the Structured Clinical Interview for DSM-IV-TR Axis II Personality Disorders (SCID-II).[16] The individual is asked to answer questions in a questionnaire, and depending on their answers, the trained interviewer scores what their responses were to conclude presence or absence of personality disorder as well as the likely type of personality disorder.

Worldwide, the prevalence of personality disorder in the general community was largely unknown until surveys starting from the 1990s.[17] In 2009, a screening survey involving 162 individuals which was conducted by the World Health Organization using DSM-IV-TR criteria, across 13 countries, (Colombia, Lebanon, Mexico, Nigeria, China, South Africa, the United States, Belgium, France, Germany, Italy, the Netherlands and Spain) reported an overall prevalence estimate of around 6%, while for specific personality disorders with clusters A, B, and C at 3.6 %, 1.5% and 2.7% respectively.[16]

In USA, Samuels and colleagues examined the prevalence of personality disorders in a community sample of 742 adults residing in the Baltimore city area.[18] According to this publication, the overall prevalence of personality disorders in this sample was 10%. The

National Co-morbidity Survey-Replication undertaken in 2001 to 2002 based upon screening of 692 community individuals using the International Personality Disorder Examination Scale reported the prevalence of personality disorders in the community to be 9.1%.[19] In Canada, Lindal and Stefanssonexamined the prevalence of personality disorders in a sample of 805 individuals who were randomly selected from the greater Reykjavik area. According to Axis II diagnoses from the DSM- IV – TR and ICD-10 which they were used in that studyprevalence of personality disorders were reported as 11% and 12% respectively.[20] In a cross-sectional study on 148 randomly sampled patients to determine DSM-IV-TR axis I (primary mental disorders) and axis II (personality disorders) co-morbidities and patterns of axis II diagnoses in patients admitted at Mathari Hospital- Kenya, 20% of the patients were confirmed for an axis II diagnosis and that 87% of the axis II disorders were cluster B personality disorders of various types.[21] This prevalence of personality disorders was noted to be lower than that reported in psychiatric patients from USA and Europe.

1.3.2 Opioid Use Disorders

There are globally 76.3 million people with alcohol use disorders and at least 15.3 million people with other substance use disorders[22] including substance abuse and substance dependence. [23] Substance-related disorders and substance abuse are defined in DSM-IV-TR as a maladaptive pattern of substance use manifested by recurrent and significant adverse consequences related to the repeated use of substances.[16]

Opioid dependency is a medical diagnosis characterized by an individual's inability to stop using opioids (morphine, heroin, meperadine, codeine, oxycodone and hydrocodone) even when objectively it is in his or her best interest to do so.[16] Opioid dependence is commonly associated with a history of drug-related crimes (e.g. possession of controlled substances, paraphernalia, forgery, burglary, larceny, or receiving stolen property). Among dependent health care professionals who come in contact with opioid professionally, a different pattern of illegal activity causes issues with licensing boards and administrative agencies. Divorce,

unemployment, or irregular employment is commonly associated with opioid dependence at all socioeconomic levels.[16, 22, 23]

Drug injection is a method of introducing a drug into the body with a hollow needle and a syringe which is pierced through the skin into the body (usually intravenous, but also intramuscular or subcutaneous). Although there are various methods of taking drugs, injection is favored by some users as the full effects of the drug are experienced very quickly, typically in five to ten seconds. It also by-passes first-pass metabolism in the liver, resulting in a higher bio-availability for many drugs than oral ingestion would (so users get a stronger effect from the same amount of the drug). This shorter, more intense high can lead to both physical and psychological dependency which can, develop more quickly than with other methods of taking drugs.[22,24] As for 2004, there were 13.2 million people worldwide who used injection drugs of which 22% were from developed countries.[24]

Opioid dependence has been a continuous public health problem worldwide throughout last century, and shows no evidence of decline at the beginning of the 21st century, indeed a new epidemic appears to be in progress.[10] In USA during the 1990s, heroin use incidence rates rose to a level not reached since the 1970s; the annual number of new users ranged from 55,000 to 69,000 between 1989 and 1992 respectively; however, there were 110,000 new heroin users in 1994 and 146,000 in 2000.[25]

Tanzania is among the developing countries with a growing concern of illicit drug use and abuse with the prevalence of 0.09% (n=519) reported in 2005.[26] In 2005 survey estimates showed that there were approximately 20,000 – 25,000 injecting drug users in Dar es Salaam, a city with almost 4 million inhabitants by then.[27] The trend of smoking heroin use in that survey showed that men started at relatively older age 20 – 21 against 19-20 years in female whereas female started injecting heroin at earlier age 22-23 years as compared to men who started at age 25-26 years.[27]

1.3.3 Co-morbidityof Cluster B Personality and Substance Use Disorders

There are extensive literatures on the association between personality disorders and drug use.[2-5,6,1013] Data from various studies done in the USA indicates that there is a higher prevalence of personality disorders within population that use any type of psychoactive substances when compared to the general population.[28, 29] Furthermore, the majority of literature point to high rates of co-occurring DSM-IV-TR cluster B personality disorders with substance use and dependence.[2,30] In populations with substance use disorders, prevalence of co-morbid personality disorders range between 37% (n= 280),[1] in general substance abuse to 86 % (n=360),[1,29,31] in opioids abuse. It has also been reported that people with personality disorders are seen to use substances for reasons related to their personality disorders, such as diminishing or managing symptoms, enhancing self-esteem, decreasing feelings of guilt, managing negative effect, and amplifying feelings of diminished individuality.[5]

A study of the prevalence of DSM-IV personality disorders among 49 office–based methadone maintenance patients in Canada, found that 77% (n=38) of patients on methadone program met the criteria for at least one personality disorder.[5] Of those who had a personality disorder in that study, 20% had two personality disorders, 14% had three personality disorders, and 6% had four personality disorders.[5]

Brooner and colleagues assessed 203 outpatients on methadone maintenance program between 22-28 days after admission utilizing the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-1) and NEO Personality Inventory (NEO-PI).[6] Results showed that personality disorders were present in 37% (n=76) of the sample with 32% (n=24) of those meeting the criteria for two or more personality disorder diagnoses.

Cluster B personality disorders and psychoactive substance use disorders are both marked by impulsivity and poor behavioral control.[32] In 2008, Murray recruited 54 individuals from a methadone maintenance clinic at Massachusetts in the United States of America and examined their methadone dose prescriptions.[33] Results of that study showed that participants with cluster B psychopathology had significantly higher prescribed methadone doses as compared

to participants without cluster B psychopathology. This study suggested that personality factors appear to influence methadone maintenance dosing.

A cross-sectional, descriptive-analytic study conducted on 157 individuals referred to a methadone maintenance therapy clinic in Kerman-Iran, reported a significant relationship between the increased initial doses of methadone among clients with borderline personality disorder.[34]

It has been well established that personality disorders and psychoactive substance use disorders frequently co-occur and this relationship seems to be especially pertinent to cluster B personality disorders, which are characterized by erratic behavior and emotions and include antisocial personality disorder, borderline personality disorder, histrionic personality disorder, and narcissistic personality disorder.[12] Individually, personality disorders and psychoactive substance use disorders represent a significant cost to society; andtheir co-occurrence likely presents an even greater burden as personality disorders have a negative effect on treatment prognosis of DMS-IV-TR axis I disorders which also including psychoactive substance use disorders.[12]

A study done in South Africa among 324 people with substance use disorders at a psychoactive substance abuse rehabilitation centre in Johannesburg found that, 11.11% (n=36) of the sample used in the study had co-morbid personality disorders. All of the disorders were DSM-IV-TR axis II cluster B personality disorders. The most prevalent types of cluster B personality disorders found were antisocial 33% (n=12) borderline 28% (n=10)) and narcissistic 25% (n=9). In similar studies cluster A and C personality disorders do occur just less frequently than cluster B. [3, 14]

In a review of studies on borderline personality disorder and psychoactive substance abuse, Trull and Sher found that bordaline personality disorder was very common among the 17 studies that they reviewed. They concluded that, “in any treatment setting, psychoactive substance use disorders are found in nearly 60% of individuals diagnosed with borderline

personality disorder."[35] Similar rates of co-morbidity are found between anti-social personality disorders and substance use disorders.[12]

1.3.4 Personality Disorders and HIV Risk Behaviors among People who Inject Drugs

Injection drug use has been central to the transmission of HIV, both through contaminated injection equipments and through sexual transmission involving drug injectors and their sexual partners'.[36] People who inject drugs are at extremely high risk of acquiring and transmitting HIV infection through sharing of injection equipments. Estimations show that 0.8– 6 million such users are living with HIV.[37] UNAIDS report of the global HIV/AIDS epidemic estimated that in 2000, 10% of all new HIV infection in the world was through injecting drug use.[39] HIV prevalence in people who inject drugs is also reported higher in other regions of the world such as China (12%), USA (16%) and in Russia (37%),[37] despite of having around 1% prevalence of of HIV infection in their general populations.[38]

People who inject psycho-active drugs and who live in Sub-Saharan Africa, a region with generalized epidemic harboring more than two thirds of worlds' people living with HIV/AIDS by 2008,[39] are at unacceptably high risk of acquiring and transmitting HIV/AIDS. The prevalence of HIV/AIDS in this risky population of injection drug users in African countries ranges from 5.5% in Nigeria with approximately 3.3 million PWID out of 146 million country population, 12.4% South Africans with 1% of PWID in a population of 48 million to as higher as 42.9% in Kenyan population of 38 million people:[37] whereby the Kenyan prevalence of HIV infection in the general population in the same year was reported to be as lowas around 7.8%[39] as compared to that of PWID.

Although the practice of injecting drugs may have been introduced fairly recently, the rates of infection are very high and indicative of an established epidemic among people who inject drugs in Dar es Salaam.[40] In Tanzania, studies done in Dar es salaam and Zanzibar reported a high rate of needle sharing and sexual behaviors that directly transmit HIV infection among injecting drug users.[41,42] Williams and colleagues, in a sample of 315 male and 219 female

who inject psychoactive drugs during the year 2009 found the overall prevalence of HIV infection to be 42% (n=224) (while the prevalence of HIV in Tanzanian general population of approximately 40,538,000 people was 5.8% by then) and the rate was remarkably high 62% (n=331) amongst women.[40] Similar study reported that 51% (n=114) of those who were HIV positive, had sex with two or more partners, 49% (n=110) did not use condoms during vaginal sex, 27% (n=61) used condoms sometimes and 38% (n=85) had a lifetime history of trading for sex. A study conducted in Zanzibar reported the overall prevalence of HIV among injecting heroin users to be 26.2% (n=50) compared to 4.1% (n=13) among non-injecting heroin users.[42]

Many studies reported personality disorder co-morbidity to be very high in the population of people who abuse drugs.[3,5,6,41] It is also reported that personality disorder is a risk factor that increases HIV risk behaviors and infection rates among people who inject drugs.[6,43] Personality disorders have also been found to be associated with a range of complications and adverse outcomes in drug use, including increased HIV risk behaviours and infection rates.[4] Different studies of general substance abusers,[44] and heroin abusers,[45] found that anti-social personality disorder was associated with a range of psychoactive substance use and sexual behaviors that increase risks for HIV infection.

Among a community sample of 351 adults who had used cocaine in the past 6 months,[4] it was reported that those with concurrent anti-social personality disorder had relatively higher rates of risky drug using and sexual behaviors by two folds than cocaine users without -anti-social personality disorder.[4] It was further reported that, 18.7% (n=66) of those with anti-social personality disorder exchanged money for sex and 50.8% (n=179) exchanged drugs for sex as compared 5.8% (n=21) and 9.0% (n=32) consecutively for those without anti-social personality disorder. An 18-month follow-up study with the same sample found that cocaine users with concurrent anti-social personality disorder remained at greater risk for developing HIV despite intervention.[4] In another study done by Kelley and Nancy to study HIV risk behaviors among 55 male substance abusers with and without antisocial personality disorder,

they found that anti-social personality disorder was associated with increased needle risk behaviors such as frequency of needle-sharing.[44]

1.3.5 Personality Disorders and Misconduct Behaviours on Treatment Settings

Methadone program has been proven to reduce and/or eliminate the use of illicit opiates; the criminality associated with opiate use, and allows patients to improve their health and social productivity.[46] In addition, enrollment in methadone maintenance program has the potential to reduce the transmission of blood borne infectious diseases associated with opiate injection, such as hepatitis and HIV infections. The principal effects of methadone maintenance are to relieve opioid narcotic craving, suppress the abstinence syndrome, and block the euphoric effects associated with opiates use. Methadone maintenance has been found to be medically safe and non-sedating and also indicated for pregnant women who are addicted to opiates.[46]

It is reported that clients on methadone maintenance program with dual disorders have a poorer treatment course and outcomes than those with single disorders and have poorer treatment retention and functional outcomes.[47] Treatment outcome is measured in terms of sustained reduction in alcohol and drug use, sustained increases in personal health and social function, and sustained reduction in threats to public health and safety. Studies that predict outcomes begin with patient variables at admission as the most important predictor of success. They include severity of dependence, family and social supports, severity of psychiatric co-morbidity, and presence of antisocial personality.[48]

It has been well established that the occurrence of both personality disorders and psychoactive substance use disorders in individuals complicates and impacts on the success of treatment for either problem.[2-4] Dually diagnosed individuals have shown to be resistant to entering treatment, less adherent to treatment, more prone to disruptive behaviour within treatment settings, and tend to have a greater early dropout rate, poorer treatment outcomes and higher relapse rates.[2 - 4,28]

Concurrent cluster B personality disorders and especially antisocial personality disorder among psychoactive substance abusers is associated with greater severity of substance use problems, higher rates of continued substance use, and greater psychosocial impairment.[6]

This greater level of dysfunction among psychoactive substance abusers with cluster B personality disorder has also been associated with poor response to treatment.[7] The presence of personality psychopathology said to be an important predictor in former heroin users' treatment outcome,[12] and thus early identification and management strategies may minimize the poor treatment outcomes.

1.4 STATEMENT OF THE PROBLEM

Heroin use, particularly injection practice, is a great problem of public health importance as many social, behavioural, and psychological problems are strongly associated with heroin dependence.[9] The risks associated with heroin dependence such as HIV and viral hepatitis infections, and the social costs due to associated crime and poverty exceed those of most other drugs of abuse.[49,9] It has been well established that personality disorders and psychoactive substance use disorders frequently co-occur,[30] such that this relationship seems to be especially pertinent to cluster B personality disorders, which are characterized by erratic and emotion behaviours. A recent review of 17 studies suggested that psychoactive substance use disorders are found in nearly 60% of individuals diagnosed with borderline personality disorder,[35] and similar rates of co-morbidity are found between antisocial personality and psychoactive substance use disorders.

Individually, personality disorders and psychoactive substance use disorders represent a significant cost to society,[49] to the extent that co-occurrence may presents an even greater burden as personality disorders have a negative effect on treatment and prognosis of mental illnesses and psychoactive substance use disorders. Patients with personality disorders tend to have considerable impairment and distress as well as poor treatment outcomes of any DSM 1V TR axis I disorders.[49] Individuals with comorbid personality disorders and opioid dependence participate in more criminal activities, have higher dropout rates, they are more likely to participate in more risky HIV and hepatitis infections behaviours, have higher rates of suicidality and overdose, and have more psychological distress compared to opioid dependent individuals without personality disorders and thatthese factors are reported to interfere with

opioid dependence treatment including methadone program.[2-4,47,48] While research on the subject of personality disorder and substance use disorder co-morbidity with significant findings has increased recently in western countries,[1,2] there is scarcity of studies addressing this co-morbidity among people who inject drugs in Sub Saharan Africa. Co-morbidity of a personality disorder in persons with substance dependence has a negative effect on the outcome of substance-related treatment and this requires further research as suggested by Nicola.[3]

1.5 RATIONALE OF THE STUDY

This study is designed to determine the prevalence of cluster B personality disorders amongst a cohot of recovering people who inject drugs andwho are currently attending a methadone treatment program at MNH, and to find the related risks behaviors and negative impact on methadone program.

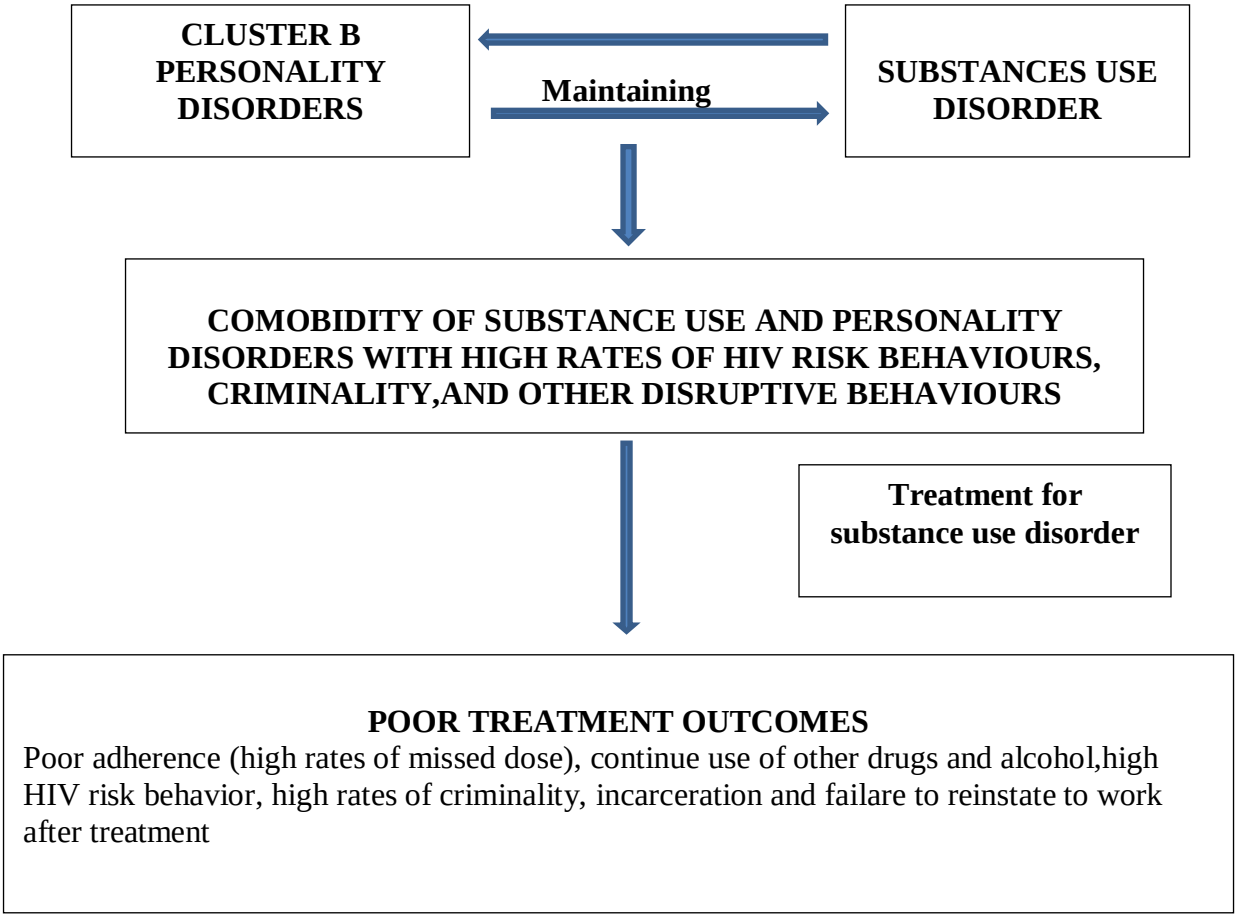
By enlightening the prevalence of cluster B personality disorders and the associated factors among people who inject drugs on MAT, the findings of this study will facilitate early detection of one of the most common co-morbid psychopathology in drugs using population and hence facilitate integrative approaches to recommended treatment.[50] Better knowledge and understanding around the co-morbidity of these two devastating disorders will be helpful in improving treatment outcomes of these individuals who are currently struggling to recover from poly -substances abuse and dependence.

1.6 THEORETICAL AND CONCEPTUAL FRAMEWORK

Amongst the model that explains the co-morbidity of psychoactive substance use and personality disorder, is refered to as a bi-directional model of personality disorder and substance use as “maintaining factors” of the comorbidity.[50] This model provides explanation for the co-morbidity of personality disorders and substance use with the idea that either one of the problems acts as a ‘maintaining factor’ that interfering with treatment of the other.[3,50] For example, a low level of personality disorder may be exacerbated and then maintained by a

substance use disorder, while a substance use disorder which is perhaps not severe on its own may be maintained, and even worsened by the presence of the personality disorder.[3] The model assets that there is a close relationship between substance use and mental health problems and that when one problem is treated in isolation from the other there will be difficulties for clients when navigating between the substance use and personality disorder.[48,51]

Bi-Directional Model of Personality Disorder and Substance Use as "Maintaining Factors" of the Comobidity



2.0 RESEARCH QUESTIONS AND OBJECTIVES

2.1 Research Questions

2.1.1 What is the prevalence of cluster B personality disorder among clients attending methadone clinic at Muhimbili National Hospital?

2.1.2 Are there any associations between cluster B personality disorders and injection risks behaviors as well as sexual risks behaviours among injection drugs using population?

2.1.3 Are there differences between clients with and without cluster B personality disorders attending methadone program in terms of reported rates of misbehaviors during MAT services, rates of missing methadone doses, reported rates of reinstating back to work/study after initiating MAT?

2.2 Broad Objective

To determine the prevalence of cluster B personality disorders and other related factors among clients attending methadone clinic at Muhimbili National Hospital.

2.3 Specific Objectives

2.3.1 To determine the prevalence of cluster B personality disorders among clients attending methadone clinic at MNH

2.3.2 To determine the associations between cluster B personality disorders and HIV related risks behaviors

2.3.1 To determine the associations between cluster B personality disorders and other misconduct behaviours

.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Operational Definitions

3.1.1 Cluster B Personality Disorders

Cluster B is one among the three sub-categories of DSM-IV-TR personality disorders namely clusters A, B, and C. The disorders included in cluster B are borderline personality disorder, antisocial personality disorder, histrionic personality disorder and narcissistic personality disorder. According to the DSM-IV-TR;[16] antisocial personality disorder, is marked by "a pervasive pattern of disregard for, and violation of the rights of others that begins in childhood or early adolescence and continues into adulthood" borderline personality disorder typically involves unstable moods as well as unstable interpersonal relationships, behavior, identity, and sense of self: histrionic personality disorder described as "pervasive attention-seeking behavior including inappropriate sexual seductiveness and shallow or exaggerated emotions," while narcissistic personality disorder is described as "a pervasive pattern of grandiosity, need for admiration, and lack of empathy.

3.1.2 Vijipointi Practice

This term refers to a practice of sharing illicit drugs (heroin) amongst people who inject drugs by using only one injection equipment. In this practice, several PWIDs will contribute a calculated amount of heroin in terms of number of sachets, which will cumulatively be dissolved in one syringe. Thereafter, each individual will consecutively inject an amount of heroin solution which is equivalent to the amount of heroin contributed in terms of points (cubic millimetres) calibrated in a syringe. In so doing, the only first person will use sterile injection equipment while the rest will not only share the same needle but also inject contaminated blood from previous user.

3.1.3 Flashblood (Flushblood)

Flush blood is a technique practiced by drug users in which an addict injects himself with blood extracted from another drug user, most commonly one who has just injected heroin. The purpose is to be able to experience substance intoxication (a "high") or to help combat symptoms of drug withdrawal. This practice was first reported and documented by Sheryl A. McCurdy, that it was noted to be practiced in Dar es Salaam, Tanzania; however the practice had spread to other areas in East Africa by 2010.[52]

3.1.4 HIV Risk Behaviours

In this study HIV risk behaviours include;

1. Sexual risk behaviours as defined by number of sexual contacts in the past 30 days, rates of condoms use, multiple sexual contacts, and trading for sex.
2. Injecting risk behaviours as defined by sharing of injection equipments, blood flushing and vijipointi practices.

3.1.5 Misconduct Behaviours

Misconduct behaviours is defined by rates of missing methadone dose, violence/abusive behaviors in the program as explained by warning given, continue use of psychoactive substances after stabilization phase of methadone dose and failure to reinstating back to work/study after initiating MAT.

3.2 Description of Study Area

This study was carried out at the methadone clinic situated in the Department of Psychiatry and Mental Health of the Muhimbili National Hospital, Dar es Salaam, Tanzania. Muhimbili National Hospital is a public, tertiary, referral and MUHAS teaching University hospital, located in Ilala municipality. The Department of Psychiatry and Mental Health receives patients who are referred from Dar-es-Salaam muninicipal hospitals namely Ilala, Temeke and Mwananyamala, among others and outside Dar es Salaam. There are few patients who are self referred for private mental health services. Apart from the inpatients services; the Department also provides services for outpatients as well as outreach to satellite mental health clinics. The

outpatient services include: regular daily follow up clinics, psychotherapeutic interventions, psycho education, Occupational Therapy, supportive group therapy as well as a new case clinics and child/ adolescent clinics that are provided once a week.

MNH Methadone clinic encompasses a methadone program that was established in February 2011 aiming at preventing HIV transmission and other blood borne infections among injection drug using population and their social networks in Dar es Salaam. The program provides both community outreach services conducted by Community Based organizations partners and thereafter escorted referrals to methadone clinic at MNH under the technical support of Tanzania AIDS Prevention Program (TAPP) which funded by PEPFAR through CDC Tanzania office. Being the only site that provides methadone services in Tanzania at a time of data collection, it was therefore selected for carrying out this dissertation study.

3.3 Study Design

This study is a hospital based cross-sectional analytical study that assessed the prevalence of cluster B personality disorders and related factors among clients attending methadone clinic at Muhimbili National Hospital.

3.4 Study Duration

The study was conducted for one year from April 2012 to April 2013. Data collection was done for for 4 months from July 2012 to November 2012.

3.5 Study Population

All clients who were enrolled at the methadone clinic from February the 1st 2011 to September 30th2012, and who provided written consent for participation were included in the study. These clients were recruited to the clinic by community outreach workers or their peers. Prior to recruitment to the methadone clinic, the clients had to be screened for evidence of being heroin dependent and injector by assessing the duration od heroin (should be more than 12 months period) as well as the presence of injection marks and venous scars.

They were also assessed for their readiness to quit heroin use and for the evidence of sustained social support from relatives or good Sammaritans who would be responsible to care for the client while at home and facilitate them to attend methadone clinic on daily basis. At the MAT clinic, the screening procedures for enrolment were done by the assessment nurses, health social workers and the clinicians. For a client to be enrolled for MAT, he/she had to meet the eligibility for MAT enrolmemt which included DSM IV TR criterion for substance dependence, tested positive for heroin during urine drug screening, presence of recent venous scaring with or without phlebitis, proof of psychosocial supporter as well as providing a written informed consent to adhere to treatment plan and regulations as stipulated on MAT national clinical guidelines.

3.6 Sample Size Estimation

Since this type of study has never been done in this study setting, the statistical inference using prevalence of personality disorders in a drug using population was estimated at 50% so as to maximize the sample size estimation. Estimated sample size of the target population (n) was calculated by using Epi-Info version 6.04,[53] as follows:

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

Whereby:
n = estimated minimum sample size,

Z = confidence level at 95% (Standard value of 1.96),

P = 50% estimated prevalence of personality disorders in a drug using population,

d = margin of error at 5% (standard value of 0.05).

Therefore; $$n = \frac{(1.96)^2 X\ 0.5(1-0.5)}{(0.05)^2} \approx 385$$

Adjusting for non response, 10% of the estimated sample size was added, leading to
n = (385 + 39) = 424.

This was approximated to a maximum of 430 participants as sample size estimates.

3.7 Sampling Procedures

A convenient sampling procedure was applied to collect data in this study. All clients who were enrolled at the Methadone clinic from 1st February 2011 to 30th September 2012 were identified as possible eligible participants for this study. According to the MAT enrolment registry, there were 576 (37 females, and 519 males) clients who were already enrolled at the Methadone clinic by the end of 30th September 2012, Of these participants identified through the MAT registry, 147 were reported to default from the program hence were not available for study participation. Therefore, 429 remaining clients who were attending methadone clinic on daily basis during the study period were approached and requested to participate in the study.

3.8 Inclusion Criteria

The study included the following participants:

3.8.1 Clients who were attending MAT clinic during the study period 3.8.2 Clients who voluntarily accepted to provide informed written consent for participation

3.8.3 Clients who had stayed in the MAT treatment program for a minimum of eight weeks prior to data collection so as to ensure methadone stabilization phase (usually 30 days) was attained and at least 30 days after stabilization on MAT program

3.9 Exclusion Criteria

The following participants were excluded from the study:

3.9.1 Clients who were physically or mentally unstable to participate

3.9.2 Clients who were under 18 years of age as DSM-IV-TR criterion for personality disorders require an individual to be of at least 18 years old to be diagnosed with personality disorder.

3.10 DATA COLLECTION INSTRUMENTS

3.10.1 A Structured Interview Schedule

This was a questionnaire developed by a researcher to collect data including socio-demographic characteristics of the participants (age, sex, education, marital status, current occupation and residence), self reported information such as methadone dose level at a time of data collection, participants'sexual and injection risks behaviours, as well as self reported misbehaviors (missed doses, violence/abusive behaviors, continue use of substances after stabilization phase of methadone dose) in the past 30 days prior to interview.

3.10.2 AStructured Clinical Interview for DSM-IV-TR Axis II Personality Disorders (SCID-II)

Diagnoses of cluster B personality disorder in this study were conducted by using the Structured Clinical Interview for DSM-IV-TR Axis II Personality Disorders (SCID-II).[54] SCID-II is reported to be an efficient, user-friendly instrument that helps researchers and clinicians to make standardized, reliable, and accurate diagnoses of personality disorders.[54]

The tool is compatible with DSM-IV-TR and the interview questions have been re-designed to reflect the participants' inner experiences.[52] This instrument begins with a brief overview that characterizes the participant's typical behavior and relationships and elicits his/her information about capacity for self-reflection, and eventually it considers each of the personality disorders in details.[54]

SCID-11 has also a questionnaire which is a single-use personality questionnaire to be completed by the participant that can be used as a screening tool to shorten the interview.[55] The interview is a single-use booklet that is bound separately but used in conjunction with the questionnaire. It contains the interview questions and provides spaces to record responses. At the conclusion of the interview, the clinician completes the summary score sheet and computes a dimensional score for each personality disorder.[56]

SCID II- has been reported to have favourable psychometric properties such as internal consistency ranges with Cronbach's alpha of 0.60 - 0.80, inter-rater reliability at 0.86, test-retest reliability of 0.70, and rater-clinician reliability at 0.79.[55] Three studies that examined the sensitivity and specificity of the SCID-II screening questionnaire hen used as a screening tool, confirmed a very low rate of false negatives, although the SCID-II-PQ was not designed as a stand-alone instrument. Ekselius and colleagues,[56] were able to determine cut-off scores for the SCID-II-PQ that resulted into personality diagnoses which were similar to those obtained by the SCID-II interview, with an overall Cronbach's alpha of 0.78.[56- 57]

Ball and colleagues, [15] also used the SCID-II-PQ as a stand alone instrument and found the internal consistency of SCID-II-PQ rated personality disorders to be above the Cronbach's

alpha of 0.6 (the lowest acceptable value ranges from 0.35 to 0.80) for all disorders except Schizoid personality. Even though SCID 11 tool is compartible with DSM IV, and has been used in Nairobi, it has not been used in this setting, and because of that, the researcher translated the tool into Swahili and piloted it on the same study population before it was administered for data collection.

3.11 Data Collection Procedures

All clients who were attending methadone clinic during data collection time were consecutively approached and requested to participate in the study voluntarily. Upon agreement for participation, clients were requested to sign informed written consent once eligibility for study participation was confirmed. Appreciation in terms of words of thanks for those who accepted to participate was offered while apology for those who were willing to participate but they were not eligible or were not unable to participate was provided as well.

A face to face interview using the interview schedule *(appendix III)* was administered approximately within 10-15 minutes. Thereafter SCID-II (*appendix* IV) interview was administered for approximately 20-30 minutes to diagnose presence or absence of cluster B personality disorder. To fasten data collection process, two research assistants were involved during data collection period. The researcher was involved in data collection process as well as ensuring quality of the data and ethical consideration by the research assistants.

Based on the maximum of four months (16 weeks) that were estimated for data collection to attain the calculated sample size, an average of 24 to 26 participants were interviewed for each week (Approximately 4 to 6 interviews per day). This procedure continued with each consecutive attending client till when all the identified possible eligible participants were reached. No client was interviewed twice and that Saturdays, Sundays and public holidays were utilized to collect data as it was deemed necessary in order to attain the desired sample size within a four months period.

3.12 Recruitment of Research Assistants

Two research assistants with basic knowledge of mental disorders including personality disorders and psychoactive substances use disorders were recruited for data collection. To serve time, priority was offered to health counselors, assessment nurses and health social workers who were working on methadone clinic and had high experiences of providing health care and dealing with the study population. An addition eligibility criterion for research assistant was fluent speaking and writing Swahili. The research assistants were trained by the researcher for two days on the study objectives and how to collect data by using the two appended data collection tools (appendix III and IV).

3.13 Data Analysis

Captured data in questionnaires were entered, recorded and cleaned in a computer system through software programme known as Statistical Package for the Social Science (SPSS) version 18.[58]Univariate data analysis was applied and the results were tabulated, grouped and statistically analyzed using descriptive statistics method (means and frequencies).

As an outcome measure cluster B personality disorders, were dichotomized as presence or absence of this dependent variables. Pearson Chi Square (X^2) and p-value statistical tests was used to assess the significant associations between an outcome measure (cluster B personality disorders) and non-continuous factors (socio demographic factors, HIV related risk behaviours and misconduct behaviours) that were assessed in the study. The p-value of less than 5% was used to indicate the level of statistical significance ($p < 0.05$). Multivariate data analysis using backward binary logistic regression model was applied to all variables with p-values of less than 0.2 in order to adjust for confounders and hence determine the strengths of associations between cluster B personality disorders and related risks factors of interest.

3.14. ETHICAL CONSIDERATIONS

3.14.1 Ethical Clearance

Ethical clearance for conducting the study was sought from MUHAS Senate Research and Publication Committee (SPRC). Permission to conduct the study was granted by the Executive Director of Muhimbili National Hospital, through the Head of Department of Psychiatry and Mental Health. An informed written consent to participate in the study was sought from the eligible study participants.

3.14.2 Consenting Process

After the participants were provided with information on potential risks and benefits of participating in the study, the consent form also addressed the purpose of the study and their voluntary willingness to participate in the study. It was also made clear that, acceptance or refusal to participate in the study would have no outward consequences and that they were free to withdraw from the study at any time they wished and they were also free not to answer a question if they felt uncomfortable with it.

3.14.3 Confidentiality

Participants were assured of confidentiality and were free to participate or refuse. Information gathered was kept strictly confidential under a safe and locked cabinet that could only be accessed by the researcher. The questionnaires used during data collection did not have any identifiers like names or registration numbers such that there were no links between the participants and the questionnaires.

3.14.4 Risk and Benefit of Participation

The anticipated risks and benefits associated with taking part in the study were clearly communicated. The only anticipated risk was that participants might feel uncomfortable due to the nature of the study questions that could require clients to recall some of the previous and current painful experiences. The advantage to participate was explained as indirectly since the captured data would be used to plan for more treatment approaches which may be beneficial in the future population with similar problems.

CHAPTER FOUR

4.0 RESULTS

4.1 Description of Social Demographic Characteristics of the Study Population

Table 1 below summarizes the descriptions of the study population. A total of 431 clients were in the program during the study period in which 96.06% (n=414) of them were successfully enrolled in the study, interviewed and their data entered into the analysis.

The majority, 91.03% (n=379) of the participants were males whereas females contributed to only 8.70% (n=35). The mean age and standard deviations (SD) of the participants were 33.00 ($\pm$6.35) years with an age range of 18–43 years. Males had mean age and SD of 33.28 ($\pm$6.37) years which was significantly older than that of females 30.03 ($\pm$5.34) years (p-value=0.001). More than a third of participants 34.63% (n=142) were younger than 30 years, 53.90% (n=221) had their age range between 31-40 years, and the remainder 47 (12.27%) were above 41 years of age. Nearly a half, 49.52% (n=205) of the study participants reported to be single (having never lived with an intimate partner), about a fifth, 19.32% (n=80) were cohabiting, 12.80% (n=53) were married, 12.32% (n=51) were separated and 5.56% (n=23) were divorced.

More than a half 55.31%) (n= 229of the participants reported to be unemployed, more than a quarter 27.78%) (n=115) were self-employed doing petty businesses, 14.01% (n=58) were temporarily employed and only 2.90% (n=12) were permanently employed.

Distribution of level of education indicated that nearly two thirds of the participants 64.16% (n=265) had attended primary education, more than a fifth 21.55% (n=89) attended secondary education, 9.93% (n=41) had no formal education and only 4.36% (n=18) had attended tertiary level of education.

Table 1: Distribution of Socio-Demographic Characteristics of the Study Participants

Variable	Male n=379 (91.30%)	Female n=35 (8.70%)	Total N= 414 (100%)
++**Age** (years)*			
<=30	124 (32.80)	19 (52.78)	143 (34.54)
31-40	208 (55.03)	16 (42.86)	224 (54.11)
41+	46 (12.27)	01 (2.86)	47 (11.35)
++**Marital status**			
Single	190 (50.10)	15 (42.91)	205 (49.52)
Married	51 (5.72)	02 (13.52)	53 (12.80)
Cohabiting	67 (17.71)	13 (37.10)	80 (19.32)
Separated	48 (12.70)	03 (8.61)	51(12.32)
Divorced	21 (5.51)	02 (5.70)	23 (5.56)
Widow	00 (0.00)	02 (0.51)	2 (0.48)
Employment status			
Permanent	11 (2.9)	01 (2.9)	12 (2.90)
Temporary	55 (14.5)	03 (8.6)	58 (14.01)
Self	110 (29.0)	05 (14.3	115 (27.78)
Unemployed	203 (53.6)	26 (74.3)	229 (55.31)
++**Level of Education**			
No formal	36 (9.30)	06 (17.10)	41 (9.93)
Primary	242 (64.00)	23 (65.70)	265 (64.16)
Secondary	83 (22.00)	06 (17.10	89 (21.55)
Tertiary	18 (4.80)	00 (00.00)	18 (4.36)

++ *Variables total less than 414 are due to missing data*

**P=0.001*

4.2 Description of HIV Risk Behaviors of the StudyPopulation

Table 2 below describes the HIV risks behaviours as reported by study participants. Of all the participants, 22.46% (n=93) reported to have sex with more than one partners in one day in which women were significantly more likely to report this practice as compared to males. Of these, 83.87% (n=78) had sex with 2 to 3 partners in one day and the remaining 16.13% (n=15) reported to engage with 4-10 partners in one day.

About 18.18 % (n=74) of the study participants reported to have a lifetime history of engaging in commercial sex in which females were significantly more likely to engage in this practice as compared to men. Only 32.85% (n=135) of the participants reported to use condoms all the times when they had sex in the past 30 days, 48.18% (n=198) reported to use condom sometimes, and 16.55% (n=68) did not use condom when they had sex in the past 30 days. About 37.07% (n=153) of the participants reported to have shared syringes while injecting drugs, 12.30% (n=51) reported to have been practicing flush-bloooding and 29.70% (n=123) reported to practice *vijipoint* while injecting drugs.

Table 2: Distribution of HIV Risk Behaviors of the Study Participants by Gender

Variable	Male n=379 (91.3%)	Female n=35 (8.7%)	Total N= 414 (100%)
++**Sexual partners in 30 days**			
0 to 1	315 (83.55)	27 (77.14)	342 (83.01)
2 to 4	55 (14.59)	07 (20)	62 (15.05)
5 to 12	07 (1.86)	01 (2.86)	08 (1.94)
++**more than 1 sexual contact in one day***			
Yes	74 (19.5)	18 (51.4)	93 (22.46)
No	304 (80.2)	17 (48.6)	321 (77.54)
++**No sexual contact in one day**			
2-3	67 (89.33)	11 (61.11)	78 (83.87)
4-10	08 (10.67)	07 (38.89)	15 (16.13)
Trading for sex*			
Yes	56 (15.0)	18 (52.9)	74 (18.18)
No	317 (85.0)	16 (47.1)	333 (81.82)
++**Condom Usage**			
All the time	127 (33.8)	8 (22.9)	135 (32.85)
Sometimes	180 (47.9)	18 (51.4)	198 (48.18)
No time	60 (16.00)	08 (22.9)	68 (16.55)
no sex	09 (2.4)	01 (2.90	10 (2.43)
+**Sharing of Syringes**			
Yes	140 (37.00)	13 (37.1)	153 (37.05)
No	238 (63.00)	22 (62.90	260 (62.95)
+**Flush-blooding**			
Yes	50 (13.21)	01 (2.9)	51 (12.3)
No	329 (86.82)	34 (97.1)	363 (87.07)
Vijipoint			
Yes	113 (29.80)	10 (28.60)	123 (29.71)
No	266 (91.41)	25 (71.40)	291 (70.30)

++*Variables total less than 414 are due to missing data*

*X^2 = …, P<0.05

4.3 Description of Reported Misconducts of the Study Population in the Treatment Setting

Various misbehaviors in the MAT treatment settings were exhibited by clients as reported in table 3 below. About two fifths 40.33 % (n=167) of participants reported to have missed methadone dosing in the past 30 days in which 38.20% (n=158) of them reported to have missed 1-5 days, 1.20 % (n=9) reported to have missed for more than 5 days, and the remainder three fifths 59.60% (n=247) reported to have never missed methadone dosing in the past 30 days.

Of the 414 participants, more than three quota 76.30% (n=316) were still smoking cigarette, 11.20% (n= 49) continued use of alcohol 8.70% (n=36) continued to smoke cannabis, 6.30 % (n=26) reported to continue use of heroin after stabilization phase of methadone dosing, and only 2.20% (n= 9) were still using cocaine. There was a significant differences between male and female in terms of continue use of heroin in which men were significantly more likely to continue using cocaine as compared to female (p=0.04)

The majority 78.74% (n=336) of the participants were able to reinstate back to their previous or new work after being on methadone program while the remaining 20.90% (n=86) were not yet reinstated back to work.

Table 3: Distribution of Misconduct Behaviors of the Study Participants by Gender

Variable	Female n=35 (%)	Male n=379 (7%)	Total N= 414 (100%)
Missed MAT dosing in past 30 days			
never missed	20 (57.10)	227 (59.90)	247 (59.60)
1 to 5 days	14 (40.00)	141 (37.20)	158 (38.20)
more than 5 days	01 (02.90)	11 (2.90)	09 (1.20)
Warning given			
Yes	25 (71.40)	228 (60.20)	253 (71.20)
No	10 (28.60)	151 (39.80)	160 (38.60)
Continued use of heroin			
Yes	02(5.70)	24 (6.30)	26 (6.30)
No	33(94.30)	355 (93.70)	388 (93.70)
Continued use of alcohol			
Yes	05 (14.30)	44 (11.60)	49 (11.20)
No	30 (85.70)	335 (88.40)	365 (88.20)
Continued use of cannabis			
Yes	02 (05.70)	34 (09.00)	36(8.70)
No	33 (94.30)	345 (91.00)	378(91.30)
Continued use of cocaine*			
Yes	00 (0.00)	09 (2.40)	09 (2.20)
No	35 (100)	370 (97.60)	405 (97.80)
Cigarette smoking			
Yes	27 (91.84)	289 (76.20)	316 (76.30)
No	8 (8.54)	90 (23.70)	98 (23.70)
Continued use of Valium			
Yes	03(8.60)	24 (6.30)	27(6.30)
No	32 (91.40)	355 (93.70)	387(93.70)
[++]Reinstated work			
Yes	28 (80.00)	298 (79.00)	326 (79.10)
No	07 (20.00)	79 (21.00)	86 (20.90)

[++]All variables total in female < 36 and in male > 378 are due to missing data

*P<0.05

4.4 Prevalence of Cluster B Personality Disorders among the Study Population

The overall prevalence of cluster B personality disorders among injecting drug users attending methadone clinic at Muhimbili National Hospital with at least one cluster B personality disorder was found to be 77.40% (n=309). Only nearly a fifths 22.60% (n=90) of the participants did not have any diagnosis of cluster B personality disorder. Of those with cluster B personality disorder, 31.30% (n=141) had a single cluster B personality disorder, 21.60% (n=86) had two cluster B personality disorders, 15.00% (n=46) had three cluster B personality disorders and 5.50% (n=22) met the criteria for all four cluster B personality disorders.

Table 4 below shows the frequency of diagnosis of specific cluster B personality disorders among the study participants. The diagnosed sub-types of cluster B personality disorders included antisocial personality disorder among 34.60% (n=143) of the participants, narcissistic personality disorder 30.40% (n=126), borderline personality disorder 30.80% (n=127) and histrionic personality disorder in 16.5% (n=68).

Table 4: Prevalence of Cluster B personality Disorders of the Study Participants

Variables	Prevalence in female n=35 n (8.7%)	Prevalence in male n=379 (91.3%)	Prevalence Total N=414 (100%)
Histrionic personality disorder	03 (4.41)	65 (95.59)	68 (16.5%)
Narcissistic Personality Disorder	11 (8.73)	115 (91.27)	126 (30.4%)
Borderline Personality Disorder	17 (13.39)	110 (86.61)	127 (30.8%)
Antisocial Personality disorder	16 (10.74)	133 (89.26)	143 (34.6%)

NB: Percentages (and numbers) does not add up to 100% (it add up to more than 100%) because there is overlap between groups

4.5 Bivariate Analysis

The following sub-sections summarize the bivariate analysis which was done to determine the empirical relationship between cluster B personality disorders and other dependent variables namely socio demographic characteristics, HIV related risk behaviours and misconduct behaviours in treatment setting. In this section, only results of variables with p value less than 0.02 will be shown in table 5(pg 37) in multivariate analysis section.

4.5.1 Association between Cluster B Personality Disorders and Socio-Demographic Factors

A significant association was found between cluster B personality disorder and sex (p=0.02) There was a highly significant association between employment status and being diagnosed with any of the Cluster B personality disorders (P= 0.001). A significant association was also found between cluster B personality disorder and level of education (P=0.033). These three variables with statistical significance results and all others that had a p value of less than 0.2 were entered into logistic regression model in order to adjust for confounders.

4.5.1 Association between Cluster B Personality Disorders and HIV Injecting and Sexual Risk Behaviors

There was a significant association between cluster B personality disorders and having sexual contact with more than one person in one day (p= 0.039), sharing of syringe during injection (P=0.02), and involvement in vijipoint injection practices (p= 0.04). Similarly, these three variables with statistical significance results all others that had a p value of less than 0.2 were entered into logistic regression model in order to adjust for confounders.

4.5.1 Association between Cluster B Personality Disorders and Misbehaviors in Treatment Setting

There was a significant association between having any of the cluster B personality disorder and be given warning(s) because of misbehaviour (p=0.002), continued use of heroin after stabilization dose (p=0.016), continued use of alcohol after stabilization dose (p=0.044), continued use of cannabis after stabilization dose and failure to reinstating back to work (p=

0.003). Furthermore, these four variables with statistical significance results and all others that had a p value of less than 0.2 were entered into logistic regression model in order to adjust for confounders.

4.6 Multivariate Analysis

Logistic regression analysis was used as an optimal model for determining which factors best predict the likelihood of having any of the cluster B personality disorders among clients attending methadone treatment. On the basis of the bivariate analysis results as describe in section 4.5 above, all the risk factors of interest with p values less than 0.20 were entered together in the first step of the hierarchical multivariate logistic regression model using a backward selection method, and results are summarized in table 5 (pg 37) below.

4.6.1 Association of Cluster B Personality Disorders and Socio Demographics

Ther results of multivariate statistical analysis among the demographic characteristics of the study participants show that, marital status and employment status were the only factors found to significantly predict the chance of being diagnosed with any of the cluster B personality disorder (table 5). Participants with Cluster B personality disorders were two and half more likely to be single than married/cohabiting as compared to those without cluster B personality disorders (AOR 2.618, 95% CI: 1.27.-.5.39; p=0.01) Those with cluster B personality disorders were also four times more likely to be unemployed, and two times more likely to be temporarily employed than to be permanently employed as compared to those without any of the cluster B personality disorder [AOR 4.028(1.17-5.27) p=0.000] and [AOR 2.47 (1.22-2.95) p= 0.036] respectively.

4.6.2 Association of Cluster B Personality Disorders HIV Risk Behaviors

Additionally, various HIV risk behaviors as summarized on table 5 (pg 37) below showed statistically significant associations in predicting the likelihood of being diagnose with any of the cluster B personality disorders. As compared to participants without any of the cluster B personality disorders, those with cluster B personality disorders were two folds more likely to

have sexual contacts with more than one partner in one day [AOR 2.24 (1.040-4.84) p= 0.039] almost twelve folds more likely to share syringes during drug injections [(AOR 11.86 (2.159-16.51) p =0.04], and two and a half more likely to report vijipoint injection practice [AOR 2.66(1.16-6.31) p= 0.002].

4.6.3 Association of Cluster B Personality Disorders and Misconduct Behaviors

Those with Cluster B personality disorder were three times more likely to be warned due to misbehavior in the treatment setting as compared to their counterpart without any of the cluster B personality disorders [AOR 3.11(1.35-7.19) p=0.001)], they were also two times more likely to continue use of cannabis after stabilization dose [AOR 2.36(1.17-3.96) P=0.012], two times more likey to continue use of heroin after stabilization dose [AOR 2.07(2.05-3.23) P= 0.009] and unfortunately they were also three times more likely to fail to restate back to work after treatment [AOR 3.203(1.14-5.73) p=0.023].

Table 5: Hierarchical Multivariate Logistic Regression of Cluster B Personality Disorders on Risk Factors of Interest Adjusting for Sociodemographic factors (N = 414)

Variable	YES n=309(%)	NO n=105 (%)	OR (95%CI)	AOR 95%CI	p (AOR)
Marital status					-
Single	43 (21.6)	156 (78.4)	2.64(1.16-2.97)	2.618(1.27-5.393)	0.01
Married/cohabiting	24 (19.0)	102 (81.0)	1.00	1.00	-
Separated	51 (68.9)	23 (31.1)	1.92(0.987-3.72)	1.683(0.901-3.14)	0.102
[++]**Employment**					
Permanent	08 (66.7)	04 (33.3)	1.00	1.00	-
Temporary	38 (70.4)	16 (29.6)	3.10 (1.01-4.12)	2.47 (1.22-3.95)	0.036
Self	23 (20.7)	88 (79.3)	0.57 (0.29-1.1)	1.81 (0.44-1.48)	0.494
Unemployed	179 (80.6)	43 (31.1)	2.52 (1.16-3.99)	4.02 (1.17-5.27)	0.000
[++]**Level of Education**					
No formal	09 (22.5)	31(77.5)	1.04 (0.43-2.51)	0.72 (0.387-1.356)	0.133
Primary	58 (22.7)	198(77.3)	0.99 (0.45-2.20)	0.76 (0.289-2.012)	0.584
Secondary	22 (21.6)	80(78.4)	1.00	1.00	-
Sexual contact with >1 person in I day					
Yes	75 (85.23)	13 (14.77)	1.527(1.27-2.002)	2.24(1.040-4.84)	0.039
No	234 (75.24)	77 (24.76)	1.00	1.00	
Sharing syringe					
yes	114 (79.17)	30 (20.83)	4.01(3.81-5.02)	11.86(2.159-16.51)	0.04
No	194 (76.38)	60 (23.62)	1.00	1.00	-
Vijipoint					
Yes	95 (82.61)	20 (17.39)	2.87(2.81-5.2)	2.66(1.16-6.31)	0.002
No	214 (75.35)	80 (24.65	1.00	1.00	-
Warnings					
Yes	191 (78.60)	52 (21.40)	2.30(1.13 -2.69)	3.11(1.35-7.19)	0.001
No	118 (75.64)	38 (24.36)	1.00	1.00	0
Continue use drugs					
Heroin					
Yes	19(100.00)	00 (0.00)	2.45(2.08-4.99)	2.07(2.05-3.23)	0.009
No	290 (76.32)	90 (23.68)	1.00	1.00	-
Alcohol					
Yes	41 (89.13)	05 (10.87)	0.38(0.14- 1.00)	1.15(0.35-3.75)	0.813
No	268 (75.92)	85 (24.08)	1.00	1.00	-
Cannabis					
Yes	28 (93.33)	02(6.67)	2.23(1.05-2.97)	2.36(1.17-3.96)	0.012
No	281 (76.15)	88(23.85)	1.00	1.00	-
Cigarette					
Yes	242 (79.61)	62 (20.39)	0.60(0 .36-1.02)	0.58(0.36-34.08)	0.055
No	67 (70.53)	28 (29.47)	1.00		-
Reinstating to work			1.00	1.00	-
Yes	237 (74.76)	80 (25.24)	1.33(1.15-1.71)	3.203(1.14-5.73)	0.023
No	72 (90.00)	08 (10.00)	1.00	1.00	-

[++]*variables total <414 are due to missing data*

CHAPTER FOUR

4.1 DISCUSSION

This study was carried out to establish the prevalence of cluster B personality disorders and related factors among clients attending methadone clinic at Muhimbili National Hospital. Specifically the current study examined the prevalence of cluster B personality disorders, the associations between cluster B personality disorders and HIV related risks behaviors as well as the associations between cluster B personality disorders and other misconduct behaviors in treatment settings among clients attending methadone clinic at MNH. This discussion will take into account the findings of univariate descriptive statistics, and multivariate analysis as found on the research questions and specific objectives of the study.

The findings of this study indicate the prevalence of cluster B personality disorders among clients on methadone treatment using SCID II to be 77.4% (n=398).

This prevalence is nearly similar to a study done in Canada,[5] which found the DSM-IV prevalence of personality disorders among 49 office–based methadone maintenance patients to be 77% (n=38) [5] even though the sample sise was relatively smaller as indicated. Another study done in the USA which was conducted amongst 334 substance abusers in a dependency unit using SCID II found 71.7% (n=239) of the sample had at least one personality disorder. [2]

There was a study conducted among opiate addicted individuals which showed a higher prevalence of (cluster B personality disorder) of up to 86% as compared to 77.4% of this research findings.[31] The discrepancy of the results may be attributed to differences in the tool used as the other study used Minnesota Multiphasic Personality Inventory (MMPI) and this current study used SCID II. Another possible explanation for these two studies is the differences in the population used, as the other study used general substance abusers and opiod abusers whereas this study used only injecting heroin users who were already in methadone treatment program. Furthermore, the observed low prevalence in this study as compared to other studies among opiod users may be attributed to the facts that this current study is limited to only Cluster B personality disorders whereas the other studies focused on all personality

disorders and it is not suprising since the same studies reported cluster B personality disorders to dominate other clusters of personality disorders.

In line with different studies done in other parts of the world, this study found the predominant personality disorder to be antisocial personality disorder, which occurred among 34.6% (n=143) of the participants. It was expected to have a high prevalence of anti-social personality disorder in this study as it is the commonest reported personality disorder in substance abuse population and further it has also been suggested that individuals with a personality disorder are more vulnerable to substance abuse than are non-personality-disordered individuals.[60]

A nearly similar prevalence of 33% was reported in a study done in South Africa among 324 people with substance use disorders at a psychoactive substance abuse rehabilitation centre in Johannesburg.[2] Likewise, antisocial personality disorder (ASPD) in that study was the most prevalent of the various types of personality disorders as was found in this study.[2] Similarly, a study done by brooner,[6] among 100 injecting drug users in and out of methadone treatment showed a prevalence of ASPD to be as high as (36%) though the sample size used was relatively smaller compared to that of this study.[6] Kokkevi and Colleagues,[61] found antisocial personality disorder to be the most prevalent (33.5%) type of personality disorder in a sample of mainly (89.8%) heroin users.

Borderline personality disorder in this current study was found to be the second most prevalent and occured in 30.8 % (n=127) of the participants. Borderline personality disorder involves unstable moods as well as unstable interpersonal relationships, behavior, identity, and sense of self.[8] It has also been suggested that people with personality disorders use substances for purposes related to the personality disorder, such as diminishing or managing the symptoms of their personality disorders, enhancing self-esteem, decreasing feelings of guilt, managing negative effects, and amplifying feelings of diminished individuality.[5] For this reason it makes sense that borderline personality disorder was the second most prevalent personality disorder found in this study population.

Similar prevalence was observed in a study sample of 200 inpatients with psychoactive use disorders which found the prevalence of borderline personality disorder to be 30.7% as published by Marinangeli.[59] Though similar prevalence was obtained in that study, there were differences noted as this study; utilized relatively smaller sample size, conducted amongst outpatients alone and recruited a cohort of recovering injection heroin users on methadone program. Another study done in USA by Nace and other Colleagues,[60] found borderline personality disorders to have similar (30%) prevalence among substance abusers in an inpatient substance abuse program though sample sizes utilized were not similar.[60]

It is suggested that substance abuse can trigger personality disorders,[5,62] as illicit substances can produce toxic effects on the brain and reinforce agressive behavior, a combination that may result in a personality disorder secondary to substance dependence. It is therefore postulated that among the personality characteristics representative of this acquired ‘‘addictive personality’’ are narcissistic, and histrionic personality disorders.[5]

Narcissistic personality disorder in this study showed a prevalence of 30.4% (n=126) which was relately higher than that published by Kokkevi,[61] which found the prevalence of Narcissistic persionality disorder in a smaller sample of 232 substances users to be 11.6% (n=20) of the participants,[62] A similar study on personality disorder subtypes among opiate addicts in methadone maintenance, found a relatively higher prevalence of 36.2% but with narcissistic-antisocial personality disorder in a sample of participants.[63] The observed differences in this prevalence could be attributed to the differences in tools used whereby the other study used the Minnesota multiphasic personality Inventory (MMPI) and in this current study SCID II was used. Differences in population used may also explain this as the current study focused only on injecting heroin dependent population on methadone therapy whereas other study focused on general opioid abusers.

In this current study, the prevalence of histrionic personality disorder was least 16.5% (n=68) found. This was expected because it has been reported in that histrionic was the least frequent among the cluster B personality disorders in similar studies.[2,3,61] Similar low prevalence of 11.0% (n=19) is observed in a study prevalence of personality disorders and their association with DSM IV axis 1 disorders as predictors of treatment retention.[62]

This study did not find any statistical significant association within gender and level of education, findings thatare consistent with the findings of a similar study done by Nace et al,[60] who found no significant differences in gender between the groups with and without personality disorders[60]. In this current study, marital status had a significant association with cluster B personality disorders, whereby participants with any of the cluster B personality disorder were less likely to be married. Similar findings were also reported elsewhere. [2,60]

The group with Cluster B personality disorders was more likely to be unemployed as compared to the group without any of the Cluster B personality disorders.

This finding is similar to a study done in the United Kingdom which found patients with personality disorders were less likely to be married and more likely to be unemployed.[64] Employment problems may be attributed to trouble getting along in the workplace like the exihibition of behavioral patterns that are both inappropriate and painful to the self or to others, the maladaptive patterns that are substantially unaffected by external encouragement to change and the patterns that creates problems for the organization and for coworkers. Similar explanation may address any relationship issues as those with personality disorders may be unable to establish and sustain a stable relationship.

Looking at the results of this study on personality disorders and HIV risk behaviors, the findings suggest that, presence of any cluster B personality disorder among clients on methadone treatment have a significant relationship with higher HIV risk behaviors such as having sexual contact with more than one person in one day, sharing syringes during drug injection, and vijipoint injecting prctices. These findings are similar to the findings of another

study done by cacciola,[65] who found several cluster B personality disorders namely borderline, antisocial, and histrionic to have predicted poorest overall HIV risk behaviors outcomes.[64] Similar study showed that a personality disorder, regardless of the number or type, identified patients with increased risk for HIV infection suggesting a high HIV related risk behaviours among this group.[65]

The positive relationship between cluster B personality disorder and HIV related risk behaviors in this current study indicates higher probabilities of HIV infections. There is also a widly reported significant association between injecting drug users and higher HIV prevalence in earlier studies done in various parts of the world,[6,43,45] and more specifically in Tanzania[40,41,42,] This association is especially outstanding because it was observed among injecting drug users whose practices does not only involves themselves and their drug using partners, but also other people in the general community. Importantly, this association is not due to gender, marital status, level of education or other behaviors previously linked to high HIV prevalence rate. It thereforefore suggests that one of the reasons participants with personality disorders engaged in HIV related risk behaviours is for the reasons related to their personality problems.

The findings of this study also shows that those with cluster b personality disorder were more likely to involve themselves in disruptive misconduct behaviors in the treatment setting leading them into be warned. They were also less likely to be able to reinstate back to work after initiating treatment and more likely to continue using heroin and cannabis after stabilization dose. Similar findings were reported elsewhere that those with any personality disorder were more likely to have employment problems.**Error! Bookmark not defined.** These individuals have been reported to have difficulty working cooperatively and collaboratively with service providers in other studies,[5] and this may be one of the reason that lead them into being warned for misbehaving more often as compared to those without cluster B personality disorder.

It also suggested that when a personality disorder contributes to drug use, the pattern becomes more and rigid and that the presence of personality disorders substantially increases the individual's risk of failure to achieve abstinence and to high relapse rate.[5] This may have contributed to continue use of substance even after accessing treatment and attaining stabilization phase of the therapy. Furthermore, since it is reported that these individuals use substance for reasons related to their personality disorders,[5] it is clear that these individuals will continue using substance even when they do not have physical withdrawal symptoms (after stabilisation dose) because of personality related and not addiction related reasons as is commonly misunderstood.

4.2 STUDY LIMITATIONS

Formulating diagnoses for personality disorder in this study population of substance users was highly complex and difficult as participants could have not been able to distinguish their personality disorder and the physiological and/or psychological effects of different types of substances they were using. This limitation was also documented by Nicola who reported that identifying and distinguishing the effects of the chemical substances from the symptoms of the personality disorder is a major problem as substance use frequently exacerbates other symptoms of personality disorders and both over-diagnosis and/or under-diagnosis of personality disorders in substance users is common.[3]

Data collected relayed on self-reported information from the study participants which lead to another limitation. The quality and accuracy of this type of data especially responses to misbehaviors, and other HIV related risk behaviours could be limited by recall bias and/or selective responses to questions. Without external validation it would be difficult to assess the reliability of self-reported information. However, to minimize these limitations, research assistants were one health counselor with a nursing background and assessment nurse who had been working on methadone clinic and who knew the clients, and hence clients were also comfortable sharing their information with the interviewers.

The findings of this study may not be generalised as the selected study population was primarily injection heroin users who were already received intensive treatment and care for their dependence, and who could have different personalities and/or risks behaviours from other drug using population. Generalizability to draw a community based conclusion in this setting may also be limited to a relatively small sample size selected in only one setting.

CHAPTER FIVE

5.1 CONCLUSIONS

The overall prevalence of cluster B personality disorder in this study population was found to be very high, with high commorbidity. Anti-social personality disorder was the most prevalent of all cluster B personality disorders, followed by borderline personality disorder, and narcissistic personality disorder, while histrionic sub-type was the least prevalent.

Participants diagnosed with cluster B personality disorders were more likely found to be single and unemployed. They were also more likely to have increased HIV risks behaviours such as having sexual contacts with more than one partner in one day, more likely to share syringes and practice vijipoint during drug injections.

Furthermore, participants with cluster B personality disorders were more likely to exhibit misconduct behavious in the treatment setting such as being warned due to misbehaviours, were also more likely to continue use of cannabis and heroin after stabilization dose of methadone and they were also more likely to fail to restate back to work after treatment stabilization phase.

5.2 RECOMMENDATIONS

The findings of this study indicate a need for careful DSM IV TR – Axis 11 (personality disorders) evaluation of all the clients attending methadone programs in Tanzania, including collateral data, as an ongoing process so as to early identify maladaptive personality traits and disorders for the purposes of additional specific interventions targeting personality disorders.

To facilitate this aim, there is a need for Muhimbili National Hospital to employ Clinical psychologists in all methadone clinics. There is also a need to conduct a study that will validate the personality disorder screening tool that can be used for Tanzanian population.

This study recommends that other studies to establish the causal relationship between environment, psychological and biological factors related to the personality disorders and substance use disorders cmobidity.

Further studies on the prevalence of all personality disorders among drug users and in the general population should also be carried out in order to prevent this population from injecting drug use and its associated complications.

REFERENCES

1. Bowden-Jones, Owen, Muhammad Z. Iqbal, Peter Tyrer, Nicholas Seivewright, Sylvia Cooper, Ali Judd, and Tim Weaver. "Prevalence of personality disorder in alcohol and drug services and associated comorbidity." Addiction 99, no. 10 (2004): 1306-1314.

2. Verheul, R. "Co-morbidity of personality disorders in individuals with substance use disorders." European psychiatry: the journal of the Association of European Psychiatrists 16, no. 5 (2001): 274.

3. Nicola R. Prevalence of personality disorders in persons with substance dependence and the related implications of this co-morbidity for diagnosis and treatment. South Africa, 2006:16, 264-272

4. Compton III, Wilson M., Linda B. Cottler, Jacqueline L. Jacobs, Arbi Ben-Abdallah, and Edward L. Spitznagel. "The role of psychiatric disorders in predicting drug dependence treatment outcomes." American Journal of Psychiatry 160, no. 5 (2003): 890-895.

5. Teplin, David, Tara O'Connell, Jeff Daiter, and Michael Varenbut. "A psychometric study of the prevalence of DSM-IV personality disorders among office-based methadone maintenance patients." The American journal of drug and alcohol abuse 30, no. 3 (2004): 515-524.

6. Brooner, Robert K., Lawrence Greenfield, Chester W. Schmidt, and George E. Bigelow. "Antisocial personality disorder and HIV infection among intravenous drug abusers." The American journal of psychiatry (1993).

7. AltermanA.I, Cacciola J.S. The Antisocial Personality Disorder Diagnosis in Substance Abusers: Problems and issues, Journal of Nervous and Mental Disease, Arndt, IO, McLellan, AT, Dorozynsky, L., Woody.1991:179, 401-409.

8. World Health Organisation (WHO). Department of Mental Health and Substance Abuse: Global Atlas. [http://apps.who.int/globalatlas/Data Query/ default.asp] 2003:53-73

9. Brown, Randy. "Heroin dependence." WMJ-MADISON- 103, no. 4 (2004): 20-26.

10. Sonne, Susan C., and Kathleen T. Brady. "Diagnosis of Personality Disorders in Cocaine-Dependent Individuals." The American Journal on Addictions 7, no.1 (1998): 1-6.

11. Centre for Substance Abuse Treatment (CSAT); Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction: Treatment Improvement protocol Substance Abuse and Mental Health Services (TIP) Series Number 40 (SMA) 2004:04-3939.

12. Cohen, Lisa J., Enid Gertmenian-King, Lauren Kunik, Carrie Weaver, Edythe D. London, and Igor Galynker. "Personality measures in former heroin users receiving methadone or in protracted abstinence from opiates." Acta Psychiatrica Scandinavica 112, no. 2 (2005): 149-158.

13. Barnes M, Davis A. and Tew J, Gell C, Glynn, T, Lewis, L, Pryce J. Saddal S.'There ought to be a Better way…' Users' Experiences of Compulsion Under the 1983 Mental Health Act (Birmingham: University of Birmingham, Department of Social Policy and Social Work) 2000:2;12-21

14. Rounsaville B.J, Anton S.F, Carroll K, Budde D, Prusoff B.A, Gawin F. Psychiatric Diagnoses of Treatment-Seeking Cocaine Abusers. Archives of General Psychiatry, 1991: 48, 43-51.

15. Ball S.A, Rounsaville B.J, Tennen C.H, Kranzler H.R, Reliability of Personality Disorder Symptoms and Personality Traits in Substance-DependentI Inpatients. Journal of Abnorm Psychology; 2001:110 (2):341-52.

16. American Psychiatric Association (APA) Diagnostic and Statistical Manual of Mental Disorders Text Revision -Fourth Ed.(DSM IV TR).Washington, DC. 2000:301.0

17. Cohen, Patricia, Jocelyn Brown, and Elizabeth Smailes. "Child abuse and neglect and the development of mental disorders in the general population."Development and Psychopathology 13, no. 4 (2001): 981-1000.

18. Samuels, Jack, William W. Eaton, O. Joseph Bienvenu, Clayton H. Brown, PAUL T. COSTA, and Gerald Nestadt. "Prevalence and correlates of personality disorders in a community sample." The British journal of psychiatry 180, no. 6 (2002): 536-542.

19. Lenzenweger, Mark F. "Epidemiology of personality disorders." Psychiatric Clinics of North America 31, no. 3 (2008): 395-403.

20. Lindal, E., and J. G. Stefansson. "The prevalence of personality disorders in the greater-Reykjavik area]." Læknablaðið 95, no. 3 (2009): 179.

21. Thuo, Joseph, David M. Ndetei, Hitesh Maru, and Mary Kuria. "The prevalence of personality disorders in a Kenyan inpatient sample." Journal of personality disorders 22, no. 2 (2008): 217-220.

22. World Health Organization.Substance Abuse Dept. Global status report: alcohol policy. World Health Organization, 2003.

23. World Health Organization.Substance Abuse Dept. Global status report: alcohol policy. World Health Organization, 2004.

24. National Academies Press(NAP). Preventing HIV Infection Among Injecting Drug Users in High-Risk Countries an Assessment ofthe Evidence. Washington, D.C. 2007: National Academies Press.

25. Crane E. The Dawn Report Office of Applied Studies. SAMHSA. 2003:12-32 Retrieved
May 5, 2012 from http://oas.samhsa.gov

26. Leshabari, Melkizedeck T., Sylvia F. Kaaya, J. Z. J. Killewo, and Jessie K. Mbwambo. "Youth Mobility and Unprotected Sex as Key Factors in the Spread of the AIDS Virus in Tanzania. In Social Change and Health in Tanzania (Eds.: Heggenhongen, K.; Lugalla, J.) Dar es Salaam University Press, Dar es Salaam 2005." (2005).

27. Ross, Michael W., Sheryl A. McCurdy, G. P. Kilonzo, Mark L. Williams, and M. T. Leshabari. "Drug use careers and blood-borne pathogen risk behavior in male and female Tanzanian heroin injectors." Am J Trop Med Hyg 79, no. 3 (2008): 338-43.

28. Teplin, David, Tara O'Connell, Jeff Daiter, and Michael Varenbut. "A psychometric study of the prevalence of DSM-IV personality disorders among office-based methadone maintenance patients." The American journal of drug and alcohol abuse 30, no. 3 (2004): 515-524.

29. Van Horn, Deborah HA, and Arlene F. Frank. "Substance-use situations and abstinence predictions in substance abusers with and without personality disorders." The American journal of drug and alcohol abuse 24, no. 3 (1998): 395-404.

30. Skodol A. E, Oldham, J. M, Gallaher P. E. Axis II Co-Morbidity of Substance Use Disorders among Patients Referred for Treatment of Personality Disorders. American Journal of Psychiatry, 1999:156(5), 733-737

31. Marsh DT, Stile SA, Stoughton NL, Trout-Landen BL. Psychopathology of opiate addiction: comparative data from the MMPI and MCMI. Am J Drug Alcohol Abuse 1988; 14(1):17–27.

32. Taylor, Jeanette. "Substance use disorders and cluster B personality disorders: Physiological, cognitive, and environmental correlates in a college sample." The American journal of drug and alcohol abuse 31, no. 3 (2005): 515-535.

33. Murray, Heather, R. K. McHugh, Evelyn Behar, Elizabeth Pratt, and Michael Otto. "Personality factors associated with methadone maintenance dose." The American journal of drug and alcohol abuse 34, no. 5 (2008): 634-641.

34. Shahrbabaki, Mahin Eslami, Hassan Ziaaddini, Ali Akbar Hagh Doost, Mahdi Ghasemi, Parvin Eslami Shahrbabaki, Roghayeh Alizadeh Nouri, and Nasrin Eslami Shahrbabaki. "Methadone Treatment in Iranian Opiate Addicts: A Preliminary Report." Addiction and Health 3, no. 1-2 (2011).

35. Trull, Timothy J., Kenneth J. Sher, Christa Minks-Brown, Jennifer Durbin, and Rachel Burr. "Borderline personality disorder and substance use disorders: a review and integration." Clinical psychology review 20, no. 2 (2000): 235-253.

36. Selwyn, Peter A. "The impact of HIV infection on medical services in drug abuse treatment programs." Journal of Substance Abuse Treatment 13, no. 5 (1996): 397.

37. Mathers B.M. Global Epidemiology Of Injecting Drug Use And HIV Among People Who Inject Drugs: A Systematic Review. Lancet, 2008: 372:1733–1745.)

38. Lippincott W. 2007 Sexually Transmitted Disease and HIV Prevalence and Risk Factors in Concentrated and Generalized HIV Epidemic Settings. 2007**:** Volume 21 - Issue - p S81-S90 doi:

39. UNAIDS AIDS Epidemic Update Geneva, Switzerland; 2009:12-17

40. Williams M, McCurdy S, Atkinson J, Kilonzo G, Leshabari M, Ross M, (HIV Sero-prevalence in a Sample of Tanzanian Intravenous Drug Users;AIDS Education Prevention; Guilford Publications Inc. The Guilford Press, 2009: 2-4

41. Williams M, McCurdy S, Atkinson J, Kilonzo G, Leshabari M, Ross M, (2007). Differences in HIV risk Behaviors by gender in a Sample of Tanzanian Injection Drug Users. AIDS and Behavior;11:137–144.[PubMed: 17004117]

42. Dahoma M, Salim A, Abdool R, Othman A, Makame H, Ali A, (2006). HIV and Substance Abuse: The Dual Epidemics Challenging Zanzibar. African Journal of Drug &Alcohol Studies 5:130 –139.

43. Chen, Kevin W. An Examination of Psychiatric Comorbidities as a Function of Gender and Substance Type Within an Inpatient Substance Use Ttreatment Program".Drug andAlcohol Dependence journal. 2011:.

44. Jaime L.K , Nancy M.P. HIV Risk Behaviors in Male Substance Abusers with and without Antisocial Personality Disorder. Journal of Substance Abuse Treatment, Vol 19(1), Jul 2000, 59-66. doi: 10.1016/S0740-5472(99)00100-

45. King V. L, Kidorf M. S, Stoller K. B, Brooner, R. K. Influence of Psychiatric Comorbidity on HIV Risk Behaviors: Changes During Drug Abuse Treatment. Journal of Addictive Diseases,2000: 19, 65-83.

46. Joseph H, Stancliff S, Langrod J. Methadone Maintenance Treatment (MMT): A Review of Historical and Clinical Issues". The Mount Sinai journal of medicine, New York, 2000: "67 (5–6): 347–64. PMID 11064485.

47. Drake, Robert E., Kim T. Mueser, Robin E. Clark, and Michael A. Wallach. "The course, treatment, and outcome of substance disorder in persons with severe mental illness." American Journal of Orthopsychiatry 66, no. 1 (1996): 42-51.

48. McLellan, A. Thomas, Lester Luborsky, George E. Woody, Charles P. O'Brien, and Keith A. Druley. "Predicting response to alcohol and drug abuse treatments: role of psychiatric severity." Archives of General Psychiatry 40, no. 6 (1983): 620.

49. Liisa K. et al. Co-Occurrence of Personality Disorders with Mood, Anxiety, and Substance Use Disorders in a Young Adult Population: Journal of Personality Disorders. 2006:2-5.

50. Mueser, Kim T. Integrated treatment for dual disorders: A guide to effective practice. The Guilford Press, 2003.

51. Drake, Robert E., Susan M. Essock, Andrew Shaner, Kate B. Carey, Kenneth Minkoff, Lenore Kola, David Lynde, Fred C. Osher, Robin E. Clark, and Lawrence Rickards. "Implementing dual diagnosis services for clients with severe mental illness." Psychiatric Services 52, no. 4 (2001): 469-476.

52. McNeil, Donald G., Jr, Desperate Addicts Inject Others' Blood", The New York Times, July 12, 2010. Accessed May 12, 2012 on http://www.nytimes.com/2010/07/13/health/13blood.html?_r=1

53. Alastair Tomlinson. Using Epi Data & Epi- Info for Windows: (Strategic Planning and Environment. Public Protection Division, Cathays Park Cardiff. CF10 3ND, Retrived 15th may, 2012 at Tomlinson@cardiff.gov.ukhttp://www.wales.nhs.uk/sites3/Documents/568/Using%20EpiData%20%26%20Epi%20Info%20for%20Windows.pdf. 2007:13-26

54. Michael B. F, iriam G, Robert L, Spitzer, Janet B. W, Lorna B. SCID-IIMembers of the BiometricsResearch Department of the New York State Psychiatric Institute, New York, New York; 1997:1-2.

55. Wong H.M, Chow L.Y, (2011).The Structured Clinical Interview for DSM-IV Axis II Personality Disorders Vol 21, No.2 East Asian Arch Psychiatry journal, Department of Psychiatry, Shatin Hospital, New Territories, Hong Kong SAR, China.

56. Ekselius L, Lindstrom E, von Knorring L, Bodlund O, Kullgren G,.SCID II Interviews and the SCID Screen Questionnaire as Diagnostic Tools for Personality Disorders in DSM-III-R. Acta Psychiatr Scand 1994: 90(2):120-3

57. Nussbaum, David, and Richard Rogers. "Screening psychiatric patients for Axis II disorders." Canadian journal of psychiatry. Revue canadienne de psychiatrie37, no. 9 (1992): 658.

58. Levesque, Raynald. SPSS programming and data management: A guide for SPSS and SAS users. Spss, 2005.

59. Marinangeli, Maria Grazia, Giancarlo Butti, AntonellaScinto, Loredana Di Cicco, Artemis Kalyvoka, ConcettaPetruzzi, and Alessandro Rossi. "A personality disorders prevalence study among inpatients with mood disorders, psychoactive substance use disorders and anxiety disorders." Epidemiologia e psichiatriasociale 9, no. 01 (2000): 36-44

60. Nace, Edgar P., James J. Saxon, and Neal Shore. "Borderline personality disorder and alcoholism treatment: a one-year follow-up study." Journal of Studies on Alcohol and Drugs 47, no. 03 (1986): 196.

61. Kokkevi, A., N. Stefanis, E. Anastasopoulou, and C. Kostogianni. "Personality disorders in drug abusers: prevalence and their association with AXIS I disorders as predictors of treatment retention." Addictive Behaviors 23, no. 6 (1998): 841-853

62. Calsyn, Donald A., Charles Fleming, Elizabeth A. Wells, and Andrew J. Saxon. "Personality disorder subtypes among opiate addicts in methadone maintenance." Psychology of addictive behaviors 10, no. 1 (1996): 3.

63. Powell, Guy. "Nature and prevalence of personality disorders amongst patients receiving treatment for alcohol dependence." Journal of Mental Health 5, no. 3 (1996): 305-314.

64. Cacciola, John S., Megan J. Rutherford, Arthur I. Alterman, James R. McKay, and Edward C. Snider."Personality disorders and treatment outcome in methadone maintenance patients." The Journal of nervous and mental disease184, no. 4 (1996): 234-239.

65. Rutherford, Megan J., John S. Cacciola, and Arthur I. Alterman."Relationships of personality disorders with problem severity in methadone patients." Drug and Alcohol Dependence 35, no. 1 (1994): 69-76.

APPENDICES

Appendix I: Informed Consent (English Version)

My name is Tasiana Njau. I am a University trainee pursuing Master's degree in Clinical Psychology at Muhimbili University of Health and Allied Sciences. I invite you to be a participant in my study on personality disorders and the associated factors among clients who are attending Methadone Clinic at Muhimbili National Hospital. The goal of this study is to find out whether there are clients who are having personality disorders and to find outwhether there are other associated risk factors that can be identified among clients on methadone program..

Participation in this study is voluntary and free of charge and that you will not be paid anything for your participation. If you accept to participate, I will request youto answer some questions from the first questionnaire about basic information regarding your personal particulars, and previous experiences, and secondly; I would like you to answer some questions from the second questionnaire that measuresvariouspersonality disorders. The first questionnaire may take 10 -15 minutes and the second about 20 -30 minutes hence these two questionnaires may take a total of 30-45 minutes of your time to complete.

The questionnaires will not bear any identifying information such as your name and hospital/MAT registration numbers which will link you and the information recorded in order to ensure confidentiality of your participation. The information that you provide will only be used for research purposes and that no one will be able to access this information except researchers.

There is no direct benefit or risk in participating in this study. However I am anticipating that the information gathered from this study will eventually be useful and contribute to informing health care providers to integrate treatment plans for this disorder in the future population with similar problems should it be identified to be a problem of public health importance. The only

anticipated risk of participation is that you may feel uncomfortable due to the nature of the study questions that may require you to recall some of the previous and current painful experiences

If you accept or refusal to participate in this study, there will not be any outward consequences and that you will be free to withdraw from the study at any time you wish and you are also free not to answer a question if you feel uncomfortable or embarrassed by it and you free to ask any question to researcher if you wish.

Declaration

I have read and understood the information provided above. I understand that my participation in this study is voluntary, free of charges and with no direct payments for participation. Please put a tick (√) if you agree or do not agree and the date

I agree [ ] Date ……

I do not agree [ ] Signature

……

If you agree to participate, I will provide you with contacts for the study team should you at any time have queries, need clarification or wish to make a complaint about the study. The following are the persons to contact:

1. Tasiana Njau -: Mobile number: +255712 748758 Email: tasiana2009@live.com
2. Dr. Fank Masao (Supervisor): Mobile number:+255 754 288 673 Email:drfmasao@yahoo.com
3. Dr. Khalifa Mrumbi: (Co- Supervisor)Mobile number: +255 767 339 772
   E mail: kmrumbi@gmail.com
4. Chairperson,Senate Research and Publication Committee (SPRC),Muhimbili University of Health and Allied SciencesP.O Box 65001 DAR. TEL NO (022)2151596

Appendix II: Structured Interview Schedule English Version English Version

Introduction

Thank you for accepting to participate in this research study which seeks to understand personality disorders and related factors among injecting drug users attending Methadone clinic at MNH. The following questionnaire is designed to collect some basic background information about you.

General Information

1**.** Dateof interview: {...../...../2012} 2. Study serial No: .....

S/N	QUESTION	OPTIONS	RESPONCE	CODE
1.	Gender	1. Male 2..Female		
2.	Age	……(In complete years)		
3.	Maritual status	1. Singe 2. Married 3. Cohabiting 4. Divorsed 5. Separated 6. Widowed		
4.	Employment status	1. Permanent employed 2. Temporarily employed 3. Self-employed 4. Unemployed 5. Retired		
5.	Highest level of education	1. Primary school 2. Secondary school 3. College 4. University		
6.	For how long have you been on methadone treatment? (months)	……		

7.	What was your initial Methadone dose { ……}mg.	…….		
8.	What is your current (stabilization) methadone dose { …}mg.	…….		
9.	Do you feel a need to	1. Increase the dose 2. Decrease the dose 3. No need to increase or decrease		
10.	How ofter n do you engage in comercial sex work (trading for sex).	1. Very often 2. Rarely 3. Never		
11.	How many sexual contacts have you made for the past 30 days	…….		
12.	Have you ever had multiple sexual contacts in one day? How many?	……		
13.	How often do you use condom?	1. Always 2. Sometimes 3. Never		
14.	How often have you Share syringe for injecting drug;	4. Very often 5. Rarely 6. .Never		
15.	How often have you Practice Flushblooding;	1. Very often 2. Rarely 3. Never		
16.	How often have you Practice Vijipoint	1. very often 2. Rarely 3. Never		
17.	HIV test results	1. Positive 2. Negative		
18.	Hepatitis B test results	1. Positive 2. Negative		
19.	How many times have you missed methadone dose?	1. Never 2. 1-10 times 3. More than 10 times		

20	In a period of one month, how many times you were arrested	1. Never 2. 1-5 times 3. 5-10 times 4. More than 10 times		
21	In a period of one month, what psychoactive drug have you used?	1. Heroin 2. Alcohol 3. Cannabis 4. Cocaine		
22	Were you able to restating back to work after getting methadone treatment?	1. Yes 2. No		

Appendix 111: Informed Consent Form Kiswahili Version

Fomu ya Taarifa na idhini ya ushiriki

Naitwa Tasiana Njau, msaikologia mwanafunzi wa Chuo Kikuu cha Afya na Sayansi na Tiba Muhimbili, idara ya Magonjwa ya akili na Afya ya akili. Ninafanya tafiti kuhusu magonjwa ya Hulka na vitu vinavyohusiana na tatizo hilo kwa wajudunga ili kuona kama kuna uhusiano kati ya magonjwa ya hulka, tabia hatarishi za ukimwi na madhara katika tiba ya methadone.
Ni matumaini yangu kua, matokeo ya utafiti huu yatasaidia watoa huduma kujumuisha matibabu ya tatizo hili ili kutoa huduma bora kwa wajidunga.

Kushiriki kwenye tafiti hii ni hiari, kama utakubali kushiriki, nitakuomba ufanye mambo mawili. Kwanza ujibu maswali yatakayotusaidia kujaza fomu ya taarifa zako muhimu, na pili ujibu maswali yatakayotusaidia kujaza dodoso linalopima matatizo mbalimbali ya hulka.
Maswali ya dodoso la kwanza yatachukua dakika 10-15 ana yale kwenye dodoso la pili yatachukua dakiaka 20-30. Kwa ujumla, Maswali haya yatachukua muda wa dakika 30hadi 45 kumalizika.
Katika fomu na dodoso hakutakua na taarifa yoyote itakayoweza kufanya mtu akutambue kama vile jina, au namba yako ya MAT. Taarifa tunazozichukua, zitatumika kwa utafiti tu.

Hakuna faida ya mojakwa moja utakayoipata kwa kushiriki katika utafiti huu. Hata hivyo, natagemea matokeo ya utafiti huu yatasaidia kuwajulisha watoa huduma wa afya kujumuisha matibabu ya matatizo haya kwa watu wenye tatizo kama hili kama litaonekana kua ni tatizo lililo tishio kwa afya ya jamii.

Tatizo pekee la utafiti huu ni kua unaweza kukufanya ujisikie vibaya kidogo kutokana na maswali yake yatakayokutaka ukumbukie mambo mabaya yaliyopita.
Kama utakubali au Kukataa kuhusika katika utafiti huu, hakuna madhara yoyote na utaruhusiwa kujitoa kaktika utafiti huu wakati wowote unapotaka na pia unaweza kutojibu swali ambalo hujisikii kujibu. Pia upo huru kuuliza swali kwa mtafiti muda wowote ukitaka.

Azimio:

Nimesoma na kuelewa maelezo yaliyotolewa hapo juu. Naelewa kua kuhusika kwenye utafiti huu ni hiari na hakuna malipo yoyote.

Tafadhali weka alama ya vema (√) Kama unakubali au unakataa pamoja na tarehe

Nakubali [ ] tarehe……

Nakataa [ ] Sahihi ……

Kama una swali lolote kuhusiana na wewe kuhusika katika utafiti huu, tafadhali uwe huru kuuliza au kuwasiliana nami namba ya simu: +255 712 748 758 barua pepe: tasiana2009@live.com au unaweza kuwasiliana na msimamizi wa utafiti huu Dr Frank Masao kwa namba ya simu: +255 754 288 673 Barua pepe: drfmasao@yahoo.com au Dr. Mrumbi K. kwa namba ya simu +255 767 339 7724 au Mwenyekiti wa seneti ya utafiti (Senate Research and Publication Committee) wa chuo kikuu cha afya Muhimbili, S.L.P 6500,na namba ya simu (022)2151596.

Appendix 1V: Structured Interview Schedule Kiswahili Version

Tarehe ya usahili: ……. Namba ya usahili : .....

S/N	QUESTION	OPTIONS	RESPONCE	CODE
1	Jinsia	1. Mke 2. Mme		
2.	Je, Unajitambua wewe kama nani?	1. Mwanamke 2. mwanaume		
3.	Je, una umri gani? (Miaka)	……		
4.	Hali ya ndoa:	1. Hujaoa / hujaolewa 2. Umeoa / umeolewa 3. Nimeweka/nimewekwa kinyumba 4. Tengana 5. Acha/ Achika 6. Mjane /mgane		
5.	Hali ya ajira:	1. Ajira ya kudumu 2. Ajira ya muda (kibaruNimeji ajiri Mwenyewe 3. Sijaajiriwa 4. Nimestaafu		
6.	Elimu yako ya juu kabisa ni	1. 1.Sijasoma 2. 2.Shule ya msingi 3. 3.Elimu ya sekondari 4. Chuo / chuo kikuu		
7	Umekua katika matibabu ya methadone kwa muda gani? Miezi	……		
8.	Dozi yako ya kwanza ya methadone ilikua kiasi gani? { ……} mg	…….		
9.	Dozi yako ya sasa ya Methadone ni kiasi gani { …….. } Mg	……		

10.	Je, unadhani unahitaji	1. Kuongezewa dozi 2. kupunguziwa dozi 3. Sihitaji kuongezewa au kupunguziwa		
11.	Umefanya jimai (ngono) na wenzi wangapi kwa kipindi cha siku 30	……..		
12.	Je, katika Maisha yako, umewahi kufanya jimai (ngono) na zaidi ya mtu mmoja kwa siku moja?	1. Ndio 2. Hapana		
13	Kama ndio, mara nyingi ilikua watu wangapi kwa siku?	……..		
14.	Je, katika maisha yako, Umewahi kujihusisha na biashara ya ngono?/ kufanya ngono kwa lengo la kupata hela/ madawa	1. Ndio 2. Haana		
15	Je unafanya ngono ya aina Gani?	1. Ukeni 2. Jinsia moja 3. Jinsia zote		
16.	Ni kwa kiasi gani umetumia condom unapofanya jimai (ngono)?	1. Wakati wote 2. Wakati mwingine 3. Hakuna wakati 4. Sijafanya jimai/ngono		
17.	Je, katika maisha yako umewahi kuchangia bomba (kujidunga kwa kutumia bomba alilotumia mwenzio)	1. Ndio 2. Hapana		
18.	Je, katika maisha yako umewahi kufanya Flushblooding; (kujidunga damu ya mwenzio aliyekwisha tumia madawa)	1. Ndio 2. Hapana		

19.	Je, katika maisha yako umewahi kufanya Vijipoint (kuchanga unga (au hela ya kununua unga) na kuukoroga kwenye bomba moja kisha kila mmoja atajidunga kwa kiasi alichochangia)	1. Ndio 2. Hapana		
20.	Majibu ya HIV	1. sijui 2. Positive 3. Negative		
21.	Majibu ya homa ya Ini (hepatitis)	1. sijui 2. Positive 3. Negative		
22.	Ni Mara ngapi katika siku thelathini umekosa kunywa dawa ya methadone?	……..		
23.	Je, tangu umejiunga na MAT umewahi kupewa onyo kwa kuvunja sheria ya/za MAT?	Ndio Hapana		
24.	Kama ndio, Ulifanya nini (ulivunja sheria ipi ya MAT)	1. Nilikosa kunywa dawa 2. Nilikutwa na madawa kwenye mkojo (chakachu) 3. Nillikamatwa/kufungwa na polisi 4. Niligombana na Mwana MAT 5. Matusi, uzururaji au wizi		
25	Ni onyo la aina gani ulipewa?	1. Kwa maneno 2. Kwa maandishi 3. Kumuita volontia, ndugu/mwanafamilia 4. Kurudishwa Asasi		

26.	Kwa kipindi cha siku 30 umetumia mihadarati ipi;	1. Heroin 2. Pombe 3. Bangi 4. Cocaine 5. Sigara 6. Valium		
27.	Je umeweza kurudi kazini, chuo, au kufanya shughuli zako (hata za nyumbani) baada ya matibabu ya methadone	1. Ndio 2. Hapana		

Apendix V: Structured Clinical Interview for Dsm-IV Axis-II Personality Disorders (SCID-II) (English Version)

SCID-II Summary Score-sheet

Personality Disorder Number of Items Coded "3"

(Boxed numbers indicate threshold required for a diagnosis.)

09	Histrionic	1 2 3 4 [5] 6 7 8
10	Narcissistic	1 2 3 4 [5] 6 7 8 9
11	Borderline	1 2 3 [4] 5 6 7 8 9
12	Antisocial	1 2 [3] 4 5 6 7

PRINCIPAL AXIS II DIAGNOSIS (i.e., the Personality Disorder that is – or should be – the main focus of clinical attention). **Enter code number from left of diagnosis above: ___**

Note: Enter 99 if no Axis II disorder.

Overview for Personality Disorders

Now I am going to ask you some questions about the kind of person you are – that is, how you generally have felt or behaved.Now I want to ask you some more specific questions.

? = inadequate information 1 = absent or false

2 = subthreshold 3 = threshold or true

HISTRIONIC PERSONALITY DISORDER				
S/N	QUESTION	OPTION	RESPONCE	CODE
1.	You've said that [Do] you like to be the center of attention. How do you feel when you're not?	? 1 2 3		
2.	You've said that [Do] you flirt a lot. Has anyone complained about this? (ALSO CONSIDER BEHAVIOUR DURING INTERVIEW)	? 1 2 3		

3.	You've said that you [Do you] often find yourself "coming on" to people Tell me about it. (ALSO CONSIDER BEHAVIOUR DURING INTERVIEW) OBSERVED DURING INTERVIEW: Displays rapidly shifting and shallow expression of emotion	? 1 2 3		
4.	You've said that you [Do you] try to draw attention to Yourself by the way you dress or look. How do you do that? Do you do that all the time? OBSERVED DURING INTERVIEW Has a style that is exceptionally impressionistic and lacking in details.	? 1 2 3		
5.	You've said that you [Do you] often make a point of being dramatic and colourful. Tell me about that. (ALSO CONSIDER BEHAVIOUR DURING INTERVIEW)	? 1 2 3		
6.	Do you like to show your emotions – for example, hugging people even if you don't know them very well or crying very easily?)	? 1 2 3		
7.	You've said that you [Do you] often change your mind about things depending on the people you're with or what you have just read or seen on TV. Tell me more about that.	? 1 2 3		
8.	You've said that you [Do you] have lots of friends that you are very close to. How many? Who are they?	? 1 2 3		
AT LEAST FIVE ITEMS ARE CODED "3" HISTRIONIC PERSONLAITY DISORDER				

NARCISSISTIC PERSONALITY DISORDER				
S/N	QUESTION	OPTIONS	ANSWER	CODE
1.	You've said that [Do] people often fail to appreciate your very special talents or accomplishments. Give me an example	? 1 2 3		
2.	You've said that people have [Have people] told you that you have too high an opinion of yourself. Give me some examples of this.	? 1 2 3		
3.	You've said that [Do] you think a lot about the power, fame or recognition that will be yours someday. Tell me more about this. (How much time do you spend thinking about these things?)	? 1 2 3		
4.	You've said that [Do] you think a lot about the perfect romance that will be yours someday. Tell me more about this. (How much time do you spend thinking about this?)	? 1 2 3		
5.	You've said that when you have a problem [When you have a problem, do]you almost always insist on seeing the top person. Give me some examples. (Why do you have to see the top person?)	? 1 2 3		
6.	You've said that [Do] you feel it is important to spend time with people who are special or influential. Why is that?	? 1 2 3		
7.	You've said that it is [Is it] very important to you that people pay attention to you or admire you in some way. Tell me more about this.	? 1 2 3		
8.	You've said that [Do] you think that its not necessary to follow certain rules or social conventions when they get in your way. Give me some examples. Why do you feel that way?	? 1 2 3		
9.	You've said that [Do] you feel that you are the kind of person who deserves special treatment. Tell me more about this.	? 1 2 3		
10.	You've said that [Do] you often find it necessary to step on a few toes to get what you want. Tell me some instances of that.	? 1 2 3		

	(Does that happen often?)			
11.	You've said that [Do] you often have to put your needs above Other people. give me some examples of when that happens.	? 1 2 3		
12.	You've said that [Do] you often expect other people to do what you ask without question because of who you are. (Does this happen often?)	? 1 2 3		
13.	You've said that you're [Are you] NOT really interested in other people's problems or feelings. Tell me more about that.	? 1 2 3		
14.	You've said that people have [Have people] complained to you that you don't listen to them or care about their feelings. Tell me more about that.	? 1 2 3		
15.	You've said that you are [Are you] often envious of others. Tell me about it. (How often do you feel that way?)	? 1 2 3		
16.	You've said that [Do] you feel that others are often envious of you. What do they envy about you?	? 1 2 3		
17.	You've said that you [Do you] find that there are very few People that are worth your time and (ALSO CONSIDER BEHAVIOUR DURING INTERVIEW)	? 1 2 3		
AT LEAST FIVE ITEMS ARE CODED "3" NARCISSISTIC PERSONALITY DISORDER				

BORDERLINE PERSONALITY DISORDER				
S/N	QUESTION	OPTIONS	RESPONSE	CODE
1.	You've said that you have [Have you] often become frantic when you thought that someone you really cared about was going to leave you. What have you done? (Have you threatened or pleaded with him/her?)	? 1 2 3		
2.	You've said that [DO] your relationship with people you really care about have lots of extreme ups and downs.Tell me about them	? 1 2 3		
3.	Were there times when you thought they were everything you wanted and other times when you thought they were terrible? How many relationships were like this?)	? 1 2 3		
4.	You've said that you have [Have you] all of a sudden changed your sense of who you are and where you are headed. Give me examples of this.	? 1 2 3		
5.	You've said that your sense of who you are often changes [does your sense of who you are often change]dramatically.Tell me more about that.	? 1 2 3		
6.	You've said that you are [Are you] different with different people or in different situation so that you sometimes don't know who you really are. Give me some example of this. [Do you feel this way a lot?]	? 1 2 3		
7.	You've said that there have been [Have there been] lots of sudden changes in your goals, career plans, regions beliefs, and so on. Tell me more about that.	? 1 2 3		

8.	You've said that you've [have you] often done things Impulsively What kind of things? (How about……..buying things you really couldn't afford?	? 1 2 3		
9.	Having sex with people you hardly know, or unsafe sex? Drinking too much or taking drugs….Driving recklessly?.uncontrollable eating?)	? 1 2 3		
10.	You've said that you have [Have you] tried to hurt or kill Yourself or threatened to do so.	? 1 2 3		
11.	You've said that you have [Have] you ever] cut, burned, or scratched yourself on purpose. Tell me about that.	? 1 2 3		
12.	You've said that [Do] you have a lot of sudden mood changes. Tell me about that. How long do your "bad" moods last? How often do these Mood changes happen? How suddenly do your moods change?)	? 1 2 3		
13.	You've said that [Do] you often feel empty inside? Tell me about this.	? 1 2 3		
14.	You've said that [Do] you often have temper outbursts or Get so angry that you lose control. Tell me about this.	? 1 2 3		
15.	You have said that [Do] you hit people or throw things when you get angry. Tell me about this. Does this happen often?	? 1 2 3		
16.	You've said that [Do] even little things get you very angry? When does this happen? (Does this happen often?)	? 1 2 3		
17.	You've said that when you are under stress, you [When you are Under a lot of stress, do you] get suspicious of other people or feel especially spaced out. Tell me about that	? 1 2 3		
AT LEAST FIVE ITEMS ARE 3CODED "3" BORDERLINE PERSONALITY DISORDER				

ANTISOCIAL PERSONALITY DISORDER				
Note: Behaviour should NOT be considered characteristics of Antisocial Personality disorder if it occurs exclusively during the course of schizophrenia or a manic Episode. The individual is at least 18 years. There is evidence of conduct disorder with onset before 15 year [as evidenced by at least two of the following]				
S/N	QUESTION	OPTION	RESPONSE	CODE
1.	You've said that before you were 15 would you [before you were would you] bully or threaten other kids. Tell me about that	? 1 2 3		
2.	You've said that before you were15, you would [before you were Would you] start fights. How often?	? 1 2 3		
3.	You've said that before you were 15, [before you were 15 did you hurt or threaten someone]with a weapon, like a bat, brick, broken bottle, knife, or gun. Tell me about that.	? 1 2 3		
4.	You've said that before you were 15, you deliberately tortured Someone or caused someone physical pain and suffering.	? 1 2 3		
5.	[Before you were 15, did you deliberately torture someone or caused someone physical pain and suffering?] What did you do?	? 1 2 3		
6.	You've said before you were 15 you tortured or hurt animals on purpose. [Before you were 15, did you torture or hurt animals on purpose?] What did you do?	? 1 2 3		
7.	You've said that before you were 15, you robbed, mugged, or forcibly take] something from someone by threatening him or her.Tell me about it.	? 1 2 3		
8.	You've said that before you were 15, did you force someone] to have sex with you, to get undresses in front of you, or to touch you, or to touch you sexually. Tell me about it.	? 1 2 3		

9.	You've said that before you were 15 you [Before you were 15, Did you]set fires. Tell me about it	? 1 2 3		
10.	You've said that before you were 15, you deliberately destroyed [Before you were 15, did you deliberately destroy] things that weren't yours. What did you do?	? 1 2 3		
11.	You've said that before you were 15, did you break]into houses, other building, or cars. Tell me about that.	? 1 2 3		
12.	You've said that before you were 15, you lied a lot or "conned" [before you were 15,did you lie a lot or "con"]other people. What would you lie about?	? 1 2 3		
13.	You've said that before you were 15, you sometimes stole or Shoplifted things or forged someone's signature.[before you were 15,did you sometimes steal or shoplift things or forge Someone's signature?] Tell me about it.	? 1 2 3		
14.	You've said than before you were 15, you ran away from home and stay]away overnight Was it more than once? (With whom were you living with at the time?)	? 1 2 3		
15.	You've said that before you were 13,you would [Before you were 13,did you] often stay out very late, long after the time you were supposed to be home. How often?	? 1 2 3		
16.	You've said that before you were 13,you often skipped [Before you were 13,did you often skip] school. How often?	? 1 2 3		
AT LEAST TWO ITEMS ARE CODED "3"(I.E., "SOME" EVIDENCE OF CONDUCT DISORDER)CRITERION C OF ANTISOCIAL PERSONALITY DISORDER MET; CONTINUE ON NEXT DISORDER				
IF NOTNOW, SINCE YOU WERE 15…..				

17.	Have you done things that are against the law (even if you weren't caught) like stealing, using or selling drugs, writing bad checks, or having sex for money?IF NO: Have you ever been arrested for anything?	? 1 2 3		
18.	Do you often find that you have to lie to get what you want? (Have you ever used an alias or pretended you were someone else?) (Have you often" conned " others to get what you want?) Do you often do things on the spur of the moment without thinking about how it will affect you or other people? What kind of things Was there a time when you had no regular place to live? (For how long) Since you were 15 have you been in any fights? How often?	? 1 2 3		
19.	Have you ever hit or thrown things at your spouse or partner? How often? Have you ever hit a child, yours or someone else's – so hard that he or she had bruises or had to stay in bed or see a doctor? tell me about that. Have you physically threatened or hurt anyone else? Tell me about that. (How often?)	? 1 2 3		
20.	Did you ever drive a car when you were drunk or high? How many speeding tickets have you gotten or car accident have you been in? Do you always use protection if you have sex with someone you don't know well? Has anyone ever said that you allowed a child that you were taking care of to be in a dangerous situation?)	? 1 2 3		
21.	How much of the time in the last 5 years were you not working? IF FOR A PROLONGED PERIOD: Why (Was there work available?) When you were working, did you miss a lot of work? IF YES: WHY?	? 1 2 3		
22.	Did you ever walk off a job without having another one to go to? IF YES: How many times did this happen. Have you ever owed people money and not paid them back? (HOW	? 1 2 3		

	OFTEN?) What about not paying child support, or not giving money to children or someone else who depended on you?			
IF THERE IS EVIDENCE OF ANTISOCIAL ACTS AND IT IS UNCLEAR WHETHER THERE IS ANY REMORSE: How do you feel about **[LIST ANTISOCIAL ACTS]?** (Do you think what you did was wrong in any way?				
AT LEAST THREE ITEMS CODED "3"CRITERION A OF ANTISOCIAL PERSONALITY DISORDER MET CRITERIA A, B, AND C ARE CODED "3 "ANTISOCIAL PERSONALITY DISORDER				

Apendix :Vi Structured Clinical Interview for Dsm-IV Axis-II Personality Disorders (SCID-II) Swahili Version

6.6.2 Overview for Personality Disorders Kiswahili

Sasa hivi nitakuuliza maswali maalum yanayohusu namna ulivyo, yaani kuhusu tabia yako.

? = TAARIFA ZISIZOKAMILIKA 1 = SI-KWELI

2 = KIDOGO 3 = KWELI

HISTRIONIC PERSONALITY DISORDER				
NO.	**SWALI**	**CHAGUZI**	**JIBU**	**CODE**
1.	Umesema kua [je,] unapenda kua katika hali ambayo wewe ndiye watu wote wanakujali, kukuangalia au kuvutiwa na wewe Unajisikiaje isipokua hivyo?	? 1 2 3		
2.	Umesema kua [je,] unapenda kufanya utani wa kimapenzi Kuna yeyote aliyelalamika kwa hili? PIA ZINGATIA TABIA WAKATI WA MAHOJIANO	? 1 2 3		
3.	Umesema kua [je,] unajikuta mara nyingi “unatongoza ” sana watu? Niambie juu ya hili. PIA ZINGATIA TABIA WAKATI WA MAHOJIANO)	? 1 2 3		
4.	LILICHUNGUZWA WAKATI WA MAHOJIANO anaonyesha Kubadilika ghafla kihisia na kiasi kidogo cha hisia	? 1 2 3		
5.	Umesema kua [je,] unajaribu kuweka mazingira ya watu kukujali au kuvutiwa na wewe kwa jinsi unavyovyaa au kuangalia. Je, unafanya hivyo muda wote? KILICHOCHUNGUZWA WAKATI WA MAHOJIANO Ana mtindo wa tofauti , wa kipekee, unavutia na usio na maelezo au usio wa kawaida	? 1 2 3		
6.	Umesema kua [je,] mara nyingi unatafuta namna ya kuang’aa na kuvaa ngua za rangi za kuwaka? (PIA ZINGATIA TABIA WAKATI WA MAHOJIANO) Je, unapenda kuonesha hisia zako –Kwa mfano kuwakumbatia watu hata kama hamfahamiani vizuri/kulia kiurahisi?)	? 1 2 3		

7.	Umesema kua [je,] mara zote unabadilisha mawazo/ mtazamo wako kuhusiana na vitu kutegemeana na watu uliuonao/ulichosoma/kuona kwenye tv Niambie kuhusu hilo	? 1 2 3		
8.	Umesema kua [Je,] una marafiki wengi ambao upo karibu nao wangapi? Ni kina nani?			
WALAU 3 ZINA NAMBA 3 HISTRIONIC PERSONLAITY DISORDER				

NARCISSISTIC PERSONALITY DISORDER				
NO.	**SWALI**	**CHAGUZI**	**JIBU**	**CODE**
1.	Umesema kuwa [hua] watu hushindwa kukubali kipaji cha pekee ulichonacho au mafanikio yako Hebu nipe mfano	? 1 2 3		
2.	Umesema kuwa watu [je, watu] wanakuambia una mtazamo mkubwa (kujiweka juu) mno kujihusu? .nipe mifano ya hili.	? 1 2 3		
3.	Umsema kuwa unafikiria sana kuhusu uwezo mkubwa,umaarufu utakaokua nao kujulikana siku za usoni. Nieleze zaidi kuhusiana na hili. (muda kiasi gani hutumia kutafakari kuhusu mambo haya?)	? 1 2 3		
4.	Umesema kua [je,] unafikiria sana kuhusu mapenzi thabiti yasiyo na kasoro utakayokua nayo siku moja Nieleze kuhusu hili. Ni muda kiasi gani hutumia kutafkari juu ya hili?)	? 1 2 3		
5.	Umesema kua unapokua na tatizo, [je, unapokua na tatizo] unajitahidi au unatamani au unakaribia kuwatafuta watu juu. Nipe mifano. kwanini unahitaji kuwaona watu wa juu?)	? 1 2 3		
6.	Umesema kua [je,] unatamani /unadhani ni muhimu kukaa na watu maarufu (wenye ushawishi) kwanini	? 1 2 3		
7.	Umesema kua [je] ni muhimu sana watu kukupa heshima ya juu, au kukuhusudu kwa namna Fulani. Niambie zaidi kuhusu hili	? 1 2 3		

8.	Umesema kua [je,] Unadhani sio muhimu kufuata sheria au makubaliano ya kijamii hasa kama zinaingilia mambo yako? Nipe mifano Kwanini unajisikia hivyo?	? 1 2 3		
9.	Umesema kua [je,] unajisikia kua wewe ni mtu wa pekee (maalumu) na unahitaji kuchukuliwa kipekee? Niambie zaidi kuhusu hili	? 1 2 3		
10.	Umesema kua [je,] mara nyingi unaona umuhimu wa kupitia migongo ya watu wengine ili kupata unachokitaka Nipe mifano ya matukio Je hili hutokea mara Kwa mara?)	? 1 2 3		
11.	Umesema kua [je,] mara nyigi unahitaji kuweka mahitaji yako juu ya mahitaji ya watu wengine? Nipe mifano hali hii ilipotokea	? 1 2 3		
12.	Umesema kua [je,] unatarajia watu wengine kufanya unachowaambia bila kuuliza kwa sababu ya jinsi ulivyo (cheo au nafasi yako)? Je hili hutokea mara kwa mara?)	? 1 2 3		
13.	Umesema kua wewe [Je, wewe] unajikuta huna muda na, Au hujali kiviiiile matatizo ya watu wengine? Niambie zaidi kuhusu hilo	? 1 2 3		
14.	Umesema kua watu [Je, Watu] wanalalamika kua hua huwasikilizi au kujali hisia zao? nieleze kuhusiana na hilo.	? 1 2 3		
15.	Umesema kua mara nyingi [mara nyingi] unawaonea wengine wivu? Niambie kuhusu hili. Je hali hii hutokea mara Kwa mara?)	? 1 2 3		
16.	Umesema kua [je,] unahisi watu wengine wanakutamani au wanakuonea gele ? Nini kinachowafanya Wanakutamani (kukuonea gele)?	? 1 2 3		
17.	Umesema kua [je,] hua unajikuta kua kuna watu wachache sana wenye hadhi (wanaostahili) ya kupata muda wako PIA ZINGATIA TABIA WAKATI WA MAHOJIANO	? 1 2 3		
ANGALAU VIGEZO 5 VINA NAMBA NAMBA 3" NARCISSISTIC PERSONALITY DISORDER				

BORDERLINE PERSONALITY DISORDER				
NO.	**SWALI**	**CHAGUZI**	**JIBU**	**CODE**
1.	Umesema kua [Je,] hua Unachanganyikiwa unapo dhani kuwa mtu uliyemthamini kwa dhati (kama mpenzi) anakuacha/ amekuacha. Ulifanya nini? Je, ulimtisha /ulimbembeleza?	? 1 2 3		
2.	Umesema kua [hua] uhusiano wako na watu unaowajali una nyakati ngumu sana na nzuri sana? Nambie zaidi kuhusu hili. Je kuna nyakati ulizowaona kama wao ni kila kitu ulichokitaka na wakati mwingine ukawaona hawafai kabisa?? Ni mahusiano mangapi yalikua hivi?	? 1 2 3		
3.	Umesema kua [Je,] hali ya wewe kujitambua (kua wewe ni nani) na kule unakokwenda inabadilika ghafla? Nipe mifano ya hili	? 1 2 3		
4.	Umesema kua [Je] una hali ya kubadilika ghafla kwa uelewa wa nafsi yako (kujitambua) wewe ni nani na unakokwenda?	? 1 2 3		
5.	Umesema kua upo [Je] unadhani hua unabadilika (na kua tofauti) unapokua na watu tofauti au katika mazingira tofauti Hadi wakati mwingine unashindwa kujitambua kua wewe ni nani	? 1 2 3		
6.	Umesema kua kumekua [Je, umekua] na mabadiliko mengi ya ghafla katika mipango yako, malengo /mipango ya kimaisha, imani za dini n.k NIAMBIE ZAIDI KUHUSU HILO.	? 1 2 3		
7.	Umesema kuwa [umewahi] kufanya vitu/ mambo mara kadhaa bila kufikiri. Ni vitu/mambo gani hayo? Vipi kuhusu kununua vitu ambavyo usingeweza kugaramia, Kufanya mapenzi na watu usiowajua vizuri /kufanya jimai/ ngono isiyo salama? Kunywa sana pombe/kutumia madawa ya kulevya? Kuendesha kizembe? kula bila kujizuia?)	? 1 2 3		

8.	Umesema kua [JE, umewahi] kujaribu kujiumiza au kujiua Au kitishia kufanya hivyo.	? 1 2 3		
9.	Umesema kua una [Je, umewahi] jikata jiunguza, au kujikwaruza makusudi. Niambia kuhusu hilo.			
10.	Umesema kua [hua] una hisia zinazobadilika kwa ghafla,Niambie kuhusu hilo. [Hali hiyo ya hisia mbaya hua inadumudumu kwa muda gani?] Ni mara ngapi hali hii ya kubadilika kwa hisia inakutokea ? Ni ghafla kiasi gani hisia zako hubadilika?)	? 1 2 3		
11.	Umesema kua [hua]) Unajisikia hali ya kukosa kitu ndani yako(hujisi mtupu Niambie kuhusu hili. Umesema kua [hua] Mara nyingi hukasirika hata kushindwa kujiziuia. Niambie kuhusu hili.	? 1 2 3		
12.	Umesema kua [hua] unawapiga watu/ kuwatupia vitu unapokasirika. Niambie juu ya hili. Je, hali hii hutokea mara kwa mara?	? 1 2 3		
13.	Umesema kua [hua] hata jambo/vitu vidogo vinakukasirisha Ni wakati gani hili hutokea? Je, hutokea mara kwa mara?)	? 1 2 3		
14.	Umesema kua ukiwa na msongo [wakati ukiwa katika msongo mkubwa wa mawazo] huwa uhisi watu wengine wanataka kukudhuru au unajiweka mbali nao. Niambie kuhusu hili.	? 1 2 3		
ANGALAU VIGEZO 5 VINA NAMBA NAMBA 3 BORDERLINE PERSONALITY DISORDER				

ANTISOCIAL PERSONALITY DISORDER
TANBIHI Tabia haitachukuliwa kama kigezo cha matatizo ya hulka endapo limetokea wakati wa magonjwa ya akili kama schizophrenia au mania. Ni lazima awe na umri wa miaka 18. Kuna ushahidi wa matatizo ya hulka kwa na tabia zinazopingana na jamii kabla ya miaka 15 [kama inavyoshuhudiwa na vigezo viwili kati ya vifuatavyo]

NO.	SWALI	CHAGUZI	JIBU	CODE
1.	Umesema kabla ya kua na miaka [kabla ya kua na miaka 15] ulikuwa unawanyanyasa watoto wengine niambie kuhusu hilo	? 1 2 3		
2.	Umesema kuwa kabla ya kuwa na miaka15 [kabla ya kua na miaka 15] ulikua unaweza kuanzisha ugomvi. Je, ni mara ngapi	? 1 2 3		
3.	Umesema kabla ya kuwa ya kuwa na miaka 15 [Kabla ya kua ana miaka 15 ulimuumiza au kumtishia mtu kwa chupa, kisu au bunduki?] Kwa kutumia silaha kama vile; bati, tofali, kipande cha chupa,kisu/bunduki. Niambie kuhusu hilo.	? 1 2 3		
4.	Umesema kabla ya kuwa na miaka 15? Ulithubutu kwa makusudi kumuumiza mtu au kumsababishia maumivu na mateso? Je, ulifanyeje?	? 1 2 3		
5.	Umesema kabla ya kuwa na miaka 15, [kabla ya kua na miaka 15] uliwaumiza au kuwatesa wanyama kwa makusudi?] Je, ulifanyeje?	? 1 2 3		
6.	Umesema kabla ya kuwa na miaka 15 [Ulikaba, kupora, kuchukua kwa nguvu] kitu kwa mtu kwa kumtisha niambie kuhusu hilo	? 1 2 3		
7.	Umesema kua kabla ya kuwa na miaka 15 [kabla ya kua na miaka 15Ulimlazimisha mtu kufanya mapenzi na wewe, kuvua nguo mbele yako/au kukushika/kukutomasa kimapenzi/kingono Niambie kuhusu hilo.	? 1 2 3		
8.	Umesema kua kabla ya kuwa na miaka 15 [Kabla ya kua na miaka 15] uliwahi kuanzisha moto. Niambie kuhusu hilo.	? 1 2 3		
9.	Umesema kabla ya miaka 15 [kabla ya kua na miaka 15] ulithubutu kuhribu vitu ambavyo havikua vyako? Je, ulifanya nini?	? 1 2 3		
10.	Umesema kabla ya kuwa na miaka 15 [kabla ya kua na miaka 15] ulivunja nyumba, majengo au magari nakuingia ndani. Niambie kuhusu hili	? 1 2 3		
11.	Umesema kabla ya kuwa na miaka 15 [kabla ya kua na miaka 15 Ulidanganya sana watu wengine?]	? 1 2 3		

	Je, ulidanganya kuhusu nini?			
12.	Umesema kabla ya kuwa na miaka 15, Kuna wakati uliiba/kukwapua vitu dukani/kugushi sahihi ya mtu mwinhine?] Niambie juu ya hili.	? 1 2 3		
13.	Umesema kua kabla ya kuwa na miaka 15 (kabla ya kua na miaka 15) Umewahi kutoroka nyumbani na kulala nje ya nyumbani Je, ilikua zaidi ya mara moja? Ulikua unaishi na nani kwa wakati huo unapokua haupo nyumbani?)	? 1 2 3		
14.	Umesema kabla ya kuwa na miaka 13 (kabla ya kua na miaka. Ulikuwa unachelewa sana au ulirudi nyumbani baada ya muda uliotakiwa kuwepo nyumbani?. Je, ni mara ngapi?	? 1 2 3		
15.	Umesema kabla ya kuwa na miaka 13 (Je ulitoroka) ni mara nyingi ulikuwa unatoroka shuleni Je ni mara ngapi?	? 1 2 3		
WALAU VIPENGELE VIWILI VINA ALAMA "3"= ANTISOCIAL PERSONALITY DISORDER				
SASA TANGU UMEKUWA NA MIAKA 15				
16.	Tangu umekuwa na miaka 15 je ushawahi kuvunja sheria Kama kuiba,kuuza madawa ya kulevya/kutumia,kugushi hundi/kufanya mapenzi ili upate pesa pesa? HATA KAMA HUKUKAMATWA?	? 1 2 3		
17.	KAMA SIO: je ushawahi kukamatwa/kufungwa kwa jambo lolote. Je ni mara nyingi umejikuta kua unahitaji kusema uongo ili upate unacho hitaji? Vipi kujitungia jina au kujifanya kua mtu mwingine ili kupata unachohitaji?	? 1 2 3		
18.	Je, ni mara nyingi huwa unafanya mambo bila kufikiri athari zake kwa wengine au kwako mwenyewe? Je, ni mambo gani? Je kuna kipindi ambacho hukuwa na makazi maalum? (Kwa muda gani)	? 1 2 3		

19.	Tangu una miaka 15, umeshawahi kua kwenye ugomvi? Je, ushawahi kumpiga, au kumrushia kitu mwenzi au mpenzi wako? Je ushawahi mpiga mtoto wako au wa mtu mwingine vibaya na kumjeruhi au kumsababishia kwenda hospitali? Mara Ngapi? Niambie kuhusu hilo. je ushawahi kumtisha au kumuumiza mtu? Niambie kuhusu ya hilo. (Ni mara ngapi?)	? 1 2 3		
20.	Je, ushawahi kuendesha gari (au chombo chochote cha moto) ukiwa umelewa? Ni mara ngapi umekamatwa kwa kuendesha kwa mwendo wa kasi sana au umepata ajali mara ngapi? Je, hua unatumia kinga mara zote unapofanya Jimai / ngono na mtu usiyemfahamu vizuri? Je kuna mtu yeyote amewahi kukuambia kua umemruhusu mtoto unayemlea kuingia katika hatari?)	? 1 2 3		
21.	Ni muda kiasi gani katika miaka 5 haukuwa unafanya kazi? [KAMA MUDA MREFU] kwanini?(kulikua na kazi yoyote? Kipindi ulipokua unafanya kazi(upo kazini) ulikua unakosa kwenda kazini/kufanya kazi sana KAMA NDIYO: KWA NINI?	? 1 2 3		
22.	Je ushawahi kutokwenda kazini bila ya kuwa na mbadala wako/ mtu wa kwenda/kufanya ile kazi badala yako? KAMA NDIYO: Hii imetokea mara ngapi? Je, ushawahi waazima/kuwakopa watu pesa na hawakukurudishia? (MARA NGAPI?)[Vipi kuhusu kutowasaidia watoto/kuwapa /kutoa hela hela kwa watoto au mtu yeyote anayekutegemea?]	? 1 2 3		
KAMA KUNA USHAHIDI WA MATATIZO YA HULKA NA TABIA ZINAZOPINGANA NA JAMII ILA HAIPO WAZI KAMA KUNA MAJUTIO) JE, UNAJISIKIAJE JUU YA (TAJA MATENDO YA MATATIZO YA HULKA NA VITENDO VINAVYOPINGANA NA JAMII) (JE, UNADHANI ULICHOFANYA KILIKUWA KOSA KWA NAMNA YOYOTE?)				
WALAU VIPENGELE VITATU VINA NO “3” VIGEZO VYA ANTISOCIAL PERSONALITY DISORDER VIMETIMIA				

REFERENCES

[1]Bowden-Jones, Owen, Muhammad Z. Iqbal, Peter Tyrer, Nicholas Seivewright, Sylvia Cooper, Ali Judd, and Tim Weaver. "Prevalence of personality disorder in alcohol and drug services and associated comorbidity." Addiction 99, no. 10 (2004): 1306-1314.

[2]Verheul, R. "Co-morbidity of personality disorders in individuals with substance use disorders." European psychiatry: the journal of the Association of European Psychiatrists 16, no. 5 (2001): 274.

[3]Nicola R. Prevalence of personality disorders in persons with substance dependence and the related implications of this co-morbidity for diagnosis and treatment. South Africa, 2006:16, 264-272

[4]Compton III, Wilson M., Linda B. Cottler, Jacqueline L. Jacobs, Arbi Ben-Abdallah, and Edward L. Spitznagel. "The role of psychiatric disorders in predicting drug dependence treatment outcomes." American Journal of Psychiatry 160, no. 5 (2003): 890-895.

[5]Teplin, David, Tara O'Connell, Jeff Daiter, and Michael Varenbut. "A psychometric study of the prevalence of DSM-IV personality disorders among office-based methadone maintenance patients." The American journal of drug and alcohol abuse 30, no. 3 (2004): 515-524.

[6]Brooner, Robert K., Lawrence Greenfield, Chester W. Schmidt, and George E. Bigelow. "Antisocial personality disorder and HIV infection among intravenous drug abusers." The American journal of psychiatry (1993).

[7]AltermanA.I, Cacciola J.S. The Antisocial Personality Disorder Diagnosis in Substance Abusers: Problems and issues, Journal of Nervous and Mental Disease, Arndt, IO, McLellan, AT, Dorozynsky, L., Woody.1991:179, 401-409.

[8]World Health Organisation (WHO). Department of Mental Health and Substance Abuse: Global Atlas. [http://apps.who.int/globalatlas/Data Query/ default.asp] 2003:53-73

[9]Brown, Randy. "Heroin dependence." WMJ-MADISON- 103, no. 4 (2004): 20-26.

[10]Sonne, Susan C., and Kathleen T. Brady. "Diagnosis of Personality Disorders in Cocaine-Dependent Individuals." The American Journal on Addictions 7, no. 1 (1998): 1-6.

[11]Center for Substance Abuse Treatment (CSAT); Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction: Treatment Improvement protocol Substance Abuse and Mental Health Services (TIP) Series Number 40 (SMA) 2004:04-3939.

[12]Cohen, Lisa J., Enid Gertmenian-King, Lauren Kunik, Carrie Weaver, Edythe D. London, and Igor Galynker. "Personality measures in former heroin users receiving methadone or in protracted abstinence from opiates." Acta Psychiatrica Scandinavica 112, no. 2 (2005): 149-158.

[13]Barnes M, Davis A. and Tew J, Gell C, Glynn, T, Lewis, L, Pryce J. Saddal S.'There ought to be a Better way…' Users' Experiences of Compulsion Under the 1983 Mental Health Act (Birmingham: University of Birmingham, Department of Social Policy and Social Work) 2000:2;12-21

[14]Rounsaville B.J, Anton S.F, Carroll K, Budde D, Prusoff B.A, Gawin F. Psychiatric Diagnoses of Treatment-Seeking Cocaine Abusers. Archives of General Psychiatry, 1991: 48, 43-51.

[15]Ball S.A, Rounsaville B.J, Tennen C.H, Kranzler H.R, Reliability of Personality Disorder Symptoms and Personality Ttraits in Substance-DependentI Inpatients. Journal of Abnorm Psychology; 2001:110 (2):341-52.

[16]American Psychiatric Association (APA) Diagnostic and Statistical Manual of Mental Disorders Text Revision -Fourth Ed.(DSM IV TR).Washington, DC. 2000:301.0

[17]Cohen, Patricia, Jocelyn Brown, and Elizabeth Smailes. "Child abuse and neglect and the development of mental disorders in the general population."Development and Psychopathology 13, no. 4 (2001): 981-1000.

[18]Samuels, Jack, William W. Eaton, O. Joseph Bienvenu, Clayton H. Brown, PAUL T. COSTA, and Gerald Nestadt. "Prevalence and correlates of personality disorders in a community sample." The British journal of psychiatry 180, no. 6 (2002): 536-542.

[19] Lenzenweger, Mark F. "Epidemiology of personality disorders." Psychiatric Clinics of North America 31, no. 3 (2008): 395-403.

[20] Lindal, E., and J. G. Stefansson. "The prevalence of personality disorders in the greater-Reykjavik area]." Læknablaðið 95, no. 3 (2009): 179.

[21] Thuo, Joseph, David M. Ndetei, Hitesh Maru, and Mary Kuria. "The prevalence of personality disorders in a Kenyan inpatient sample." Journal of personality disorders 22, no. 2 (2008): 217-220.

[22] World Health Organization.Substance Abuse Dept. Global status report: alcohol policy. World Health Organization, 2003.

[23] World Health Organization.Substance Abuse Dept. Global status report: alcohol policy. World Health Organization, 2004.

[24] National Academies Press(NAP). Preventing HIV Infection Among Injecting Drug Users in High-Risk Countries an Assessment ofthe Evidence. Washington, D.C. 2007: National Academies Press.

[25]Crane E. The Dawn Report Office of Applied Studies. SAMHSA. 2003:12-32 Retrieved May 5, 2012 from http://oas.samhsa.gov

[26] Leshabari, Melkizedeck T., Sylvia F. Kaaya, J. Z. J. Killewo, and Jessie K. Mbwambo. "Youth Mobility and Unprotected Sex as Key Factors in the Spread of the AIDS Virus in Tanzania. In Social Change and Health in Tanzania (Eds.: Heggenhongen, K.; Lugalla, J.) Dar es Salaam University Press, Dar es Salaam 2005." (2005).

[27] Ross, Michael W., Sheryl A. McCurdy, G. P. Kilonzo, Mark L. Williams, and M. T. Leshabari. "Drug use careers and blood-borne pathogen risk behavior in male and female Tanzanian heroin injectors." Am J Trop Med Hyg 79, no. 3 (2008): 338-43.

[28]Teplin, David, Tara O'Connell, Jeff Daiter, and Michael Varenbut. "A psychometric study of the prevalence of DSM-IV personality disorders among office-based methadone maintenance patients." The American journal of drug and alcohol abuse 30, no. 3 (2004): 515-524.

[29]Van Horn, Deborah HA, and Arlene F. Frank. "Substance-use situations and abstinence predictions in substance abusers with and without personality disorders." The American journal of drug and alcohol abuse 24, no. 3 (1998): 395-404.

[30]Skodol A. E, Oldham, J. M, Gallaher P. E. Axis II Co-Morbidity of Substance Use Disorders among Patients Referred for Treatment of Personality Disorders. American Journal of Psychiatry, 1999:156(5), 733-737

[31] Marsh DT, Stile SA, Stoughton NL, Trout-Landen BL. Psychopathology of opiate addiction: comparative data from the MMPI and MCMI. Am J Drug Alcohol Abuse 1988; 14(1):17–27.

[32]Taylor, Jeanette. "Substance use disorders and cluster B personality disorders: Physiological, cognitive, and environmental correlates in a college sample." The American journal of drug and alcohol abuse 31, no. 3 (2005): 515-535.

[33]Murray, Heather, R. K. McHugh, Evelyn Behar, Elizabeth Pratt, and Michael Otto. "Personality factors associated with methadone maintenance dose." The American journal of drug and alcohol abuse 34, no. 5 (2008): 634-641.

[34]Shahrbabaki, Mahin Eslami, Hassan Ziaaddini, Ali Akbar Hagh Doost, Mahdi Ghasemi, Parvin Eslami Shahrbabaki, Roghayeh Alizadeh Nouri, and Nasrin Eslami Shahrbabaki. "Methadone Treatment in Iranian Opiate Addicts: A Preliminary Report." Addiction and Health 3, no. 1-2 (2011).

[35]Trull, Timothy J., Kenneth J. Sher, Christa Minks-Brown, Jennifer Durbin, and Rachel Burr. "Borderline personality disorder and substance use disorders: a review and integration." Clinical psychology review 20, no. 2 (2000): 235-253.

[36] Selwyn, Peter A. "The impact of HIV infection on medical services in drug abuse treatment programs." Journal of Substance Abuse Treatment 13, no. 5 (1996): 397.

[37]Mathers B.M. Global Epidemiology Of Injecting Drug Use And HIV Among People Who Inject Drugs: A Systematic Review. Lancet, 2008: 372:1733–1745.)

[38]Lippincott W. 2007 Sexually Transmitted Disease and HIV Prevalence and Risk Factors in Concentrated and Generalized HIV Epidemic Settings. 2007**:** Volume 21 - Issue - p S81-S90 doi: 10.1097/01.aids.0000266460.56762.84.http://journals.lww.com/aidsonline/Fulltext/2007/04002/Sexually_transmitted_disease_and_HIV_prevalence.9.aspx

[39]UNAIDS AIDS Epidemic Update Geneva, Switzerland; 2009:12-17

[40]Williams M, McCurdy S, Atkinson J, Kilonzo G, Leshabari M, Ross M, (HIV Seroprevalence in a Sample of Tanzanian Intravenous Drug Users;AIDS Education Prevention; Guilford Publications Inc. The Guilford Press, 2009: 2-4

[41]Williams M, McCurdy S, Atkinson J, Kilonzo G, Leshabari M, Ross M, (2007). Differences in HIV risk Behaviors by gender in a Sample of Tanzanian Injection Drug Users. AIDS and Behavior;11:137–144.[PubMed: 17004117]

[42]Dahoma M, Salim A, Abdool R, Othman A, Makame H, Ali A, (2006). HIV and Substance Abuse: The Dual Epidemics Challenging Zanzibar. African Journal of Drug &Alcohol Studies 5:130 –139.

[43]Chen, Kevin W. An Examination of Psychiatric Comorbidities as a Function of Gender and Substance Type Within an Inpatient Substance Use Ttreatment Program".Drug andAlcohol Dependence journal. 2011:.

[44]Jaime L.K , Nancy M.P. HIV Risk Behaviors in Male Substance Abusers with and without Antisocial Personality Disorder. Journal of Substance Abuse Treatment, Vol 19(1), Jul 2000, 59-66. doi: 10.1016/S0740-5472(99)00100-

[45] King V. L, Kidorf M. S, Stoller K. B, Brooner, R. K. Influence of Psychiatric Comorbidity on HIV Risk Behaviors: Changes During Drug Abuse Treatment. Journal of Addictive Diseases,2000: 19, 65-83.

[46]Joseph H, Stancliff S, Langrod J. Methadone Maintenance Treatment (MMT): A Review of Historical and Clinical Issues". The Mount Sinai journal of medicine, New York, 2000: "67 (5–6): 347–64. PMID 11064485.

[47]Drake, Robert E., Kim T. Mueser, Robin E. Clark, and Michael A. Wallach. "The course, treatment, and outcome of substance disorder in persons with severe mental illness." American Journal of Orthopsychiatry 66, no. 1 (1996): 42-51.

[48]McLellan, A. Thomas, Lester Luborsky, George E. Woody, Charles P. O'Brien, and Keith A. Druley. "Predicting response to alcohol and drug abuse treatments: role of psychiatric severity." Archives of General Psychiatry 40, no. 6 (1983): 620.

[49]Liisa K. et al. Co-Occurrence of Personality Disorders with Mood, Anxiety, and Substance Use Disorders in a Young Adult Population: Journal of Personality Disorders. 2006:2-5.

[50]Mueser, Kim T. Integrated treatment for dual disorders: A guide to effective practice. The Guilford Press, 2003.

[51]Drake, Robert E., Susan M. Essock, Andrew Shaner, Kate B. Carey, Kenneth Minkoff, Lenore Kola, David Lynde, Fred C. Osher, Robin E. Clark, and Lawrence Rickards. "Implementing dual diagnosis services for clients with severe mental illness." Psychiatric Services 52, no. 4 (2001): 469-476.

[52]McNeil, Donald G., Jr, Desperate Addicts Inject Others' Blood", The New York Times, July 12, 2010. Accessed May 12, 2012 on http://www.nytimes.com/2010/07/13/health/13blood.html?_r=1

[53]Alastair Tomlinson. Using Epi Data & Epi- Info for Windows: (Strategic Planning and Environment. Public Protection Division, Cathays Park Cardiff. CF10 3ND, Retrived 15th may, 2012 at Tomlinson@cardiff.gov.ukhttp://www.wales.nhs.uk/sites3/Documents/568/Using%20EpiData%20%26%20Epi%20Info%20for%20Windows.pdf. 2007:13-26

[54]Michael B. F, iriam G, Robert L, Spitzer, Janet B. W, Lorna B. SCID-IIMembers of the BiometricsResearch Department of the New York State Psychiatric Institute, New York, New York; 1997:1-2.

[55]Wong H.M, Chow L.Y, (2011).The Structured Clinical Interview for DSM-IV Axis II Personality Disorders Vol 21, No.2 East Asian Arch Psychiatry journal, Department of Psychiatry, Shatin Hospital, New Territories, Hong Kong SAR, China.

[56]Ekselius L, Lindstrom E, von Knorring L, Bodlund O, Kullgren G,.SCID II Interviews and the SCID Screen Questionnaire as Diagnostic Tools for Personality Disorders in DSM-III-R. Acta Psychiatr Scand 1994: 90(2):120-3

[57]Nussbaum, David, and Richard Rogers. "Screening psychiatric patients for Axis II disorders." Canadian journal of psychiatry. Revue canadienne de psychiatrie37, no. 9 (1992): 658.

[58] Levesque, Raynald. SPSS programming and data management: A guide for SPSS and SAS users. Spss, 2005.

[59] Marinangeli, Maria Grazia, Giancarlo Butti, AntonellaScinto, Loredana Di Cicco, Artemis Kalyvoka, ConcettaPetruzzi, and Alessandro Rossi. "A personality disorders prevalence study among inpatients with mood disorders, psychoactive substance use disorders and anxiety disorders." Epidemiologia e psichiatriasociale 9, no. 01 (2000): 36-44

[60] Nace, Edgar P., James J. Saxon, and Neal Shore. "Borderline personality disorder and alcoholism treatment: a one-year follow-up study." Journal of Studies on Alcohol and Drugs 47, no. 03 (1986): 196.

[61] Kokkevi, A., N. Stefanis, E. Anastasopoulou, and C. Kostogianni. "Personality disorders in drug abusers: prevalence and their association with AXIS I disorders as predictors of treatment retention." Addictive Behaviors 23, no. 6 (1998): 841-853

[62] Calsyn, Donald A., Charles Fleming, Elizabeth A. Wells, and Andrew J. Saxon. "Personality disorder subtypes among opiate addicts in methadone maintenance." Psychology of addictive behaviors 10, no. 1 (1996): 3.

[64] Powell, Guy. "Nature and prevalence of personality disorders amongst patients receiving treatment for alcohol dependence." Journal of Mental Health 5, no. 3 (1996): 305-314.