

**PREVALENCE OF PSYCHIATRIC DISORDERS IN HIV POSITIVE PATIENTS AT
CHILENJE CLINIC IN LUSAKA ZAMBIA**

By

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I dedicate this work to all those afflicted by a double edged sword, having a psychiatric disorder and being diagnosed with HIV; conditions that are both chronic and highly stigmatized

Declaration

I, **Nita Besa**, declare that this is wholly my own work, and that the work of others that has been used in this dissertation has been acknowledged and referenced. The work presented here has not been previously presented in whole or in part at this university or any other university for a similar purpose.

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Certificate of Approval

This dissertation of Nita Besa has been approved as fulfilling the requirements for the award of Masters of Medicine in Psychiatry by the University of Zambia.

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Abstract

Psychiatric disorders occur frequently in people living with HIV. Most of them go undiagnosed and therefore untreated, despite the negative consequences they have on HIV spread, progression and management. The aim of the study was to determine the prevalence of psychiatric disorders in HIV positive patients, as well as to determine demographic and clinical factors that are associated with these disorders. The study was cross sectional. One hundred and eighty five HIV positive adults attending the HIV clinic, at Chilenje clinic in Lusaka, Zambia were recruited. The Mini International Neuropsychiatric Interview (MINI) and The International HIV Dementia Scale were used to assess these disorders. The overall prevalence of psychiatric/neuropsychiatric disorders was 48.1%. The most frequent diagnosis was probable HIV Associated dementia, accounting for 30.8% (n=57). The prevalence of alcohol dependence/abuse, depression, any anxiety disorder and mania/hypomania was 9.2% (n=17), 7% (n=13), 6.5% (n=12) and 2.7% (n=5) respectively. Psychotic symptoms were present in 9.2% (n=17) of which 3.8% (n=7) were psychotic symptoms likely to be attributed to ARVS, 2.7% (n=5) was mood disorder with psychotic symptoms, and 2.7% (n=5) were primary psychotic symptoms. Co-morbidity was present in 20(22.47%) accounted for mostly by either depression with anxiety disorders or depression with probable HIV associated dementia. Those with alcohol dependence/abuse were more likely to be males ($\chi^2=16.718$, $p=0.001$) and most likely to practice unsafe sex. Patients with depression were more likely to be separated or widowed and unemployed or students ($\chi^2=7.177$, $p=0.046$). Panic disorders were associated with being a student or unemployed ($\chi^2 =7.794$, $p= 0.035$) whilst patients with mania/hypomania were likely to be younger ($\chi^2 2.048$, $t=0.042$). The rate of psychiatric disorders and probable HIV associated dementia in HIV positive patients in Zambia is high. Most of them go unnoticed and untreated despite some of them being associated with behaviors likely to fuel the spread of HIV. Therefore, the fight against this pandemic will be strengthened by the integration of mental health care into the routine management of HIV infected patients.

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LIST OF ACRONYMS

- 3TC Lamivudine
- ABC Abacavir
- AIDS Acquired Immune Deficiency Syndrome
- ARV Anti Retroviral Drugs
- AZT Zidovudine
- CIDI Composite International Diagnostic Interview
- CNS Central Nervous System
- CD4 Cluster Differentiation
- CPE CNS Penetration Effectiveness
- D4T Stavudine
- DSM IV Diagnostic Statistical Manual, Version IV
Edition
- EFV Efavirenz
- FTC Emitricitabine
- HAART Highly Active Antiretroviral Therapy
- HAD HIV-Associated Dementia
- HIV Human Immuno-deficiency Virus
- ICD 10 International Classification of Diseases
- IHDS International HIV Dementia Scale
- LPV/r Lopinavir/Ritonovir
- MCMD Minor Cognitive Motor Dysfunction

- MDD Major Depressive Disorder
- MINI Mini International Neuropsychiatric Interview
- NCI Neuro-cognitive Impairment
- NVP Nevirapine
- OI Opportunistic Infection
- PLWHA People Living with HIV/AIDS
- PTSD Post Traumatic Stress Disorder
- SCID-P Structured Clinical Interview for DSM IV Patient
- TB Tuberculosis
- TDF Tenofovir

CHAPTER ONE: INTRODUCTION

1.1 Overview

This chapter describes the background, statement of the problem, objectives, research question, and study justification of the present study.

1.2 Background

With the global HIV/AIDS reaching pandemic levels, HIV/AIDS has become a major public health concern. Sub-Saharan Africa, which only represents 11 % of the world's population, was home to 67.6% of global cases of HIV/AIDS at the end of 2009 (UNAIDS Global Report, 2010). In Zambia, 14.3% of its estimated 12.9 million people were infected with HIV in 2009, ranking it seventh among countries experiencing this hyper-endemic (Zambia UNGASS, 2010)

Shortly after HIV/AIDS was recognized, it was noted to be frequently associated with psychiatric disorders (Evans and Mason, 2002). In the HAART era, as people with HIV live longer, the prevalence of such disorders has substantially increased (Lawson et al., 2011; Treisman, 2002; Dube et al., 2005).

A complex relationship between psychiatry and HIV exists. Firstly, psychiatric disorders can predispose people to contracting HIV (Treisman and Andrew, 2008; Baingana et al., 2005). Secondly, the emotional reactions stemming from being diagnosed with HIV can result in psychiatric disorders. Further, the neuro-pathological effect of the virus on the brain, the presence of CNS and systemic infections as well as side effects of some medications used in their treatment including HAART, may result in psychiatric symptoms (Chandra, 2005).

The consequences of this intricate relationship between psychiatry and HIV infection are important, as evidence suggests that psychiatric disorders have an impact on many facets of HIV. They act as a vector for HIV transmission, affect disease progression, adherence to drugs and motivation to comply and cope with procedures of standard HIV care (Chandra, 2005). The quality of life of the affected individuals is also significantly reduced. Changes in the sufferers' behavior can put a great burden on the family and community.

The fight against this pandemic will be strengthened by the integration of mental health care into the routine management of HIV infected patients. Therefore, knowledge of the prevalence of psychiatric disorders in HIV positive Zambians and relevant clinical and demographic correlates will strengthen the case for the integration of mental health services into HIV care and will also facilitate appropriate planning and allocation of resources.

1.3 Statement of the Problem

The prevalence of HIV in Zambia is high. Psychiatric co-morbidity is common in HIV positive patients but most cases go undiagnosed and therefore untreated despite the negative effects psychiatric disorders have on HIV disease progression, transmission, adherence to medications and general patient management.

1.4 Rationale of the Study

The prevalence of psychiatric disorders in HIV positive patients in Zambia is not known, despite the high prevalence of HIV. It is likely that these disorders could be high. Further, the impact of these disorders in HIV positive patients is not appreciated as psychiatric care has not been integrated in the routine management of HIV positive patients in Zambia.

The results of this study can later be used to measure the burden of psychiatric disorders in HIV patients in urban Zambia, which will facilitate policy making, planning and allocation of resources. Furthermore, knowledge of the characteristics of patients at risk will assist medical personnel in HIV care to look out for those who are likely to present with these disorders.

1.5 Research Questions

The study attempted to address the following questions:

- What is the prevalence of psychiatric disorders in HIV positive patients?
- What are the demographic, psychosocial and clinical characteristics of HIV positive patients who present with psychiatric disorders?

1.6 Objectives of the Study

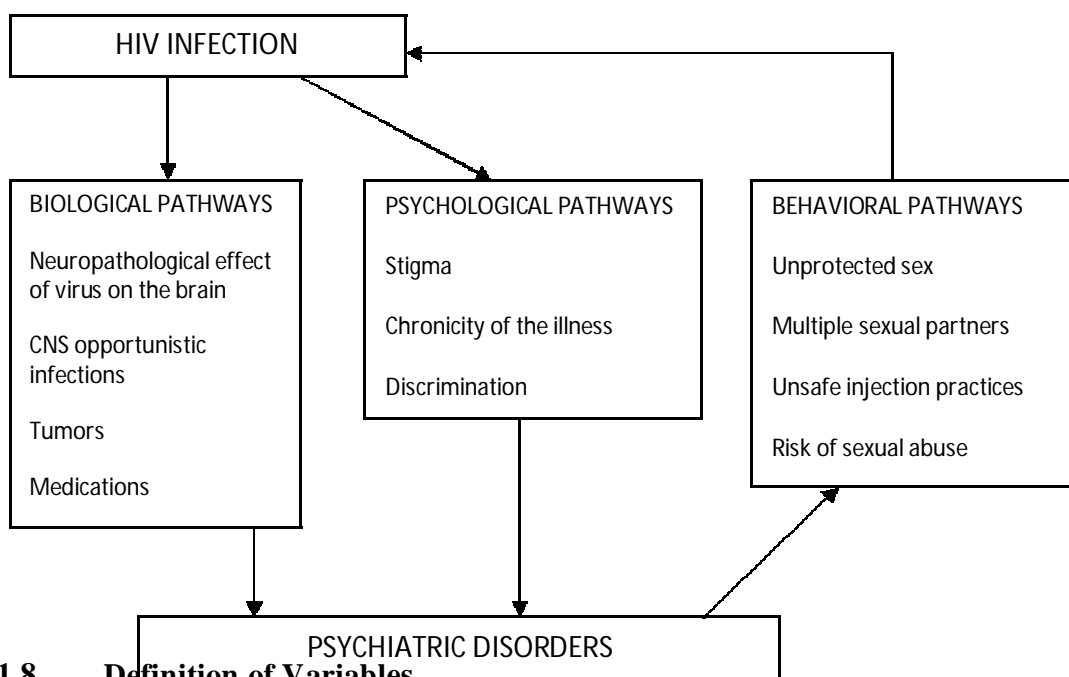
1.6.1 General Objective

The main objective of the study was to determine the prevalence of psychiatric disorders in HIV positive patients attending an outpatient HIV clinic at Chilenje Health centre in Lusaka, Zambia.

1.6.2 Specific objectives

- To describe demographic, psychosocial and clinical factors associated with psychiatric disorders in HIV positive patients
- To assess probable negative consequences psychiatric disorders may have on patients with HIV.

1.7 Conceptual Framework



1.8 Definition of Variables

Depressive disorders: A disorder characterized by the presence of a persistently low mood and loss of pleasure or interest in normally enjoyed activities.

Anxiety disorders: Abnormal states in which the most striking features are mental and physical symptoms of anxiety, occurring in the absence of organic brain disease or another psychiatric disorder.

Mania/Hypomania: A distinct period of abnormally and persistently elevated, expansive or irritable mood, with associated biological, cognitive and behavioral symptoms

Psychotic Disorders: Disorders characterized by the presence of hallucinations or delusions

Alcohol Dependence: A syndrome induced by the repeated taking of alcohol, which includes both physical and psychological phenomena

Alcohol abuse: Continuation of alcohol use despite evidence of recurrent and significant adverse consequences relating to ones mental or physical health, or socio-occupational or familial well being

HIV associated dementia: The severest form of cognitive impairment in HIV which involves impairment in activities of daily living.

CHAPTER TWO: LITERATURE REVIEW

2.1 Etiology of psychiatric disorders in HIV positive patients

The mechanisms of development of psychiatric disorders in HIV infected patients have been described as either those resulting from the direct and indirect effect of the virus on the brain, and/or from the psychological response to being HIV positive (Chandra, 2005).

The CNS is targeted early by the HIV virus, gaining access to it by crossing the blood brain barrier, mainly through infected macrophages; a mechanism termed as the Trojan-horse hypothesis (Dube et al., 2005). Here, it remains active throughout the various stages of HIV

infection, even in patients on HAART and undetectable viral loads (Dube et al., 2005; Highleyman, 2011). It mainly infects macrophages, microglia and astrocytes resulting in a chronic inflammatory state, with persistently elevated cytokines and chemokines (Highleyman, 2011). These inflammatory mediators alter synaptic architecture, damage neurons and trigger apoptotic pathways (Dube et al., 2005; Shi, 1996; Adle-Biassette et al., 1995)

This together with the direct cytotoxic effect of some viral proteins like Tat, gp120 and Vpr, (Avindra, 1998), results in massive losses (Fischer, 1999) and dysfunction of neurons, which is most marked in the frontal lobes and sub-cortical structures particularly the basal ganglia. Furthermore, people with HIV are prone to a wide variety of CNS opportunistic infections and tumours and these may also result in psychiatric symptoms (Baingana et al., 2005; Chandra, 2005).

Psychiatric disorders may also arise as a psychological response from being HIV positive. The chronicity of the illness, stigma and discrimination experienced by those affected can result in emotional responses which may progress to psychiatric disorders (Baingana et al., 2005; Chandra, 2005).

2.3 Prevalence in regions outside Africa

Studies of prevalence of mental disorders in HIV disease have produced widely varying results, mostly ranging from two to forty-eighty percent. This wide range has been attributed to differences in the study populations, the comparison groups' used (Bing, 2001) and the instruments applied.

Studies from outside Africa have had prevalence's approaching 50% (Gaynes, 2008; Brian, 2006; Madan et al., 1997; Brown et al., 1992). However, most of these study populations have been dominated by homosexual males and substance abusers who have higher rates of psychiatric morbidity independent from HIV. Therefore they may not be a true representation of the population mostly affected by HIV in sub-Saharan Africa, which is more heterosexual, with over half of the affected being female.

2.4 Prevalence in Sub-Saharan Africa

Despite Africa having the highest rates of HIV, few epidemiological studies regarding the prevalence of psychiatric disorders in HIV infection exist.

A control study done in Nigeria comparing the prevalence of psychiatric disorders between HIV positive and HIV negative patients found that the rate of psychiatric disorders in the HIV positive patients was 59.1% while that in HIV negative participants was 19.5% (Adewuya et al., 2007).

However, a similar study done in south-eastern Zimbabwe found higher rates reporting a prevalence of 71.5% in HIV positive individuals, in comparison to 44.3% in HIV negative people (Sebit et al., 2003). The reason for such high results in this study could be attributed to the use of screening tools, which tend to overestimate diagnoses, rather than structured clinical interviews.

A cross sectional study from Uganda had rates reaching 82.6%. It however had a small sample size of only 46 patients but it confirmed results from an earlier study at the same facility, which was initially thought to have been an over estimate. The strength of this new study was that it used the MINI which is a standard diagnostic interview based on diagnostic criteria from DSM IV (Ovuga, 2005)

A South African study done at three primary health care facilities reported a prevalence of 19% (Myer et al., 2008). The strength of the study was the use of the MINI and a larger sample size of 465 patients, unlike that done in the Ugandan study.

Olley et al., 2006 in a study to determine the persistence of psychiatric disorders in a co-hort of HIV positive patients over a period of six months in South Africa, found the prevalence of these disorders to be 58% at baseline and 48% at six months. The results suggested that psychiatric disorders are consistent and underscores the need for comprehensive and

longitudinal mental health assessment and that early intervention may be critical in minimizing morbidity.(Olley et al., 2006).

A study in Angola which assessed the mental health of HIV positive pregnant women in comparison to negative controls found that two thirds 66.7% of HIV positive participants had significant emotional distress, whilst the control group 38.4%. The study however utilized a screening instrument which assessed mainly for depressive and anxiety symptoms, (Bernatsky et al., 2007)

2.4 Zambian Situation

In Zambia, a population based survey that was aimed at exploring the relationship between HIV infection and mental distress found that HIV disease had a significant impact on mental health. Women and those of a lower educational status were particularly at risk. Perceived HIV risk, self rated health and the worry about being ill was found to be mediators of the distress. This study however used a screening instrument, which basically assessed for depressive symptoms. It did not assess for specific psychiatric disorders but rather the general mental distress. The findings however suggest that this problem in Zambia is substantial as it reported a pattern of higher mental distress in the infected in comparison to the non-infected (Chipimo, 2009)

In a study to determine the prevalence of anxiety and depressive disorders in patients with HIV, TB or both, the prevalence of anxiety disorders was 30.8% and 11.3% for major depressive disorder. The study utilized the M.I.N.I and had a large sample size drawn from 16 primary health care facilities across Zambia (Heuval et al., 2013). The study however did not assess for psychotic disorders or mania.

2.5 Range and prevalence of commonest psychiatric disorders diagnosed in HIV

Amongst the psychiatric disorders detected, mood disorders particularly of the depressive type are the most prevalent, estimated to occur in up to half of HIV positive patients (Pence, 2006).

A study in Uganda estimated the prevalence to be 46.4%. It found that people who had sub-clinical depression were more likely to have advanced HIV disease, more likely to be on HAART therapy for less than a year and that they had alcohol use disorders. Further, those with current and lifetime depression were more likely to have tuberculosis and past manic episodes but were less likely to be adherent to medication or have a good social support network (Nakimuli-Mpungu et al., 2011).

Mania which occurs at a rate of one percent in the general population has been reported in HIV to occur at rates of up to eight percent. It is usually associated with advanced HIV disease (AIDS), cognitive impairment and may be a marker of clinical deterioration in AIDS. However, mania may be the presenting symptom in a previously healthy undiagnosed HIV positive patient and warrants that HIV testing should be considered in people presenting with new onset mania (Hutchinson, 2005).

Anxiety disorders commonly occur in HIV disease. A study in Nigeria found the prevalence of anxiety disorders in PLWHA to be 21.7% (Olagunju, 2012). The study found that those presenting with these disorders were more likely to lack social support, be unemployed and unmarried.

New onset psychosis occurs in HIV at estimates ranging from less than 0.5% to 15%. In a study of 20 cases of new onset psychosis in HIV patients, it was found that the only significant demographic association was a slightly older age in the psychotic patients. The psychotic patients also had a history of stimulant or sedative use and showed greater global neuropsychological impairment. They tended to have increased mortality rate during follow up (Sewel, 1994).

Cognitive impairment in HIV disease spans a wide range from asymptomatic Neurocognitive impairment, through minor cognitive impairment referred to as minor motor and cognitive dysfunction, to full blown dementia, referred to as HIV associated dementia. The prevalence of NCI in HIV positive patients has showed wide varying results probably due to patient selection

factors and criteria adopted for diagnosis. A Malawian study found the prevalence to be 14% (Patel et al., 2010) whilst a study done in Uganda reported a prevalence of 64.4% (Nakku et al., 2013). High stress scores and psychosocial impairment were associated with dementia in the Ugandan study while in the Malawian study, male gender and low education level were risk factors.

2.6 Socio-demographic and clinical profile of affected patients

While some studies have reported psychiatric disorders to occur more frequently in advanced HIV disease (Adewuya et al., 2007; Freeman et al., 2007), other studies have reported no such association (Sewel, 1994).

A study from South Africa found that Afrikaans speaking people with HIV were more likely to have psychiatric disorders. Of the specific psychiatric disorders, depressed people were more likely to be younger. People who abused alcohol were less likely to be female and those who had Post Traumatic Stress Disorder had a lower income (Myer et al., 2008). A similar study in South Africa found that, discrimination and isolation from family and community were associated with mental illness as well as the death of a significant other from HIV (Freeman et al., 2007).

2.7 Implications of co-morbidity of mental illness and HIV

Most psychiatric disorders remain under diagnosed (Evans and Mason, 2002), marginalized (Treisman, 2002) and therefore under treated, frequently being viewed as an expected response (Chandra, 2005), while ignoring the serious consequences and impact they have on HIV disease.

Psychiatric disorders have been recognized as a risk factor for HIV transmission (Chandra, 2005; Treisman, 1998). Substance abuse, particularly injection drug use is a major direct contributor to the spread of HIV in the developed world. Furthermore, substance and alcohol

abuse indirectly increase the risk of HIV transmission by their effect on sexual behavior as the result in disinhibition and unprotected sex with multiple partners (Chandra, 2005). In several studies, depression has been linked to sexually risky behaviors (Rodgers, 2003; Hartzel, 2008).

Mania which is characterized by disinhibition and impulsivity may result in unprotected sex, multiple partners and alcohol intoxication (Treisman, 1998). These together may facilitate transmission of HIV.

Psychiatric disorders also affect the outcome of HIV disease. Firstly, depression may reduce adherence to anti retro-viral drugs (Chandra, 2005; Sadock and Sadock, 2007; Gordillo, 1999; Ammassari, 2004; Gonzalez) which may lead to the emergence of resistant strains as adherence is vital for total viral suppression and increased survival (Cook, 2002; Olalla, 2002). Furthermore, depressed patients lack the motivation and ability to cope with procedures of standard HIV care (Holzemer, 1999), which may affect the outcome of their disease. Substance and alcohol use disorders have also been associated with poor compliance to medication.

Furthermore, though studies have had conflicting results (Lyketsos et al., 1993), evidence suggests that depression can accelerate HIV disease progression even after correcting for HAART adherence (Ickovics et al., 2001; Lesserman, 2008). Depression has also been associated with increased mortality through unnatural causes such as suicide and accidental death.

Despite the high prevalence of HIV in Zambia, the relevance of psychiatric disorders in HIV has remained unappreciated. There is a need therefore to know the epidemiology of the problem in Zambia, which will be of use in planning of services.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Study Design

The null hypothesis was tested through a cross sectional study. With the exposure being HIV and the outcome being psychiatric disorders, participants were HIV positive patients attending an outpatient HIV clinic who were randomly selected in a systematized way on each particular clinic day and administered standardized diagnostic tools for these disorders. Further, a socio-demographic questionnaire as well as a review of clinic record files was done to obtain desired social, demographic and clinical information.

3.2 Study Location

The study was conducted at Chilenje Clinic in Lusaka, Zambia, a primary health care facility. It was the only clinic in Lusaka at the time, running a community psychiatry service in support from Chainama Hills College hospital, the main psychiatric institution in Zambia. The clinic also receives technical support from the psychiatry MMed program. The clinic further runs an ART clinic which provides anti-retroviral therapy as well as general HIV care to the patients.

3.3 Study Population and Sample Size

The study population comprised HIV positive patients attending the HIV clinic. Using an expected prevalence of psychiatric disorders in HIV patients to be 14%, at 95% confidence levels and precision of +/-5%, 185 patients were enrolled, using the formula below.

$$N = \frac{Z^2 \times P(1-P)}{(E)^2} = \frac{1.96^2 \times 0.14(1-0.14)}{(0.05)^2} = 185$$

3.4 Inclusion Criteria

Participants were drawn from the ART clinic. They were considered eligible for the study if they had a confirmed HIV positive result irrespective of whether they were on ART or not and were 18 years and above. They had to be able to give consent or have a next of kin able to do so on their behalf and to offer collateral history in the event that the information from the participant was unreliable.

3.5 Exclusion Criteria

Non-consenting patients and those suffering from a serious medical illness or with severe cognitive impairment clinically, which could have interfered with study evaluation, were excluded from the study.

3.6 Study Duration

Data was collected over a period of six weeks and the total duration of the study from initiation to final report writing was ten months.

3.7 Study Procedure

Convenience sampling was used as participants who were recruited for the study were drawn from those who came to attend the out-patient ART clinic on that particular day. Patients were recruited as they waited in line for their regular review by two assistants, a nurse and a volunteer peer educator, who explained the nature of the study that was being carried out. Using the list of patients in order of when they had arrived at the clinic as indicated by the order of their cards, every tenth person was selected. Further information about the study and consent were obtained from each individual as they came into the interview room.

3.8 Data Collection Tools

3.8.1 The Mini International Neuropsychiatry Interview (MINI): The M.I.N.I. was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been done comparing the M.I.N.I. to the SCID-P for DSM-III-R and the CIDI (a structured interview developed by the World Health Organization for lay interviewers for ICD-10). The results of these studies show that the M.I.N.I. has acceptably high validation and reliability scores, but can be administered in a much shorter period of time (mean 18.7 ± 11.6 minutes, median 15 minutes) than the above referenced instruments. It can be used by clinicians, after a brief training session (Sheehan et al., 2006).

3.8.2 International HIV Dementia Scale: A cross cultural screening tool for HAD, with sensitivity of 88% and specificity of 50% at a cut off of 10. It assesses memory impairment as

well as motor and psychomotor speed. It is useful in resource limited places, in uneducated persons and takes up to three minutes to administer (Sacktor et al., 2005).

Adherence assessment was done based on recommendations from a review done to ascertain the most reliable method to assess self-reported adherence (Simoni et al., 2006). In addition to the above, a Socio-demographic questionnaire was administered and clinical records reviewed.

3.9 Data Analysis

The statistical package for the social sciences (SPSS), version 20 was used to analyze the data. Student t-test and Mann Whitney U test were used to compare means and medians respectively and chi-squared tests for proportions. Fishers' exact test was applied for categorical data results that were sparse. To investigate univariate associations between the independent variables (demographic, psychosocial and clinical factors) and the dependent variables (psychiatric disorders), logistic regression models were used, using separate models for each dependent variable. Those that reached a statistical significance value of <0.05 were entered into multivariable models for the purpose of determining their independent effect.

3.10 Ethical Considerations

The research was guided by several ethical considerations. Ethical clearance was sought from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) prior to conducting the study. The participants' autonomy was upheld. They were informed about the voluntary nature of the study and their freedom to withdraw at any stage without any consequences. Further they were made aware that the interview might provoke some emotions in them and that if they got uncomfortable, they were free to withdraw. The benefits of the study such as relief from talking about the problem and referral for help if it was necessary were also explained to the participants.

Consent forms were made available in both English and a local language Chewa and their signatures or thumbprints were appended after the read or had the form read to them.

Confidentiality was upheld during the interview and each participant assigned a number and assured that their names would not be used in the report.

CHAPTER FOUR: RESULTS

4.1 Overview

This chapter presents the findings of the study. The main objective of this study was to determine the prevalence of psychiatric disorders in HIV positive patients attending an outpatient HIV clinic at Chilenje Health Centre in Lusaka, Zambia. The specific objectives of the study were to describe demographic, psychosocial and clinical factors associated with psychiatric disorders in HIV positive patients, and to assess the probable negative consequences psychiatric disorders may have on patients with HIV.

4.2 Prevalence of psychiatric disorders among the patients

Overall, 89(48.1%) of the respondents had a disorder, 57(30.8%) of this being probable HIV dementia and 32(17.3%) being a MINI defined psychiatric disorder. Of these, 13(7.0%) had co morbid MINI defined psychiatric disorder, mostly major depressive disorder with an anxiety disorder and 7(3.8%) had co morbid MINI defined psychiatric disorder with probable dementia. The most prevalent psychiatric disorder was probable dementia (30.8%) and followed by alcohol (9.2%) and psychosis (9.2%). Of the psychotic symptoms, 3.8% (n=7) were psychotic symptoms viewed to be related to ARVS, 2.7% (n=5) was mood disorder with psychotic symptoms, and only 2.7% (n=5) were primary psychotic symptoms. Other disorders included any depressive disorder (7.0%), hypomania (2.7%), and panic disorders (2.7%). Agoraphobia (1.6%), Suicidality (1.1%), social phobia (1.1%) and PTSD (1.1%) were the least prevalent psychiatric disorders.

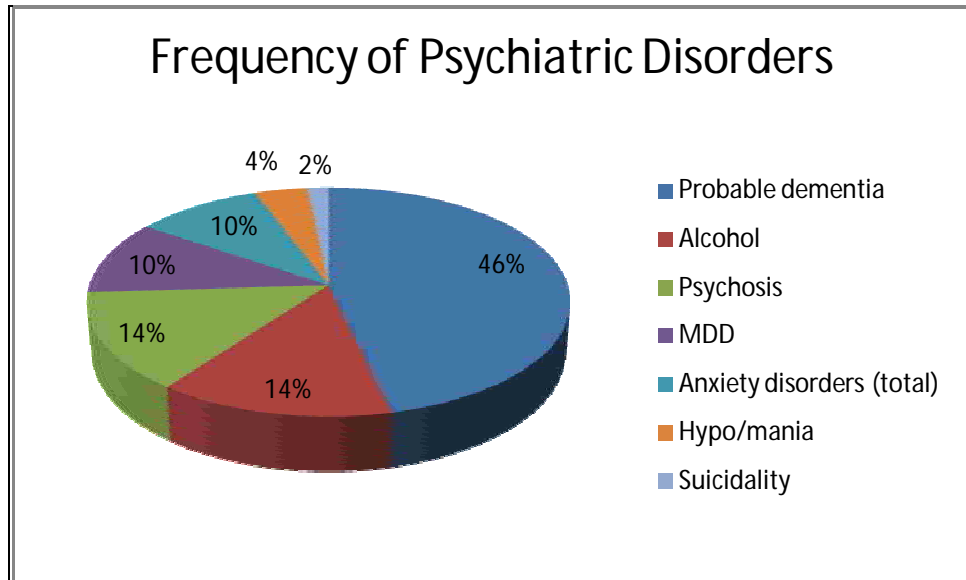


Figure 1: Frequency of Psychiatric disorders

4.3 Demographic characteristics of the respondents

Figure 2 and 3 indicate the sex distribution and age distribution respectively of the respondents. There were 133 (71.9%) females and fifty-two (28.1%) males. Forty-one percent of the respondents were aged 35 years and below while 58.9% were aged above 35 years. The minimum age was 18, the maximum age was 66 and the average age was 39.17.

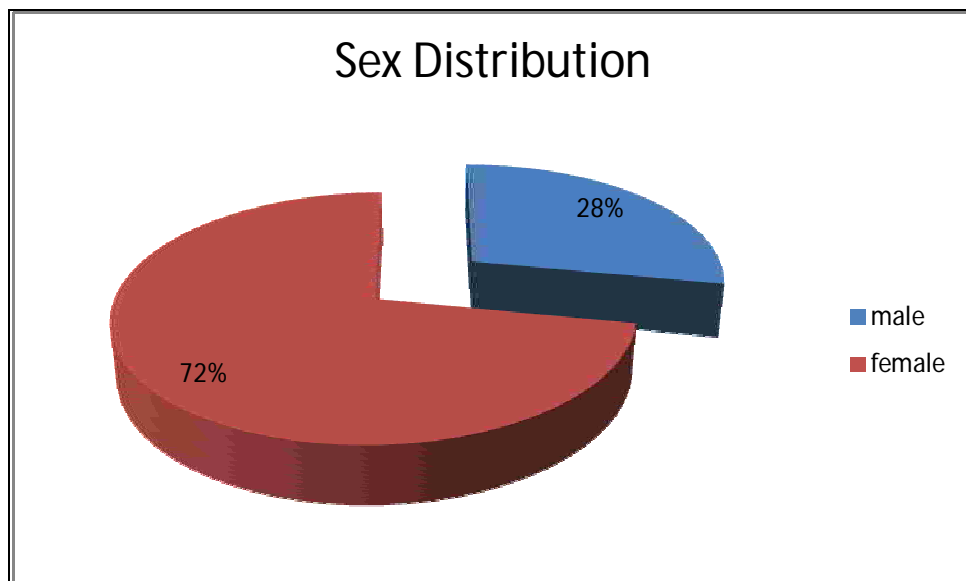


Figure 2: Sex Distribution of respondents

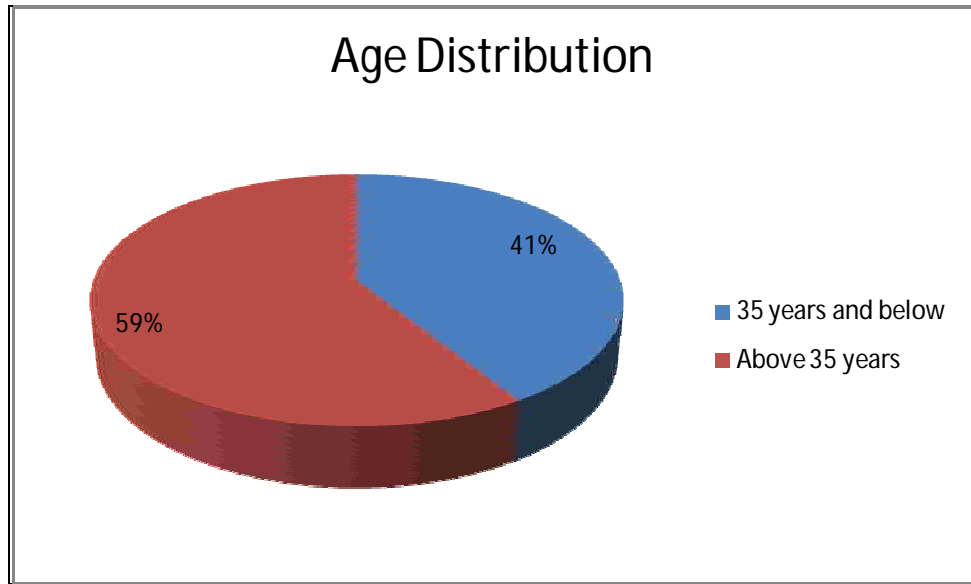


Figure 3: Age distribution of respondents

Figure 4 displays the marital statuses of the respondents. Eighteen (9.7%) were single, 90 (48.6%) were married, ten (5.4%) were separated, 19 (10.3%) were divorced, and 48 (26%) were widowed.

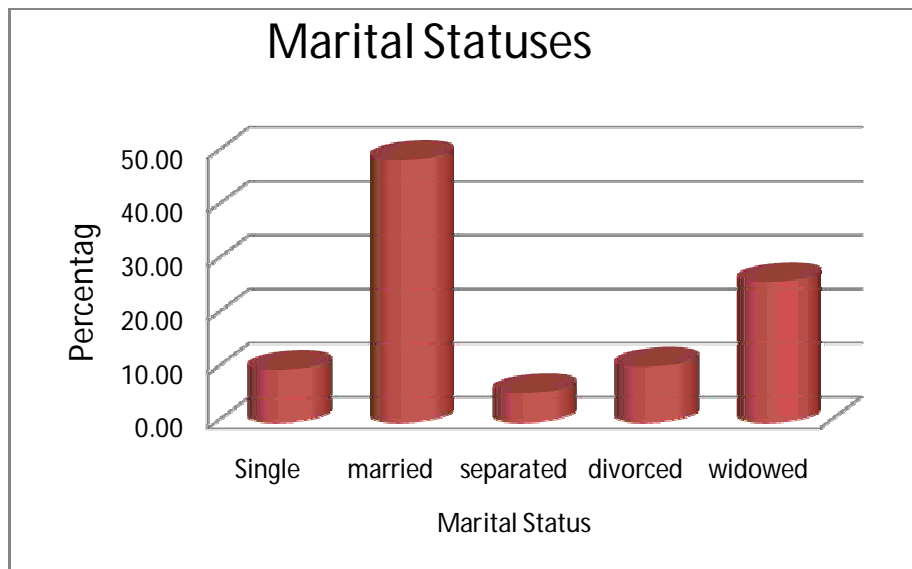


Figure 4: Marital statuses of respondents

As figure 5 depicts, 4(2%) respondents had not been to school, 11 (5.9%) had attained lower primary education, 48 (25.9%) had attained upper primary education, 78 (42.2%) had attained secondary education, and 44 (23.8%) had attained tertiary education.

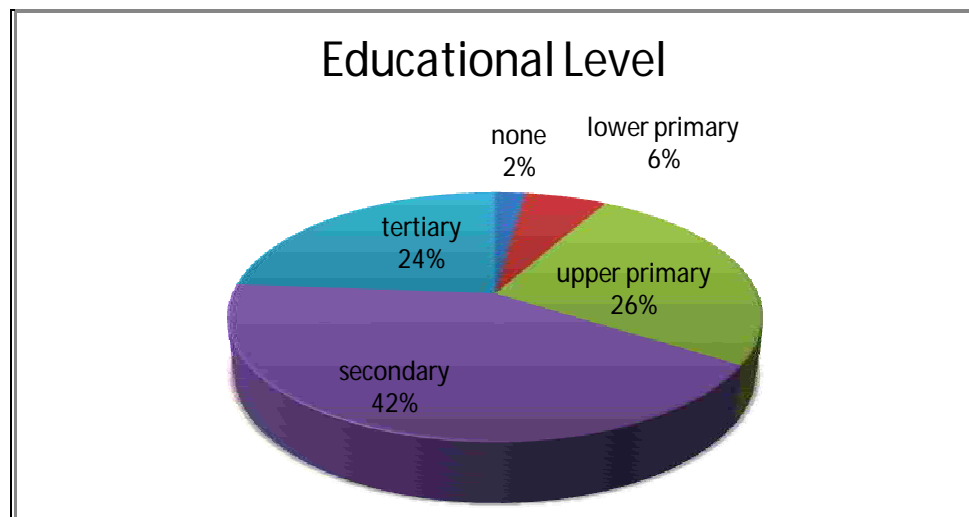


Figure 5: Educational level of respondents

As figure 6 indicates, 11 (5.9%) respondents were students, 66 (35.7%) were unemployed, 50 (27.0%) were in formal employment, and 58 (31.4%) were self-employed.

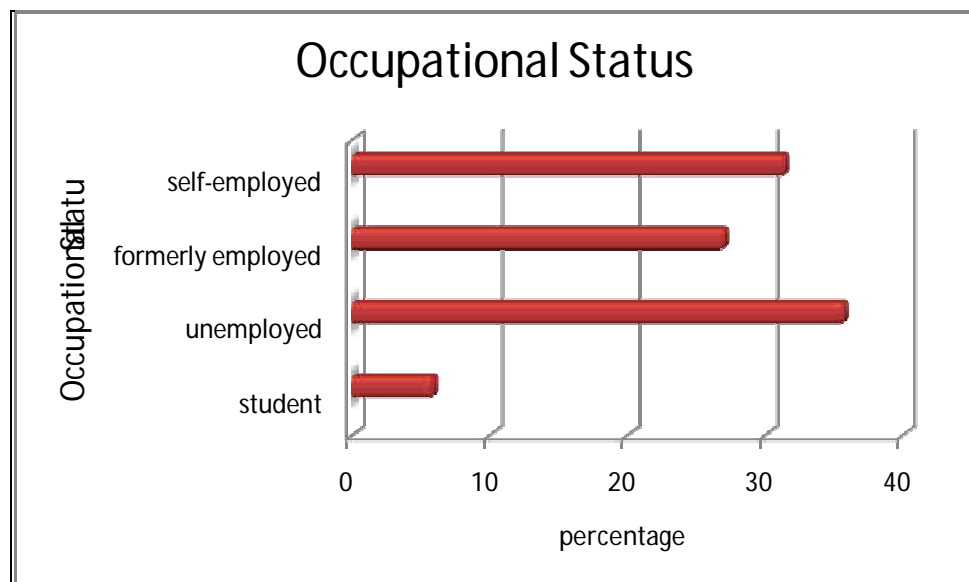


Figure 6: Occupational status of respondents

Figure 7 displays the monthly income of the participants. Fifty-nine (31.9%) respondents had no regular monthly income; 50 (27.0%) had a monthly income in the range of K100-599; 19 (10.3%) had a monthly income in the range of K600-1099; 14 (7.5%) had a monthly income in the range of K1100-1699; four (2.2%) had a monthly income in the range of K1700-2000; and 39 (21.1%) had a monthly income above K2000.

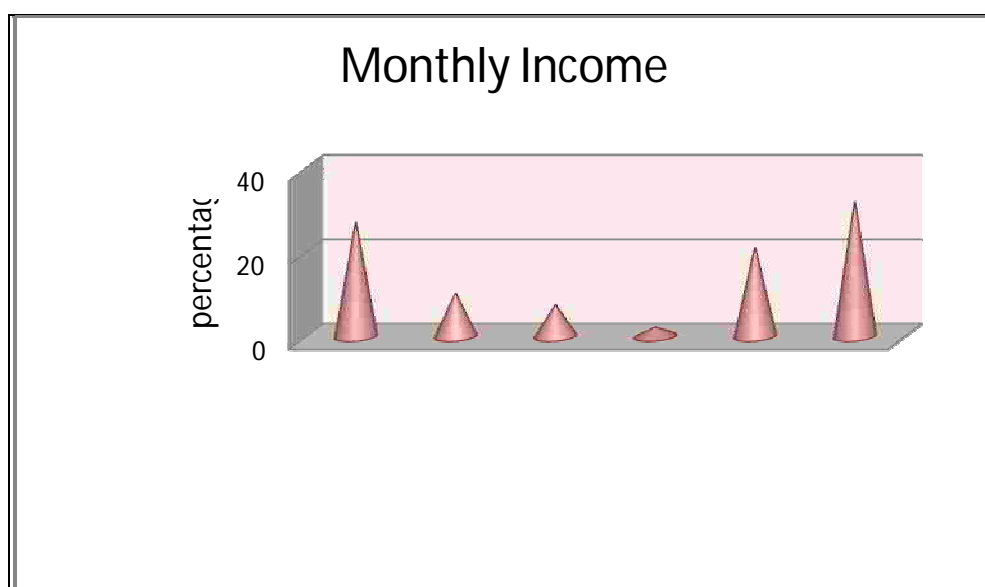


Figure 7: Monthly income of respondents

4.4 Clinical characteristics of respondents

Table 1 presents a review of the respondents' clinical records. A hundred and eighty-two (98.4%) respondents were on ART. Twenty-one (11.4%) respondents were on ART for less than a year; one respondent was on ART for a year; and 160 (86.5%) were on ART for more than a year. Six (3.2%) respondents had less 100 CD4 count; 25 (13.5%) respondents had 100-249 CD4 count; and 29 (15.7%) had 250-349 CD4 count; 124 (67.0%) had 350+ CD4 count. Only 52 (28.1%) respondents had a history of TB. Four (2.2%) were currently having TB while only one respondent was having a current pneumonia.

Table 1: A review of respondents' clinical records

Variables	Values	Frequency (n=185)	Percent
On ART	yes	182	98.4
	no	3	1.6

Duration of ART	not applicable	3	1.6
	< 1 year	21	11.4
	1 year	1	.5
	> 1 year	160	86.5
Recent CD4	<100	6	3.2
	100-249	25	13.5
	250-349	29	15.7
	350+	124	67.0
	not stated	1	.5
Previous OI	Nil	133	71.9
	TB	52	28.1
Current OI	nil	180	97.3
	TB	4	2.2
	Pneumonia	1	.5
Medical conditions	Nil	172	93.0
	Hypertension	10	5.4
	Anemia	2	1.1
	Stroke	1	.5
	Diabetes	0	0.0

4.5 ART regimen

Figure 8 shows the ART regimen of the respondents. Of the one hundred and eighty three participants who were on ART, a hundred and twenty-seven (68.6%) were on TDF/FTC/EFV, 32 (17.3%) were on AZT/3TC/NVP, four (2.2%) were on AZT/3TC/EFV, four (2.2%) were on ABC/3TC/NVP, three (1.6%) were on TDF/FTC/LPV/r, three (1.6%) were on AZT/TDF/FTC/LPV, three (1.6%) were on TDF/FTC/NVP, two (1.1%) were on ABC/3TC/EFV, two (1.1%) were on TDF/3TC/NVP, and one respondent was on ABC/3TC/LPV/r. Below is the graphical presentation of this information. A detailed table is in the appendix.

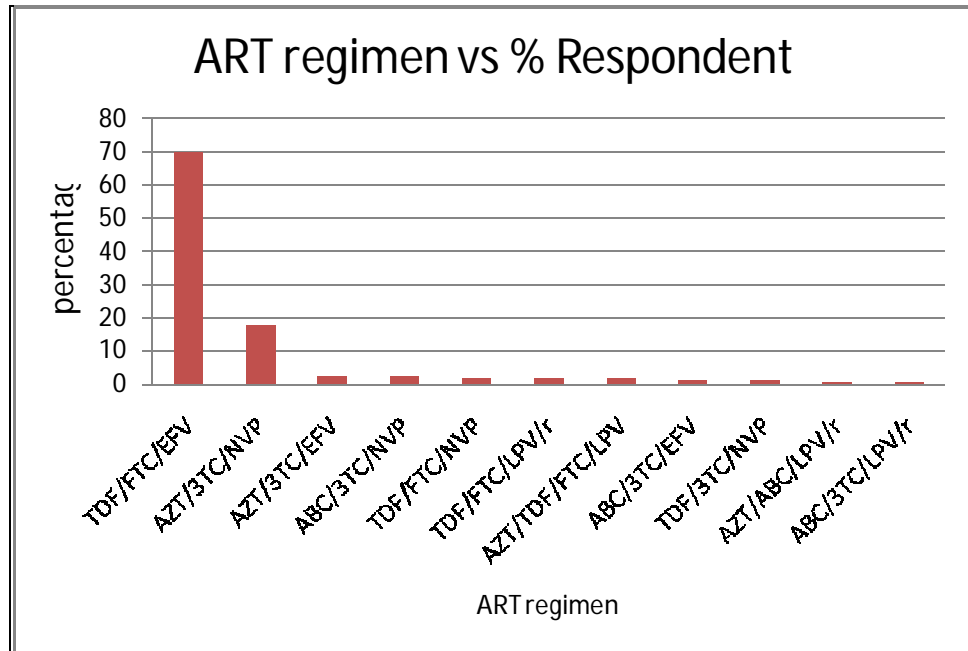


Figure 8: ART regimens of respondents

4.6 Participants behavior in relation to HIV related issues

Various behaviors related to patients' practices in respect to their status were investigated and the results are presented below.

4.6.1 Respondents' knowledge of HIV status and their sexual behavior

Table 2 shows respondents' behavior in relation to HIV related issues. Seven (3.8%) respondents had knowledge of their HIV status in the past 0-11 months; 64 (34.6%) had knowledge of their HIV status for a period ranging from 1-5 years; 114 (61.6%) respondents had knowledge of their HIV status for over a period of five years. Sixty-nine (37.3%) had no sexual partners at the time the study was being conducted; 115 (62.2%) had one sexual partner; and only one respondent had two sexual partners. Sixty-nine (37.3%) respondents reported that they had always used condoms with their regular sexual partner in the past six months; 44 (23.8%) respondents reported that they had sometimes used condoms with their regular sexual partner in the past six months; and five (2.7%) respondents reported that they had never used condoms with their regular sexual partner in the past six months. On the other hand, only two respondents reported that they had always used condoms with their non-regular sexual partner in the past six months.

Table 2: HIV Related Issues

Variable	Values	Frequency (n=185)	Percent
Knowledge of HIV status	0-11 months	7	3.8
	1-5 years	64	34.6
	> 5 years	114	61.6
Number of current sexual partners	nil	69	37.3
	1	115	62.2
	2+	1	.5
Condom use with regular sexual partners in the past six months	always	69	37.3
	sometimes	44	23.8
	never	5	2.7
	not applicable	67	36.2
Condom use with non-regular sexual partners in the past six months	always	2	1.1
	not applicable	183	98.9

4.6.2 Adherence to HIV medication

Table 3 presents findings on respondents' adherence to HIV medication. One hundred and sixty-two (87.6%) respondents reported that they did not miss any doses in the past seven days; twelve respondents missed once, five missed twice, and two respondents missed three times or more. Thirty-one (16.8%) respondents admitted that they had sometimes forgotten to take their medications. Furthermore, two respondents admitted that they did sometimes stop their medications when they were feeling worse.

Table 3: Adherence to medication

Variable	Values	Frequency (n=185)	Percent
Number of doses missed in the past 7 days	Nil	162	87.6
	Once	12	6.5
	Twice	5	2.7
	3+	2	1.1
	Not sure	1	.5
	Not applicable	3	1.6
Do you ever forget to take your medications?	Yes	31	16.8
	No	151	81.6
Stoppage of medication when feeling worse	Yes	2	1.1
	No	180	97.3
	Not applicable	3	1.6

One respondent estimated that he/she had taken 75% of the medication in the past one month; two respondents estimated that they had taken 80% of their medication in the past one month; thirteen (7.0%) estimated that they had taken 95% of their medication in the past one month; and 145 (96.8%) estimated that they had taken 100% of their medication in the past one month (Table 5).

Table 4: Amount of medication taken in the past month (in %)

	Frequency	Percent	Valid Percent	Cumulative Percent
	1	.5	.6	.6
	2	1.1	1.1	1.7
Valid	13	7.0	7.3	8.9
	18	9.7	10.1	19.0
	145	78.4	81.0	100.0
	Total	179	96.8	100.0
Missing	Not stated	6	3.2	
Total		185	100.0	

Table 5 below presents the major factors leading to poor HIV medication adherence. Only 39 respondents indicated they had difficulty adhering to their medication as required. The major factors included: busy schedules, travelling, over sleeping, running out of drugs, not sure, forgetfulness, “fed up”, illness, family disruptions, and watching television.

Table 5: Factors leading to poor med taking

		Frequency	Percent	Valid Percent	Cumulative Percent
	too busy	12	6.5	30.8	30.8
	travelling out	10	5.4	25.6	56.4
	over sleeping	7	3.8	17.9	74.4
	running out of drugs	3	1.6	7.7	82.1
	unclear	2	1.1	5.1	87.2
Valid	forgetfulness	1	.5	2.6	89.7
	fed up of taking drug	1	.5	2.6	92.3
	illness	1	.5	2.6	94.9
	family disruptions	1	.5	2.6	97.4
	watching television	1	.5	2.6	100.0
	Total	39	21.1	100.0	
Missing	Not applicable (never forget)	146	78.9		
Total		185	100.0		

4.7 Tests of Association

Several statistical tests were conducted to establish whether there were associations between psychiatric disorders and various independent variables such as age, gender, marital status, income, occupation, educational level, number of sexual partners, CD4 count, duration of HAART use, and condom use. The findings of these tests of association are presented in the tables below and in appendices A-D. Younger patients (average age 31) were more likely to suffer from hypomania than older patients. No association between number of educational level of patients and psychiatric disorders. No association between number of current sexual partners and psychiatric disorders. No association between number of current sexual partners and psychiatric disorders. No association between number of duration of ART and psychiatric disorders. HIV positive males were more likely to drink alcohol than females. Separated and widowed HIV patients were more likely to suffer from MDD than others. Students and the unemployed were more likely to suffer from MDD and panic disorders. There was strong association between non-use of condoms and alcohol; patients who were alcoholic were more unlikely to use condoms. Further analyses were conducted to establish whether there was an association between psychiatric disorders and adherence to ART. There was no association

between adherence to ART and psychiatric disorders. Following below are tables six to sixteen, highlighting

Table 6: Association between age and psychiatric disorders

	Age		t	P value	comment
	no	yes			
	Mean	Mean			
MDD	39	37	.750	.454	Not significant
Suicidality	39	33	1.066	.288	Not significant
Hypo/mania	39	31	2.048	.042	Significant
Panic disorder	39	37	.787	.432	Not significant
Agoraphobia	39	37	.360	.719	Not significant
Social phobia	39	43	-.610	.542	Not significant
PTSD	39	28	1.877	.062	Not significant
Alcohol	39	38	.769	.443	Not significant
Psychosis	39	38	.426	.670	Not significant
Probable dementia	39	40	-1.275	.204	Not significant

Younger patients (average age 31) were more likely to suffer from hypomania than older patients.

Table 7: Mann Whitney Test results between educational level and psychiatric disorders

	Chi-Square	Asymp. Sig.	comments
MDD	5.200	.267	Not significant
Suicidality	1.119	.891	Not significant
Hypo/mania	4.565	.335	Not significant
Panic disorder	5.644	.227	Not significant
Agoraphobia	2.962	.564	Not significant
Social phobia	5.740	.219	Not significant
PTSD	2.759	.599	Not significant
Alcohol	3.072	.546	Not significant
Psychosis	3.531	.473	Not significant
Probable dementia	5.827	.212	Not significant

No association between educational level of patients and psychiatric disorders.

Table 8: Associations between psychiatric disorders and number of current sexual partners
Mann Whitney Test Results

	Chi-Square	Asymp. Sig.
MDD	3.523	.172
Suicidality	.146	.930
Hypo/mania	1.138	.566
Panic disorder	.128	.938
Agoraphobia	1.123	.570
Social phobia	1.224	.542
PTSD	1.224	.542
Alcohol	1.660	.436
Psychosis	.140	.932
Probable dementia	1.867	.393

No association between number of current sexual partners and psychiatric disorders.

Table 9: Associations between psychiatric disorders and Monthly income Mann Whitney Test Results

	Chi-Square	Asymp. Sig.
MDD	7.503	.112
Suicidality	.000	1.000
Hypo/mania	.882	.927
Panic disorder	3.415	.491
Agoraphobia	3.065	.547
Social phobia	2.231	.693
PTSD	1.520	.823
Alcohol	9.007	.061
Psychosis	5.814	.213
Probable dementia	5.116	.276

No association between psychiatric disorders and monthly income

Table 10: Associations between psychiatric disorders and Recent CD4 Count: Mann Whitney Test Results

	Chi-Square	Asymp. Sig.
MDD	3.333	.343
Suicidality	1.925	.588
Hypo/mania	1.040	.792
Panic disorder	2.248	.522
Agoraphobia	.973	.808
Social phobia	1.925	.588
PTSD	5.345	.148
Alcohol	4.660	.198
Psychosis	1.277	.735
Probable dementia	1.097	.778

There was no association between psychiatric disorders and most recent CD4 count.

Table 11: Associations between psychiatric disorders and Duration of ART
Mann Whitney Test Results

	Chi-Square	Asymp. Sig.
MDD	.272	.873
Suicidality	2.918	.232
Hypo/mania	.382	.826
Panic disorder	.996	.608
Agoraphobia	.417	.812
Social phobia	.277	.871
PTSD	2.918	.232
Alcohol	.970	.616
Psychosis	.771	.680
Probable dementia	3.746	.154

No association between duration of ART use and psychiatric disorders.

Table 12: Association between gender and psychiatric disorders

Psychiatric disorders	c²	Pvalue (2-sided)	comment
MDD	1.120	.358	Not significant
Suicidality	.791	1.000	Not significant
Hypomania	2.587	.136	Not significant
Panic disorders	.688	.675	Not significant
Agoraphobia	1.192	.560	Not significant
Social phobia	.480	.484	Not significant
PTSD	.791	1.000	Not significant
Alcohol	16.718	0.001	Significant
Psychosis	.478	.572	Not significant
Probable dementia	.513	.474	Not significant

HIV positive males were more likely to drink alcohol than females.

Table 13: Association between marital status and psychiatric disorders

Psychiatric disorders	c²	Pvalue (2-sided)	comment
MDD	7.177	.046	Significant
Suicidality	1.898	.877	Not significant
Hypomania	3.747	.255	Not significant
Panic disorders	2.000	.547	Not significant
Agoraphobia	2.606	.536	Not significant
Social phobia	1.681	1.000	Not significant
PTSD	1.681	1.000	Not significant
Alcohol	.523	.972	Not significant
Psychosis	3.428	.924	Not significant
Probable dementia	5.485	.132	Not significant

Separated and widowed HIV patients were more likely to suffer from MDD than others.

Table 14: Association between occupation and psychiatric disorders

Psychiatric disorders	c²	Pvalue (2-sided)	comment
MDD	7.794	.035	Significant
Suicidality	2.903	.411	Not significant
Hypomania	2.298	.592	Not significant
Panic disorders	7.779	.022	Significant
Agoraphobia	5.129	.081	Not significant
Social phobia	1.745	1.000	Not significant
PTSD	2.903	.411	Not significant
Alcohol	1.076	.794	Not significant
Psychosis	.890	.870	Not significant
Probable dementia	1.408	.712	Not significant

Students and the unemployed were more likely to suffer from MDD and panic disorders.

Table 15: Association between condom use with regular partner and psychiatric disorders

Psychiatric disorders	c²	Pvalue (2-sided)	comment
MDD	.399	1.000	Not significant
Suicidality	2.099	1.000	Not significant
Hypomania	1.299	1.000	Not significant
Panic disorders	.786	.700	Not significant
Agoraphobia	2.099	1.000	Not significant
Social phobia	1.815	.560	Not significant
PTSD	1.815	.560	Not significant
Alcohol	8.803	.009	Significant
Psychosis	2.781	.233	Not significant
Probable dementia	2.971	.215	Not significant

There was strong association between non-use of condoms and alcohol; patients who were alcoholic were most likely not use condoms.

Table 16: Association between adherence to ART and psychiatric disorders

Psychiatric disorders	c²	Pvalue (2-sided)	comment
MDD	.908	1.000	Not significant
Suicidality	3.804	1.000	Not significant
Hypomania	1.783	1.000	Not significant
Panic disorders	1.482	1.000	Not significant
Agoraphobia	3.804	1.000	Not significant
Social phobia	3.804	1.000	Not significant
PTSD	3.804	1.000	Not significant
Alcohol	4.129	.208	Not significant
Psychosis	3.688	.267	Not significant
Probable dementia	2.803	.417	Not significant

There was no association between patients' adherence to ART and psychiatric disorders.

CHAPTER FIVE: DISCUSSION

5.0 Overview

The study sought to determine the prevalence of psychiatric disorders and probable dementia in a relatively ambulant adult HIV positive population in urban Zambia.

5.1 Overall Prevalence:

The overall prevalence of psychiatric/neuropsychiatric disorders was 48.1% meaning nearly half of the respondents had a disorder. Of this, 30.8% was probable HIV dementia (PHD) and 17.3% MINI defined psychiatric disorders.

Dementia is purely a neuropsychiatric disorder and occurs due to direct neuropathological damage to the brain. However, the other psychiatric disorders of interest in this study and assessed for, by the use of the MINI pose a different challenge in the context of HIV. Most of these disorders like depression and anxiety can occur not only as a result of the direct neuropathological processes on the brain, but also as a result of complex psychological reactions. For this reason, they will be considered separately.

MINI defined psychiatric disorders were present in 17.3% of this population. The findings are comparable to that found in a South African study which reported a prevalence of 19% (Myer et al., 2008) and relatively comparable to a Colombian study which had a prevalence of 22% (Caastillo et al., 2008). The South African study is similar to the current study in that both had participants drawn from an urban, outpatient, ambulant population and both utilized the MINI. Another study in South Africa that used the MINI reported a prevalence of 58% (Els et al., 1999) which is much higher than both the previously described study and the current study. This discrepancy might be due to the fact that the study comprised of ART naïve patients. Evidence suggests that HAART reduces the occurrence of psychiatric disorders in HIV positive patients (Sadock and Sadock, 2007). Further, another South African study which comprised of predominantly ART naïve patients and utilized a different tool the CIDI found a prevalence of 43.7% (Freeman et al., 2007), a finding which further supports the evidence that effective ART reduces the occurrence of these disorders.

However, other studies in sub Saharan Africa have reported much higher findings, even in populations with most participants on HAART, employing the same instrument and with a relatively comparable population as the current study. These include a study in Nigeria (Adewuya et al., 2007) and Uganda (Ovuga, 2005), which reported prevalence's of 59.1% and 82.6% respectively. This discrepancy may be due to the smaller sample sizes, of 88 in the Nigerian study and 46 in the Ugandan one. On the other hand, it could imply that different populations have different characteristics and factors that influence the emergence of these psychiatric disorders.

5.2 Prevalence's of specific psychiatric disorders

5.2.1 Probable HIV Dementia

The cumulative lifetime prevalence of HAD was reported to be 15%, reducing by 50% with the introduction of HAART (Sadock and Sadock, 2007) whilst MCMD has been estimated to be around five percent in asymptomatic patients and up to 18% during the symptomatic stage (David et al., 2009). The overall prevalence of these Neurocognitive disorders, in HIV positive patients is estimated at 40% (Nabha et al., 2013). Probable HIV associated dementia was the most frequent diagnosis amongst the participants in this current study, occurring in 30.8% of them. Though this finding is higher than what has been recorded in literature and what has been found in some studies (Patel et al., 2010), the results are very similar to those found in one meta-analysis. The meta-analysis included sixteen studies from seven different countries in sub-Saharan Africa which utilized the IHDS to assess for neuro-cognitive impairment. Findings were that 30.39% of HIV positive patients on ART for more than six months had PHD, whilst the prevalence in those not on ART was 42.37% (Habib et al., 2013).

This finding of both the current study and the meta-analysis suggests that in sub-Saharan Africa, neurocognitive impairment is still high even in those on HAART as is reflected by these values which far exceed what most literature quotes. Most of the conclusions quoted by literature have been based on findings from studies which are predominantly western.

Since current evidence suggest that effective anti retro viral therapy improves and probably reverses cognitive decline, it is surprising that this population with the majority of participants on HAART showed such a high prevalence. One explanation might be that the drugs being used in the majority of these patients have low CNS penetration effectiveness. Approximately 70% of these individuals were on a combination of tenofovir, emtricitabine and efavirenz. Other than emtricitabine which has a moderate CNS penetrative effectiveness, Tenofovir and efavirenz have a low CPE. Individually, all three drugs in the above combination have a lower CPE in comparison to drugs such as zidovudine and nevirapine (David et al., 2009). Some studies have suggested that use of ARVs with high CPE scores results in cognitive improvement due to adequate viral suppression in the CSF. Some studies however have had conflicting results (Libertone et al., 2014). However, due to the smaller number of people under different treatment regimes in this study, it was statistically difficult to make meaningful comparisons between those that were on the above regimens and those that were on regimens with drugs possessing higher penetrative effectiveness.

Other possible explanations might be that patients are being started late on antiretroviral drugs, when irreversible brain damage has occurred and cognitive decline has already set in, or that the drugs are not being taken correctly as prescribed. Further, since neurocognitive impairment can be as a result of central nervous system opportunistic infection, it could be possible that some of the patients might have had undetected CNS opportunistic infections, responsible for the deficits.

It should also be noted that the tool used to assess for dementia in this study, the IHDS assesses for probable dementia and may therefore overestimate the findings to a certain degree. Though it has a high sensitivity, definitive diagnosis of HAD can only be made with the use of neuropsychological batteries.

5.2.2 Prevalence of Alcohol Abuse/Dependence

Evidence available has suggested that mood disorders, particularly of the depressive type, as well as anxiety disorders are the commonest psychiatric disorders amongst HIV positive

individuals (Dube et al., 2005; Chandra, 2005). Therefore, it was a surprising and unexpected finding that amongst the MINI defined psychiatric disorders, alcohol abuse/dependence ranked highest. Adding more to the surprise was that males, who tend to drink more than females, an association which held true in this study, represented only 28% of the sampled population. A meta-analysis of African studies found that alcohol drinkers were more apt to be HIV positive than non drinkers and further that problem drinkers had a higher risk of being HIV positive than non problem drinkers (Fisher et al., 2007).

The finding in the current study suggests that alcohol abuse and dependence are a big problem in HIV positive male patients in this population, and probably in the whole of Zambia. An inference can therefore be made that males who are HIV positive in this population are at risk of having an associated drinking disorder. Caution should be exercised though because many males, who have depressive disorders, in a bid to cope with the depression by using alcohol, end up with alcohol use disorders and are frequently diagnosed as such whilst missing out the diagnosis of depression. However since in this study, the MINI assessed for depressive symptoms separately, it can be assumed that these individuals were adequately assessed for depression, and therefore had no co-morbidity. However it is worth keeping in mind that some men do not willingly agree to experiencing depressive symptoms and would therefore have under reported these depressive symptoms.

And although this study being a cross sectional one cannot explain the causal relationship between HIV and alcohol use disorders, the fact remains that alcohol use disorders are prominent in this population together with all the potential negative consequences that result in relation to HIV. Alcohol use is associated with unsafe sexual practices, multiple partners and increased frequency of sexual activities, which enhance the propagation of the virus (Chandra, 2005; Medley et al., 2014). In this study, alcohol use disorders were actually associated with non-condom use as will be discussed later. Adherence to medication has also been noted to be affected more frequently in those with alcohol use disorders. Non adherence can affect viral suppression and lead to emergence of resistant strains of the virus, which may be passed on to other individuals, making use of appropriate anti retro viral drugs a challenge.

However, this study lacked negative controls, which would be necessary to employ, so as to determine whether the problem of alcohol abuse/dependence is the same in both the HIV positive and those that are HIV negative.

5.2.3 Prevalence of Psychotic Disorders

Although literature shows that psychosis in the context of HIV can occur in the range of 0.5 to 15%, a range within which the current study fell into, none of the reviewed studies, which are similar to the current one found psychosis more prevalent than mood and anxiety disorders (Adewuya et al., 2007; Ovuga, 2005; Caastillo et al., 2008). However a logical explanation exists. Pure psychotic symptoms unrelated to mood, drugs and alcohol were only found in 2.7% of this population. The other reported psychotic symptoms were secondary, occurring in the context of mood disorders and inception of HAART. This ranked psychotic disorders lower than both depressive and anxiety disorders in this study, as was expected. Further, though the MINI directs that psychotic disorders that are viewed as arising from the effect of drugs should not be included, it was deemed necessary to include them in this study. This is due to the knowledge that certain anti-retroviral drugs have been known to induce psychotic symptoms in some individuals, information that was necessary in this study. It is true that it can only be assumed that the drugs were responsible for the occurrence of the psychotic symptoms as the tool is not designed to determine this. However patients who had experienced these symptoms in the days or weeks following inception of their antiretroviral drugs were quick to indicate that the occurrence of these symptoms coincided with the period surrounding the introduction of the ARVs and disappeared thereafter.

Some other studies, methodologically different from the current study have had prevalence rates of psychotic symptoms, that are higher than depressive symptoms in HIV positive people. One such study is a South African study, which comprised male mine workers, who were ART naïve and admitted to a psychiatric hospital. The commonest psychiatric symptom amongst these was psychosis and depression ranked lowest (Säll et al., 2009). Again, due to the nature of the study, the casual relationship between the two cannot be established. Nevertheless, this

finding suggests that HIV patients admitted to a psychiatric ward are more likely to be psychotic than depressed, whilst those attending a regular HIV clinic are more likely depressed than psychotic. Perhaps this is due to the fact that psychotic symptoms are more likely to be viewed as abnormal and therefore more easily identifiable and sought treatment for, while depressive disorders are not recognized easily, being viewed as an expected response and therefore do not receive attention. On the other hand, it could be argued that depressive disorders don't get severe enough to warrant in patient care.

Furthermore, it has been suggested that just like mania and dementia, psychosis occurs as a result of the direct neuropathological effect of the virus on the brain and it is therefore more likely to occur in those with advanced HIV disease. It is therefore more likely that patients who have advanced disease HIV disease will be in-patients in either a medical or psychiatric ward, other than an outpatient clinic.

5.2.4 Prevalence of Depressive Disorders

Depressive disorders were found in seven percent of this population. Wide variations on the prevalence of depressive disorders in HIV patients have been found, ranging from 0% to nearly 50%. However a meta-analysis found that across these studies, depressive disorders occur at a rate of approximately 9.4% in HIV positive patients, a figure which is not too far from what the current study found, as opposed to 5.2% in HIV negative controls (Ciesla and Roberts, 2001).

Interestingly enough, a reasonable proportion of patients when assessed for depression said they had experienced some of those depressive symptoms in the early days and months of their diagnosis. Though it is difficult to say with certainty that these individuals had an actual depressive illness or suffered an adjustment disorder with predominantly depressive symptoms, or just plain demoralization, this finding agrees with literature. Depressive symptoms or disorders indeed seem to be more frequent following HIV diagnosis. Many of these patients said they got help from religious groupings they belonged to or family and friends. None of them reported having received help through the medical services. This might imply that either

these symptoms were not picked up or looked for by the staff attending to them or that lack of expertise in this field prevented any intervention being done.

5.2.5 Prevalence of Anxiety Disorders

Anxiety disorders were present in 6.5% of this population. The most frequent disorder amongst the anxiety disorders explored was Panic disorder, and the least was Posttraumatic Stress disorder. This finding is lower than what has been reported in some studies done in sub-Saharan Africa (Adewuya et al., 2007; Olagunju et al., 2012; Els et al., 1999). In this study, though not all anxiety disorders were assessed for, the finding is still lower than what was expected. Though anxiety disorders occur at any stage during the course of HIV infection, there is a general trend of an increase as the disease progresses (Chandra, 2005). Furthermore, anxiety symptoms have been associated with symptomatic HIV disease and pain, as patients tend to worry more about the present bodily symptoms. The above two reasons might explain why in this population with patients enjoying fairly good physical health, anxiety symptoms were less.

Another factor to consider is that another peak period of anxiety symptoms is in the two to three months following HIV diagnosis (Chandra, 2005). In the current study only 3.8% of patients had known their HIV status for a period of less than one year.

5.2.6 Prevalence of Mania/Hypomania

Mania in HIV positive patients has been reported to occur in up to eight percent of the affected. The current study reported a lower prevalence of mania in comparison to this. The findings are however comparable to what has been found in other similar studies in sub-Saharan Africa (Els et al., 1999) and is still higher than the known prevalence of mania in the general population. HIV mania has been associated with, amongst other factors, advanced HIV disease and cognitive decline (Hutchinson, 2005). Most participants in this study had CD4 counts above 350 cells/ul and were generally in good physical health, as this was an outpatient clinic setup. This could explain why the prevalence of mania in this population was about 2.7%.

5.2.7 Suicidality

There is paucity of information regarding HIV and Suicidality. The current study found a prevalence of 1.1%. A West African study designed to determine the prevalence of suicidal ideation and the associated risk factors, found that the prevalence was 13.6%. Being unmarried, poor medication adherence and a poorer quality of life were associated with suicidal ideation, whilst emotional distress, religion, HIV status non-disclosure and previous suicide attempt were not only associated, but predictive of suicidal ideation (Ogundipe et al., 2015).

Efavirenz has been linked to an increased risk for suicidal ideation, attempted or completed suicide (Mollan et al., 2014). In view of this and the finding that a little over 70% of the participants were on an efavirenz based regime, it was expected that the rate of suicidal ideation would be increased. This however was not the case.

5.3 Psychiatric Disorders and Associated Demographic and Clinical Factors

The study further sought to determine if there were any social, demographic and clinical factors that were associated with the diagnosis of a psychiatric disorder. Following are the associations found in this study.

5.3.1 Alcohol Abuse/Dependence and Gender

As was expected from the outset of the study and in keeping with what is known, there was a strong association between being male and having an alcohol use disorder. Given that the proportion of males in the study was less than the females, constituting only about a quarter of the sample size and alcohol use disorders were the most frequent, it can be safely concluded that males who are HIV positive are more likely to drink in this population. This association has been reported by other studies in sub Saharan Africa (Sebit et al., 2003; Myer et al., 2008).

5.3.3 Depression and Marital Status

Of the socio-demographic factors, Depression showed an association with marital status. Being separated or widowed was associated with depression. In the general population, depressive disorders are less prevalent in people who are married and occur more commonly in those who are single, divorced, separated or widowed. Therefore this association is not surprising. Furthermore, being widowed implies a person lost a significant other through death and most

likely from HIV, in this case. A South African study found an association between loss of a significant person and mental illness, particularly if the person had died from HIV (Freeman et al., 2007). However, a study in Uganda found no association between depression and marital status (Nakimuli-Mpungu et al., 2011).

5.3.4 *Depression and Occupational Status*

Another factor that was associated with depression in this study was the occupational status. Students and unemployed patients were more likely to suffer from depression and post traumatic stress disorder, than their formally or self employed counterparts. It can be inferred that students and the unemployed may be financially deprived, a factor that could be at play as a mechanism for the development of depression. However, there was no association between income status and depression.

It is notable that other socio-demographic factors that have been associated with depression in the general population such as age and sex were not found in this study. The Ugandan study quoted earlier also found no association between depression and socio-demographic factors such as age, sex and income status (Nakimuli-Mpungu et al., 2011). This finding of both studies may imply that most of the depression seen in this population maybe due to the neuropathological effect of the virus on the brain, other than a complication of psychological responses.

5.3.5 *Mania/Hypomania and Age*

The only psychiatric disorder that showed an association with age was mania and hypomania. In this study, younger people were more likely to suffer from mania or hypomania. This finding is consistent with findings in a South African study (Els et al., 1999). The study found that bipolar disorder, a disorder which is characterized by episodes of mania with or without depressive episodes was more common in younger people with HIV than in the older ones with HIV.

However, a Ugandan study that compared HIV negative and HIV positive patients with mania found that those with HIV mania were more likely to be older. Further, it found that women,

those with no college education, lower socio-economic status, divorced or separated, were more likely to have HIV mania (Nakumili-Mpungu et al., 2006).

5.3.6 Mania/Hypomania and Disease Stage

Mania in HIV has been commonly associated with advanced disease and marked cognitive impairment. Since this association did not hold true in this study, it is possible that in this population, the manic symptoms seen were primary mania, in the context of bipolar mood disorder especially since the prevalence found was more similar to the known prevalence of bipolar mood disorder in the general population. Furthermore, about 83% of the respondents had CD4 counts above 250, implying that on average most of them were not severely immune-compromised and therefore not at risk for secondary mania. HIV mania has been associated with CD4 counts of less than 200. However, it is necessary to note that in this study, what was used was the most recent CD4 count, as blood collection and testing was not done as part of this study due to various limitations. Another factor is that with only a small number of people presenting with mania, it is statistically difficult to make meaningful associations.

5.3.7 Neurocognitive Impairment and Associated Factors

It was expected that PHD would be associated with age, advanced disease, use of HAART and poor adherence to drugs, as it is known to be (Dube et al., 2005; Sadock et al., 2009; David et al., 2009; Gallego et al., 2000). However, in this population, these associations were not found. The finding that PHD is not associated with advanced HIV disease through CD4 count measures could suggest that in this population, neurocognitive impairment is not influenced by the stage of the HIV disease. However just as it has been mentioned above, on the spot CD4 count testing was not done and what was used was the most recent CD4 count, which for most was a result in the last three months. Therefore this factor could have contributed to the lack of an association.

5.4 Implications of psychiatric disorders in HIV disease

5.4.1 Alcohol Abuse/Dependence and Condom Use

In this study, there was a strong association between non use of condoms and alcohol. Males who had an alcohol related disorder were more likely to have unprotected sexual intercourse. This finding is consistent with literature (Chandra, 2005) and underscores the risk of HIV spread. Further, a study done in three sub-Saharan countries found that those with inconsistent condom use were more likely to be categorized in the higher risk drinking categories, a finding similar to the current study (Säll et al., 2009). However, the current study found no association between alcohol use and the number of sexual partners as was expected, given that alcohol use has been associated with an increase in the number of one's sexual partners'. It is likely that this discrepancy is as a result of under reporting or that in fact males in this population who have alcohol use disorders though practicing unsafe sex do so more often with their regular partners and therefore are still at risk of re-infections.

Another study done in three sub-Saharan African countries, Zambia being one of them, to determine causes of in-complete adherence to ARVs found that alcohol abuse was one of the factors responsible (Denison et al., 2015). Though this association has been found in many other studies (Mellins et al., 2009), it was not present in this study. It is true that measuring adherence can be difficult especially if the measurement relies on patients self report as was the case in this study. Patients may not remember correctly, or due to fear of being ridiculed may not be forthcoming to reveal they have missed medication. This might have been the case in this study. A more reliable method such as drug levels or viral suppression was ideal, but not possible due to limited resources.

5.4.2 Association of PHD to HAART

The lack of an association between PHD and HAART use could suggest that HAART does not affect the emergence of dementia in this population. Besides, the average duration of HAART use was, with the majority of them having been on HAART for over one year which is an adequate period of time. It however could mean that that the drugs being used do not penetrate the blood brain barrier effectively, are not taken correctly or that HAART is started late, after cognitive decline has set in. The challenge however in the interpretation of this is that most

participants were on HAART and only 1.6% were not. Therefore it is hard to make comparisons between the two groups, given the small number of those not on HAART.

The finding that PHD was not associated with poor adherence suggests that the cognitive defects were probably not that severe, given that these people were ambulant.

CHAPTER SIX: CONCLUSION

6.1 Conclusion

The aim of this study was to investigate the prevalence of psychiatric disorders in HIV positive patients. The findings of this study suggest that the rate of psychiatric disorders and PHD in HIV positive patients in Zambia is high evidenced by the finding that nearly half of the participants were diagnosed with a disorder. While Probable HIV dementia, which is purely a neuropsychiatric disorder, is the commonest disorder, Alcohol use disorders are the commonest psychiatric disorder in this population.

The study further sought to determine the demographic and clinical characteristics of HIV positive patients who present with psychiatric disorders. Though no clinical factors were found

to be associated with psychiatric disorders in this population, various demographic factors were. A strong association between being male and having an alcohol use disorder exists in this population. Further, being separated or widowed is associated with depression while students and unemployed patients are more likely to suffer from depression and post traumatic stress disorder. Furthermore, younger people are more likely to suffer from mania or hypomania.

Research has shown that one of the negative consequences that psychiatric disorders may have on HIV is to increase the risk of transmission of the virus. This study found that males who had an alcohol related disorder were more likely to have unprotected sexual intercourse and underscores the risk of HIV spread.

Therefore, the fight against HIV is incomplete without consideration of the relevance of mental health implications on the management of people living with HIV.

6.2 Recommendations

The following recommendations have been made, based on the findings of this study

- Ø In view of the high prevalence of these disorders, there is need for the integration of mental health identification in the routine management of HIV positive patient
- Ø Screening for alcohol abuse and dependence in all male HIV positive patients to be mandatory as well as establishing referral pathways for those in need of interventions.
- Ø Particular attention should be given to the young, students, separated, widowed and unemployed patients as they appear to be more at risk of having specific psychiatric disorders.

6.3 Suggestions for Future Research

- Ø The need to do a similar study with matched HIV negative patients as controls in order to ascertain whether indeed there are differences between those who are HIV positive and those who are negative, in regards to prevalence of psychiatric disorders

Ø The study was only done at one health facility in an urban setting. For the purposes of generalization a larger scale study involving other centers including rural settings, would be necessary.

Ø The sample population was predominantly female, but alcohol use disorders were the most frequent psychiatric diagnosis and were associated with being male. It would therefore be necessary to do a specific study on HIV positive male patients only, to determine their drinking patterns, associated consequences in relation to HIV care and workable interventions

Ø Prevalence of psychiatric disorders in different stages of HIV

Ø A study to determine the prevalence of HIV in hospitalized psychiatric patients, the range of psychiatric disorders the present with and the management challenges arising as a result

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APPENDICES

Appendix A: Frequency of psychiatric diagnoses among the patients

	Frequency	Percent
Probable dementia	57	30.8%
Alcohol	17	9.2%
Any Psychotic disorder	17	9.2%
Psychosis with drugs	7	3.8%
Psychosis	5	2.7%
Mood disorder with psychotic symptoms	5	2.7%
Major Depressive disorder	13	7.0%
Any Anxiety disorders	12	6.5%
Panic disorder	5	2.7%
Agoraphobia	3	1.6%
Social phobia	2	1.1%
PTSD	2	1.1%
Hypo/mania	5	2.7%
Suicidality	2	1.1%

Appendix B: Characteristics of the respondents

Variable	Values	Frequency (n=185)	Percent
Sex	male	52	28.1
	female	133	71.9
Age	35 years and below	76	41.1
	above 35 years	109	58.9
Marital status	married	108	58.4
	separated	10	5.4
	divorced	19	10.3
	widowed	48	25.9
Educational level	none	4	2.2
	lower primary	11	5.9
	upper primary	48	25.9
	secondary	78	42.2
	tertiary	44	23.8
Employment status	student	11	5.9
	unemployed	66	35.7
	formerly employed	50	27.0
	self-employed	58	31.4
Monthly income	K100-599	50	27.0
	K600-1099	19	10.3
	K1100-1600	14	7.5
	K1700-2000	4	2.2
	> K2000	39	21.1
	No regular monthly income	59	31.9

Appendix C: Respondent presentation per Regimen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TDF/FTC/EFV	127	68.6	69.8	69.8
	AZT/3TC/NVP	32	17.3	17.6	87.4
	AZT/3TC/EFV	4	2.2	2.2	89.6
	ABC/3TC/NVP	4	2.2	2.2	91.8
	TDF/FTC/NVP	3	1.6	1.6	93.4
	TDF/FTC/LPV/r	3	1.6	1.6	95.1
	AZT/TDF/FTC/LPV	3	1.6	1.6	96.7
	ABC/3TC/EFV	2	1.1	1.1	97.8
	TDF/3TC/NVP	2	1.1	1.1	98.9
	AZT/ABC/LPV/r	1	.5	.5	99.5
	ABC/3TC/LPV/r	1	.5	.5	100.0
	Total		182	98.4	100.0
Missing	Not applicable	3	1.6		
Total		185	100.0		

Appendix D: Socio-Demographic Questionnaire

1. Sex
 - Male
 - Female
1. What is your age?
 - <35
 - >35
2. What is your marital status?
 - Now married
 - Widowed
 - Divorced
 - Separated
 - Never married
3. What is the highest level of school you have reached?
 - No schooling
 - Lower primary
 - Upper primary
 - Secondary
 - Tertiary
4. Are you currently
 - Formerly employed
 - Self-employed
 - Un-employed
 - Student

5. What is your total regular income per month?
- Nil
 - K100.00 – K500.00
 - K600.00 - K1,000.00
 - K1,100.00 - K1,600.00
 - K1,700.00 - K2,000.00
 - > K2,000.00
6. How long have you known about your current HIV status
- 0 – 1year
 - 1 – 5 years
 - > 5 years
7. How many sexual partners do you have currently?
- Nil
 - 1
 - 2+
8. In the past 6 months, how frequently have you used condoms with your regular partner?
- Always
 - Sometimes
 - Never
9. In the past 6 months, how frequently have you used condoms with partners other than your regular one?
- Always
 - Sometimes
 - Never

Appendix E: Clinical Records Review

1. On ART
 - Yes
 - No
2. Duration of ART use
 - < 1 year
 - 1 year +
3. Current ART regimen
 - TDF/FTC/EFV
 - AZT/3TC/NVP
 - AZT/3TC/EFV
 - ABC/3TC/ NVP
4. CD4 count
 - < 100
 - 100-249
 - 250-349
 - 350+
5. List of previous and current Opportunistic infections
 - TB
 - Meningitis
 - Others
6. Other medical conditions of relevance
 - Hypertension
 - Diabetes
 - Others

Appendix F: Adherence to HIV Medication

Many patients find it difficult to take all their HIV medications exactly as prescribed

1. How many doses of your HIV medication did you miss in the last 7 days? (# doses)
2. Put a mark on the line below that shows your best guess about how much of your prescribed HIV medication you have taken in the last month. We would be surprised if this was 100% for most people.

Examples: 0% means you have taken no medication
 50% means you have taken half your medication
 100% means you have taken all your medications



3. Do you ever forget to take your HIV medications (Yes or No)
4. Sometimes if you feel worse, do you stop taking your HIV medications (Yes or No)
5. Did you take any of your medications over the past weekend (Yes or No)
6. What makes it difficult to take your HIV medications regularly (Write in response)

Appendix G: The International HIV Dementia Scale

Memory registration- give four words to recall (dog, hat, bean, red). 1 second to say each. Then ask the patient all four words after you have said them. Repeat words if the patient does not

recall them all immediately. Tell the patient you will ask for recall of the words again a bit later.

1. Motor Speed. Ask the patient to tap the first two fingers of the non-dominant hand as widely and as quickly as possible.

4=15 in 5 seconds

3=11-14 in 5 seconds

2=7-10 in 5 seconds

1=3-6 in 5 seconds

0=0-2 in 5 seconds

2. Psychomotor Speed. Have the patient perform the following movements as with the non-dominant hand as quickly as possible. 1) clench hand in fist on flat surface. 2) Put hand flat on surface with palm down. 3) Put hand perpendicular to surface on the side of 5th digit.

Demonstrate and have patient perform twice for practice

4=4 sequences in 10 seconds

3=3 sequences in 10 seconds

2=2 sequences in 10 seconds

1=1 sequence in 10 seconds

0= unable to perform

3. Memory recall. Ask the patient to recall the four words. Four words not recalled, prompt with a semantic clue as follows; animal(dog); piece of clothing(hat); vegetable(bean); color(red)

Give 1 point for each word spontaneously recalled

Give 0.5 points for each correct answer after prompting

Maximum 4 points

Total International HIV dementia score. This is the sum of the scores from items 1-3. The maximum possible score is 12 points. A patient with a score of <10 should be evaluated further for possible dementia

Appendix H: Mini International Neuropsychiatric Interview

A. Major Depressive Episode

(**➡ Means: Go To The Diagnostic Boxes, Circle No In All Diagnostic Boxes, And Move To The Next Module**)

A1 Have you been consistently depressed or down, most of the day, nearly every day, for the past two weeks? NO YES

A2 In the past two weeks, have you been much less interested in most things or much less able to enjoy the things you used to enjoy most of the time? NO YES

IS A1 OR A2 CODED YES? ➡ NO YES

A3 Over the past two weeks, when you felt depressed or uninterested:

a Was your appetite decreased or increased nearly every day? Did your weight decrease or increase without trying intentionally (i.e., by $\pm 5\%$ of body weight or ± 8 lbs. or ± 3.5 kgs., for a 160 lb./70 kg. person in a month)? **IF YES TO EITHER, CODE YES.** NO YES *

b Did you have trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning waking or sleeping excessively)? NO YES

c Did you talk or move more slowly than normal or were you fidgety, restless or having trouble sitting still almost every day? NO YES

d Did you feel tired or without energy almost every day? NO YES

e Did you feel worthless or guilty almost every day? NO YES

f Did you have difficulty concentrating or making decisions almost every day? NO YES

g Did you repeatedly consider hurting yourself, feel suicidal, or wish that you were dead? NO YES

ARE 5 OR MORE ANSWERS (A1-A3) CODED YES?

NO	YES *
<i>MAJOR DEPRESSIVE EPISODE, CURRENT</i>	

IF PATIENT HAS CURRENT MAJOR DEPRESSIVE EPISODE CONTINUE TO A4, OTHERWISE MOVE TO MODULE B:

A4 a During your lifetime, did you have other episodes of two weeks or more when you felt depressed or uninterested in most things, and had most of the problems we just talked about?

NO YES

b In between 2 episodes of depression, did you ever have an interval of at least 2 months, without any depression and any loss of interest?

NO	YES *
<i>MAJOR DEPRESSIVE EPISODE, CURRENT</i>	

C. Suicidality

In the past month did you:

				Points
C1	Suffer any accident?	NO	YES	0
IF NO TO C1, SKIP TO C2; IF YES, ASK C1a,:				
C1a	Plan or intend to hurt yourself in that accident either passively or actively?	NO	YES	0
IF NO TO C1a, SKIP TO C2; IF YES, ASK C1b,:				
C1b	Did you intend to die as a result of this accident?	NO	YES	0
C2	Think that you would be better off dead or wish you were dead?	NO	YES	1
C3	Want to harm yourself or to hurt or to injure yourself?	NO	YES	2
C4	Think about suicide?	NO	YES	6
IF YES, ASK ABOUT THE INTENSITY AND FREQUENCY OF THE SUICIDAL IDEATION:				
		Frequency	Intensity	
		Occasionally ?	Mild ?	
		Often ?	Moderate ?	
		Very often ?	Severe ?	
and state that you will not act on them while in this program?		Can you control these impulses		
		Only score 8 points if response is NO.		
C5	Have a suicide plan?	NO	YES	8
C6	Take any active steps to prepare to injure yourself or to prepare for a suicide attempt	NO	YES	8

in which you expected or intended to die?

NO YES 9

C7 Deliberately injure yourself without intending to kill yourself?

NO YES 4

C8 Attempt suicide?

NO YES 10

Hoped to be rescued / survive ?

Expected / intended to die ?

In your lifetime:

C9 Did you ever make a suicide attempt?

NO YES 4

IS AT LEAST 1 OF THE ABOVE (EXCEPT C1) CODED **YES**?

IF YES, ADD THE TOTAL NUMBER OF POINTS FOR THE ANSWERS (C1-C9) CHECKED 'YES' AND SPECIFY THE LEVEL OF SUICIDE RISK AS INDICATED IN THE DIAGNOSTIC BOX:

NO	YES
SUICIDE RISK CURRENT	
1-8 points	Low ?
9-16 points	Moderate ?
> 17 points	High ?

MAKE ANY ADDITIONAL COMMENTS ABOUT YOUR ASSESSMENT OF THIS PATIENT'S CURRENT AND NEAR FUTURE SUICIDE RISK IN THE SPACE BELOW:

D. (Hypo) Manic Episode

D1 a Have you **ever** had a period of time when you were feeling 'up' or 'high' or 'hyper' or so full of energy or full of yourself that you got into trouble, or that other people thought you were not your usual self? (Do not consider times when you were intoxicated on drugs or alcohol.) NO YES

IF PATIENT IS PUZZLED OR UNCLEAR ABOUT WHAT YOU MEAN BY 'UP' OR 'HIGH' OR 'HYPER', CLARIFY AS FOLLOWS: By 'up' or 'high' or 'hyper' I mean: having elated mood; increased energy; needing less sleep; having rapid thoughts; being full of ideas; having an increase in productivity, motivation, creativity, or impulsive behavior.

IF NO, CODE NO TO **D1b**: IF **YES** ASK:

b Are you currently feeling 'up' or 'high' or 'hyper' or full of energy? NO YES

D2 a Have you **ever** been persistently irritable, for several days, so that you had arguments or verbal or physical fights, or shouted at people outside your family? Have you or others noticed that you have been more irritable or over reacted, compared to other people, even in situations that you felt were justified? NO YES

IF NO, CODE NO TO **D2b**: IF **YES** ASK:

b Are you currently feeling persistently irritable? NO YES

IS **D1a** OR **D2a** CODED **YES**?

NO YES

D3 IF **D1b** OR **D2b** = **YES**: EXPLORE THE **CURRENT** AND THE MOST SYMPTOMATIC **PAST** EPISODE, OTHERWISE

IF **D1b** AND **D2b** = **NO**: EXPLORE ONLY THE MOST SYMPTOMATIC **PAST** EPISODE

During the times when you felt high, full of energy, or irritable did you:

Current Episode

Past Episode

a Feel that you could do things others couldn't do, or that you were an especially important person?
NO YES

NO YES

IF **YES**, ASK FOR EXAMPLES.

THE EXAMPLES ARE CONSISTENT WITH A DELUSIONAL IDEA. ? No ? Yes

b Need less sleep (for example, feel rested after only a few hours sleep)?
NO YES

NO YES

c Talk too much without stopping, or so fast that people had difficulty understanding?
NO YES

NO YES

d	Have racing thoughts?	NO	YES
	NO YES		
e	Become easily distracted so that any little interruption could distract you?	NO	YES
	NO YES		
f	Become so active or physically restless that others were worried about you?	NO	YES
NO	YES		
g	Want so much to engage in pleasurable activities that you ignored the risks or	NO	YES
NO	YES		
	consequences (for example, spending sprees, reckless driving, or sexual indiscretions)?		

D4	Did these symptoms last at least a week and cause significant problems at home,	NO	YES	NO
	YES			
	at work, socially, or at school, or were you hospitalized for these problems?	?	?	?
	THE EPISODE EXPLORED WAS A:			

HYPOMANIC ***MANIC***

EPISODE ***EPISODE***

E. Panic Disorder

(MEANS : CIRCLE NO IN E5, E6 AND E7 AND SKIP TO F1)

- | | | | |
|------|--|---|--------|
| E1 a | Have you, on more than one occasion, had spells or attacks when you suddenly felt anxious, frightened, uncomfortable or uneasy, even in situations where most people would not feel that way? | NO | YES |
| | b | Did the spells surge to a peak within 10 minutes of starting? | NO YES |
| E2 | At any time in the past, did any of those spells or attacks come on unexpectedly or occur in an unpredictable or unprovoked manner? | NO | YES |
| E3 | Have you ever had one such attack followed by a month or more of persistent concern about having another attack, or worries about the consequences of the attack or did you make a significant change in your behavior because of the attacks (e.g., shopping only with a companion, not wanting to leave your house, visiting the emergency room repeatedly, or seeing your doctor more frequently because of the symptoms? | NO | YES |
| E4 | During the worst spell that you can remember: | | |
| | a | Did you have skipping, racing or pounding of your heart? | NO YES |
| | b | Did you have sweating or clammy hands? | NO YES |
| | c | Were you trembling or shaking? | NO YES |

- d Did you have shortness of breath or difficulty breathing? NO YES
- e Did you have a choking sensation or a lump in your throat? NO YES
- f Did you have chest pain, pressure or discomfort? NO YES
- g Did you have nausea, stomach problems or sudden diarrhea? NO YES
- h Did you feel dizzy, unsteady, lightheaded or faint? NO YES
- i Did things around you feel strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body? NO YES
- j Did you fear that you were losing control or going crazy? NO YES
- k Did you fear that you were dying? NO YES
- l Did you have tingling or numbness in parts of your body? NO YES
- m Did you have hot flushes or chills? NO YES

E5 ARE BOTH E3, AND 4 OR MORE E4 ANSWERS, CODED YES?

NO YES
**PANIC DISORDER
 LIFETIME**

IF YES TO E5, SKIP TO E7.

E6 IF E5 = NO, ARE ANY E4 ANSWERS CODED YES?

NO YES
**LIMITED SYMPTOM
 ATTACKS LIFETIME**

THEN SKIP TO F1.

E7 In the past month, did you have such attacks repeatedly (2 or more) followed by persistent concern about having another attack?

CURRENT

NO YES
PANIC DISORDER

F. Agoraphobia

F1 Do you feel anxious or uneasy in places or situations where you might have a panic attack or the panic-like symptoms we just spoke about, or where help might not be available or escape might be difficult: like being in a crowd, standing in a line (queue), when you are alone away from home or alone at home, or when crossing a bridge, traveling in a bus, train or car?

NO YES

IF F1 = NO, CIRCLE NO IN F2.

F2 Do you fear these situations so much that you avoid them, or suffer through them, or need a companion to face them?

NO YES
AGORAPHOBIA
CURRENT

IS F2 (CURRENT AGORAPHOBIA) CODED NO

and

NO YES
PANIC DISORDER
without Agoraphobia
CURRENT

IS E7 (CURRENT PANIC DISORDER) CODED YES?

IS **F2** (CURRENT AGORAPHOBIA) CODED **YES**

And

IS **E7** (CURRENT PANIC DISORDER) CODED **YES**?

NO YES
PANIC DISORDER
with Agoraphobia
CURRENT

IS **F2** (CURRENT AGORAPHOBIA) CODED **YES**

And

IS **E5** (PANIC DISORDER LIFETIME) CODED **NO**?

NO YES
AGORAPHOBIA CURRENT
without history of
Panic Disorder

G. Social Phobia (Social Anxiety Disorder)

(MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO AND MOVE TO THE NEXT MODULE)

G1 In the past month, were you fearful or embarrassed being watched, being the focus of attention, or fearful of being humiliated? This includes things like speaking in public, eating in public or with others, writing while someone watches, or being in social situations. NO YES

G2 Is this social fear excessive or unreasonable? NO YES

G3 Do you fear these social situations so much that you avoid them or suffer through them? NO YES

G4 Do these social fears disrupt your normal work or social functioning or cause you significant distress? NO YES
SOCIAL PHOBIA
(Social Anxiety Disorder)
CURRENT

SUBTYPES

Do you fear and avoid 4 or more social situations?

If YES Generalized social phobia (social anxiety disorder) GENERALIZED

If NO Non-generalized social phobia (social anxiety disorder) NON-GENERALIZED

NOTE TO INTERVIEWER: PLEASE ASSESS WHETHER THE SUBJECT'S FEARS ARE RESTRICTED TO NON-GENERALIZED ("ONLY 1 OR SEVERAL") SOCIAL SITUATIONS OR EXTEND TO GENERALIZED ("MOST") SOCIAL SITUATIONS. "MOST" SOCIAL SITUATIONS IS USUALLY OPERATIONALIZED TO MEAN 4 OR MORE SOCIAL SITUATIONS, ALTHOUGH THE DSM-IV DOES NOT EXPLICITLY STATE THIS. EXAMPLES OF SUCH SOCIAL SITUATIONS TYPICALLY INCLUDE INITIATING OR MAINTAINING A CONVERSATION, PARTICIPATING IN SMALL GROUPS, DATING, SPEAKING TO AUTHORITY FIGURES, ATTENDING PARTIES, PUBLIC SPEAKING, EATING IN FRONT OF OTHERS, URINATING IN A PUBLIC WASHROOM, ETC.

H. Obsessive-Compulsive Disorder

(MEANS: GO TO THE DIAGNOSTIC BOX, CIRCLE NO AND MOVE TO THE NEXT MODULE)

In the past month, have you been bothered by recurrent thoughts, impulses, or images that were unwanted, distasteful, inappropriate, intrusive, or distressing? (For example, the idea that you were dirty, contaminated or had germs, **or** fear of contaminating others, **or** fear of harming someone even though you didn't want to, **or** fearing you would act on some impulse, **or** fear or superstitions that you would be responsible for things going wrong, **or** obsessions with sexual thoughts, images or impulses, **or** hoarding, collecting, **or** religious obsessions.)

NO YES
?
SKIP TO H4

(DO NOT INCLUDE SIMPLY EXCESSIVE WORRIES ABOUT REAL LIFE PROBLEMS. DO NOT INCLUDE OBSESSIONS DIRECTLY RELATED TO EATING DISORDERS, SEXUAL DEVIATIONS, PATHOLOGICAL GAMBLING, OR ALCOHOL OR DRUG ABUSE BECAUSE THE PATIENT MAY DERIVE PLEASURE FROM THE ACTIVITY AND MAY WANT TO RESIST IT ONLY BECAUSE OF ITS NEGATIVE CONSEQUENCES.)

H2 Did they keep coming back into your mind even when you tried to ignore or get rid of them?

NO YES
?
SKIP TO H4

H3 Do you think that these obsessions are the product of your own mind and that they are not imposed from the outside?

NO YES
Obsessions

H4 In the past month, did you do something repeatedly without being able to resist doing it, like washing or cleaning excessively, counting or checking things over and over, or repeating, collecting, arranging things, or other

NO YES
compulsions

superstitious rituals?
IS **H3** OR **H4** CODED **YES**?

NO YES

H5 Did you recognize that either these obsessive thoughts or these compulsive behaviors were excessive or unreasonable?

NO YES

H6 Did these obsessive thoughts and/or compulsive behaviors significantly interfere with your normal routine, your work or school, your usual social activities, or relationships, or did they take more than one hour a day?

NO YES
O.C.D
CURRENT

I. Posttraumatic Stress Disorder (Optional)

(MEANS: GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

I1 Have you ever experienced or witnessed or had to deal with an extremely traumatic event that included actual or threatened death or serious injury to you or someone else?

NO YES

EXAMPLES OF TRAUMATIC EVENTS INCLUDE: SERIOUS ACCIDENTS, SEXUAL OR PHYSICAL ASSAULT, A TERRORIST ATTACK, BEING HELD HOSTAGE, KIDNAPPING, FIRE, DISCOVERING A BODY, SUDDEN DEATH OF SOMEONE CLOSE TO YOU, WAR, OR NATURAL DISASTER.

I2 Did you respond with intense fear, helplessness or horror?

NO YES

I3 During the past month, have you re-experienced the event in a distressing way (such as, dreams, intense recollections, flashbacks or physical reactions)?

NO YES

I4 In the past month:

- | | | |
|---|----|-----|
| a Have you avoided thinking about or talking about the event ? | NO | YES |
| b Have you avoided activities, places or people that remind you of the event? | NO | YES |
| c Have you had trouble recalling some important part of what happened? | NO | YES |
| d Have you become much less interested in hobbies or social activities? | NO | YES |
| e Have you felt detached or estranged from others? | NO | YES |
| f Have you noticed that your feelings are numbed? | NO | YES |
| g Have you felt that your life will be shortened or that you will die sooner than other people? | NO | YES |

ARE 3 OR MORE I4 ANSWERS CODED YES? NO YES

I5 In the past month:

- | | | |
|---|----|-----|
| a Have you had difficulty sleeping? | NO | YES |
| b Were you especially irritable or did you have outbursts of anger? | NO | YES |
| c Have you had difficulty concentrating? | NO | YES |
| d Were you nervous or constantly on your guard? | NO | YES |
| e Were you easily startled? | NO | YES |

ARE 2 OR MORE I5 ANSWERS CODED YES?

NO YES

I6 During the past month, have these problems significantly interfered with your work or social activities, or caused significant distress?

NO YES
*POSTTRAUMATIC
STRESS DISORDER
CURRENT*

J. Alcohol Abuse and Dependence

J1 **In the past 12 months**, have you had 3 or more alcoholic drinks within a 3 hour period on 3 or more occasions?

NO YES

J2 **In the past 12 months:**

a Did you need to drink more in order to get the same effect that you got when you first started drinking?

NO YES

b When you cut down on drinking did your hands shake, did you sweat or feel agitated? Did you drink to avoid these symptoms or to avoid being hung over, for example, "the shakes", sweating or agitation?

NO YES

IF YES TO EITHER, CODE YES.

c During the times when you drank alcohol, did you end up drinking more than you planned when you started?

NO YES

d Have you tried to reduce or stop drinking alcohol but failed?

NO YES

e On the days that you drank, did you spend substantial time in obtaining

NO YES

- alcohol, drinking, or in recovering from the effects of alcohol?
- f Did you spend less time working, enjoying hobbies, or being with others because of your drinking? NO YES
- g Have you continued to drink even though you knew that the drinking caused you health or mental problems? NO YES

3 OR MORE J2 ANSWERS CODED YES?

* IF YES, SKIP J3 QUESTIONS, CIRCLE N/A IN THE ABUSE BOX AND MOVE TO THE NEXT DISORDER. DEPENDENCE PREEMPTS ABUSE.

NO	YES*
<i>ALCOHOL DEPENDENCE CURRENT</i>	

J3 In the past 12 months:

- a Have you been intoxicated, high, or hungover more than once when you had other responsibilities at school, at work, or at home? Did this cause any problems? NO YES

(CODE YES ONLY IF THIS CAUSED PROBLEMS.)

- b Were you intoxicated more than once in any situation where you were physically at risk, for example, driving a car, riding a motorbike, using machinery, boating, etc.? NO YES
- c Did you have legal problems more than once because of your drinking, for example, an arrest or disorderly conduct? NO YES
- d Did you continue to drink even though your drinking caused problems with your family or other people? NO YES


ARE 1 OR MORE J3 ANSWERS CODED YES?

NO	N/A	YES
<i>ALCOHOL ABUSE CURRENT</i>		


L. Psychotic Disorders and Mood Disorder with Psychotic Features

L1 a Have you ever believed that people were spying on you, or that someone was plotting against you, or trying to hurt you? NO YES YES

NOTE: ASK FOR EXAMPLES TO RULE OUT ACTUAL STALKING

b **IF YES OR YES BIZARRE:** do you currently believe these things? NO YES YES
L6 

L2 a Have you ever believed that someone was reading your mind or could hear your thoughts, or that you could actually read someone's mind or hear what another person was thinking? NO YES YES

b **IF YES OR YES BIZARRE:** do you currently believe these things? NO YES YES
L6 

L3 a Have you ever believed that someone or some force outside of yourself put thoughts in your mind that were not your own, or made you act in a way that was not your usual self? Have you ever felt that you were possessed? NO YES YES

CLINICIAN: ASK FOR EXAMPLES AND DISCOUNT ANY THAT ARE NOT PSYCHOTIC.

b **IF YES OR YES BIZARRE:** do you currently believe these things? NO YES ~~YES~~ **L6**

L4 a Have you ever believed that you were being sent special messages through the TV, radio, or newspaper, or that a person you did not personally know was particularly interested in you? NO YES YES

b **IF YES OR YES BIZARRE:** do you currently believe these things? NO YES YES

L6

L5 a Have your relatives or friends ever considered any of your beliefs strange or unusual? NO YES YES

INTERVIEWER: ASK FOR EXAMPLES. ONLY CODE YES IF THE EXAMPLES ARE CLEARLY DELUSIONAL IDEAS NOT EXPLORED IN QUESTIONS L1 TO L4, FOR EXAMPLE, SOMATIC OR RELIGIOUS DELUSIONS OR DELUSIONS OF GRANDIOSITY, JEALOUSY, GUILT, RUIN OR DESTITUTION, ETC.

b **IF YES OR YES BIZARRE:** do they currently consider your beliefs strange? NO YES YES

L6 a Have you ever heard things other people couldn't hear, such as voices? NO YES
HALLUCINATIONS ARE SCORED "BIZARRE" ONLY IF PATIENT ANSWERS YES TO THE FOLLOWING:

IF YES: Did you hear a voice commenting on your thoughts or behavior or did you hear two or more voices talking to each other? NO - YES

b **IF YES OR YES BIZARRE TO L6a:** have you heard these things in the past month? NO YES YES
HALLUCINATIONS ARE SCORED "BIZARRE" ONLY IF PATIENT ANSWERS YES TO THE FOLLOWING:

L8b

Did you hear a voice commenting on your thoughts or behavior or did you hear two or more voices talking to each other?

L7 a Have you ever had visions when you were awake or have you ever seen things other people couldn't see? NO YES

CLINICIAN: CHECK TO SEE IF THESE ARE CULTURALLY INAPPROPRIATE.

b **IF YES:** have you seen these things in the past month? NO YES

CLINICIAN'S JUDGMENT

L8 b IS THE PATIENT CURRENTLY EXHIBITING INCOHERENCE, DISORGANIZED SPEECH, OR MARKED LOOSENING OF ASSOCIATIONS? NO YES

L9 b IS THE PATIENT CURRENTLY EXHIBITING DISORGANIZED OR CATATONIC BEHAVIOR? NO YES

L10 b ARE NEGATIVE SYMPTOMS OF SCHIZOPHRENIA, E.G. SIGNIFICANT AFFECTIVE FLATTENING, POVERTY OF SPEECH (ALOGIA) OR AN INABILITY TO INITIATE OR PERSIST IN GOAL-DIRECTED ACTIVITIES (AVOLITION), PROMINENT DURING THE INTERVIEW? NO YES

L11 a ARE 1 OR MORE « a » QUESTIONS FROM L1a TO L7a CODED YES OR YES BIZARRE AND IS EITHER:

MAJOR DEPRESSIVE EPISODE, (CURRENT OR RECURRENT)

OR

MANIC OR HYPOMANIC EPISODE, (CURRENT OR PAST) CODED YES?

NO YES

L13

IF NO TO L11 a, CIRCLE NO IN BOTH 'MOOD DISORDER WITH PSYCHOTIC FEATURES' DIAGNOSTIC BOXES AND MOVE TO L13.

NO YES

***MOOD DISORDER WITH
PSYCHOTIC FEATURES***

You told me earlier that you had period(s) when you felt (depressed/high/persistently irritable).

Were the beliefs and experiences you just described (SYMPTOMS CODED **YES** FROM **L1a** TO **L7a**) restricted exclusively to times when you were feeling depressed/high/irritable?

IF THE PATIENT EVER HAD A PERIOD OF AT LEAST 2 WEEKS OF HAVING THESE BELIEFS OR EXPERIENCES (PSYCHOTIC SYMPTOMS) WHEN THEY WERE NOT DEPRESSED/HIGH/IRRITABLE, CODE NO TO THIS DISORDER.

IF THE ANSWER IS NO TO THIS DISORDER, ALSO CIRCLE NO TO L12 AND MOVE TO L13

L12 a ARE 1 OR MORE « b » QUESTIONS FROM L1b TO L7b CODED **YES OR YES BIZARRE** AND IS EITHER:

MAJOR DEPRESSIVE EPISODE, (CURRENT)
OR
MANIC OR HYPOMANIC EPISODE, (CURRENT) CODED **YES**?

IF THE ANSWER IS YES TO THIS DISORDER (LIFETIME OR CURRENT),
CIRCLE NO TO L13 AND L14 AND MOVE TO THE NEXT MODULE

L13 ARE 1 OR MORE « b » QUESTIONS FROM L1b TO L6b, CODED **YES BIZARRE**?
OR
ARE 2 OR MORE « b » QUESTIONS FROM L1b TO L10b, CODED **YES** (RATHER THAN **YES BIZARRE**)?

AND DID AT LEAST TWO OF THE PSYCHOTIC SYMPTOMS OCCUR DURING THE

NO	YES
<i>MOOD DISORDER WITH PSYCHOTIC FEATURES</i>	
CURRENT	

NO	YES
<i>PSYCHOTIC DISORDER CURRENT</i>	

SAME 1 MONTH PERIOD?

L14 IS L13 CODED YES

OR

ARE 1 OR MORE « a » QUESTIONS FROM L1a TO L6a, CODED YES BIZARRE?

OR

ARE 2 OR MORE « a » QUESTIONS FROM L1a TO L7a, CODED YES (RATHER THAN YES BIZARRE)

AND DID AT LEAST TWO OF THE PSYCHOTIC SYMPTOMS OCCUR DURING THE SAME 1 MONTH PERIOD?

NO YES

***PSYCHOTIC DISORDER
LIFETIME***

Appendix I: Information Sheet

Project Title: PREVALENCE OF PSYCHIATRIC DISORDERS IN HIV POSITIVE PATIENTS AT CHILENJE CLINIC IN LUSAKA, ZAMBIA

Mental Health problems have been noted to occur more commonly in HIV positive people than in people without HIV.

These problems may cause HIV to progress more quickly, interfere with how often patients take ARVs, lead to poor decision making which might result in spreading of the virus to others and generally affect the quality of life of the affected persons. It is therefore important to identify these problems to allow for an early intervention.

The study being carried out is aimed at ascertaining how frequently mental health problems occur in people with HIV locally, how these problems affect the patients and what factors may lead to them. This will help in the planning of resources and ensuring that people who need help in this regard receive it early. The study is being undertaken as part of the masters training program in psychiatry, under the University of Zambia and has been approved by Biomedical Research and Ethics Committee of UNZA. The investigator is a trainee Psychiatrist under the University of Zambia, School of Medicine.

The participants will be interviewed by the investigator for roughly one hour, following the usual ART clinic review. The interview will take place with adequate privacy in the psychiatry outpatient office at Chilenje clinic and clinical records from the ART clinic will be reviewed as well. The participant is free not to answer questions that they deem personal or otherwise. Some of the questions may have a risk of evoking emotional responses from some participants. A token of appreciation in monetary form will be given at the end of the interview to compensate for time.

If you consider participating you are requested to carefully read the consent form attached and sign it. Refusal to participate will in no way affect your care at the clinic. However participation will be beneficial in that you will be referred for further care if the interview suggests that you may need it.

For any further clarifications contact:

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PEPELA LA CHIDZIWISO

Mutu wa Phunziro: Unyinji wa kachizidwe ka matenda a mzimu mu anthu ali ndi kadoyo ka HIV pa Kiliniki ya Chilenje mu Lusaka, Zambia

Mavuto yamatenda azaumoyo wa ubongo aoneka kuti achuluka mu anthu amene ali ndi kadoyo ka HIV kupambana anthu alibe kadoyo. Mavuto amenewa anagalengetse kuti kadoyo kapite patsogolo mwamsanga, kusakhuza nthawi yomwe anthu odwala akumwa makhwala awo, kulenga kuti asapange maganizo abwino omwe angalengetse kuti kadoyo kapasidwe ena ambiri ndi kuononga ubwino wa umoyo wa anthu. Ndicholinga kuyesa kupeza mavuto amenewa kuti tipeze tandizo mwamsanga.

Phunziro ili kuchitidwa iyi ili ndilingo loyesa kuona kuti mavuto amatenda abongo ndiambiri motani mu anthu amene ali ndikadoyo ka HIV mubwalo lathu, kuti mavuto amenewa agwira bwanji odwala ndipo ndizinthu zotani zomwe zimalengetsa kuti izi zichitike. Izi zizathandizila pakugawanisa zofunikira ndi kuona kuti anthu ofuna thandizo kumbali iyi alandira mwamsanga. Phunziro iyi ukuchitika monga mbali ya maphunziro apamwamba a kachizidwe ka matenda a mzimu wa munthu (Psychiatry), ali kuyanganidwa ndi University ya Zambia ndipo yaloledwa ndi bungwe yoyanganira maphunziro ya Biomedical Research and Ethics Committee a University ya Zambia. Wofufuza ndi wamaphunziro a kachizidwe ka matenda a mzimu wa munthu (Psychiatry) ali oyanganidwa ndi University ya Zambia, School of Medicine.

Otengako mbali azafunsidwa ndi wofufuza paka nthawi kofika ola limodzi lokha, pambuyo pooneka ku kiliniki ya ART. Kufunsidwa uku kuzachitika mumalo obisika ku ofisi ya Psychiatry pa kiliniki ya Chilenje ndipo zolembedwa zaku kiliniki ya ART zizaonedwanso. Otengako mbali ndiomasuka kusayankha mafunso omwe aganzira kuti agwira zaumoyo wawo kapena zina zache. Mafunso ena angathe kuutsa maganizo ena pokumbukira zina zace mu anthu otengako mbali. Pambuyo pofunsidwa muzalipilidwa ndalama poonga zikomo panthawi yomwe mwapereka. Ngati mwasankha kutengako mbali mupemphedwa kuwerenga pepala ili pano iyi ndi kusiana. Kusatengako mbali sikuzaletsa kulandira kasamalidwe kanu pa kiliniki. Koma kutengako mbali kuzakuthandizirani kuti mupite kukasamalidwe kapatali ngati zaoneka

kuti muyenera pambuyo pakufunsidwa uku.Ngati muzafunanso dongosolo lina mungathe kuona:

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Appendix J: Consent Form

Project Title: PREVALENCE OF PSYCHIATRIC DISORDERS IN HIV POSITIVE PATIENTS AT CHILENJE CLINIC IN LUSAKA, ZAMBIA

Name:

ID Number

You are invited to take part in a study to ascertain how frequently mental health problems occur in people with HIV, how these problems affect the patients and what factors may lead to them. The study is being undertaken as part of the masters training program in psychiatry, under the University of Zambia and has been approved by the Biomedical Research and Ethics Committee of UNZA.

If you agree to participate, you will be subject to a number of questions administered to you by the investigator and this will last about an hour. The interview will be administered with adequate privacy and you are free not to answer questions that you deem personal or otherwise. Your clinical records from the ART clinic will also be reviewed thereafter and you will receive a token of appreciation in monetary form at the end to compensate for your time and for transport.

All information collected will be strictly confidential and you will be assigned a number to reinforce this. If during the course of the interview and procedure, you change your mind about participating, you are free to do so with no consequences.

Appending of your signature or right thumb print below will confirm your willingness to participate in this research and permission for the researcher to review your clinical record files.

Signature/Thumb Print of participant _____

Care Givers Signature _____

Witness Signature _____

For any further clarifications contact:

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PEPALA LA CHIBVOMEREZANO

Mutu wa Phunziro: Unyinji wa kachizidwe ka matenda a mzimu mu anthu ali ndi kadoyo ka HIV pa Kiliniki ya Chilenje mu Lusaka, Zambia

Dzina: _____

Nambala : _____

Muitanidwa kutengako mbali muphunziro yotesa kuona ngati unyinji wa kachizidwe ka matenda a mzimu wa anthu umachulukira mu anthu omwe ali ndi kadoyo ka HIV, mavuto omwe agwira odwala ndipo ndizinthu zothani zomwe zimalengetsa izi. Phunziro ukuchitika monga mbali ya maphunziro apamwamba a kachizidwe ka matenda a mzimu wa munthu (Psychiatry), ali kuyanganidwa ndi University ya Zambia ndipo yaloledwa ndi bungwe yoyanganira maphunziro ya Biomedical Research and Ethics Committee a University ya Zambia.

Ngati mwalola kutengako mbali, muzakhala ofinsidwa mafunso ndi wofufuza ndipo izi zizatenga ola lokwana ngati limodzi. Muli omasuka kusayankha mafunso omwe mwaganizira kuti agwira zaumoyo wanu kapena zina zache. Zolembedwa zanu zaku kiliniki ya ART zizaonedwanso pambuyo popasidwa ndalama yoonga zikomo panthawi imene muzazipereka ndipo thandizira kayendedwe. Mau onse omwe azategengedwa azasamalidwa machisinsi ndipo muzapasidwa namabala yolimbisa izi. Ngati panthawi yolankhula nanu mwasankha kusatengako mbali, muli omasuka kuchita zimenezi ndipo sikuzaletsa kasamalidwe kanu.

Kusaina kapena kufwatika chala chanu pansi apa kuzaonetsa kufuna kwanu kutengako mbali pa phunziro iyi ndinso kubvomereza wofufuza kuona zolembedwa zanu zapa kiliniki.

Kusaina/ chala cha otengako mbali: _____

Kusaina kwa osamalira: _____

Kusaina kwa mboni: _____

Ngati muzafunanso dongosolo lina mungathe kuona:

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Appendix K: Consent Form by proxy

Project Title: PREVALENCE OF PSYCHIATRIC DISORDERS IN HIV POSITIVE PATIENTS AT CHILENJE CLINIC IN LUSAKA, ZAMBIA

Name:.....

ID Number:.....

Your relative is invited to take part in a study to ascertain how frequently mental health problems occur in people with HIV, how these problems affect the patients and what factors may lead to them.

The study is being undertaken as part of the masters training program in psychiatry, under the University of Zambia and has been approved by the Biomedical Research and Ethics Committee of UNZA.

The study involves the use of questionnaires which will be administered to the participant after the complete their usual clinic review. Clinical record files will be reviewed thereafter as well. The interview will be administered with adequate privacy and the participant is free not to answer questions that are deemed personal or otherwise. A token of appreciation will be availed to the participant at the end of the interview for their time.

All information collected will be strictly confidential and numbers will be assigned to reinforce this. If during the course of the interview, you change your mind about participating, you are free to do so with no consequence.

If you are happy for your relative to participate, kindly append your name and signature or right thumb print below.

Caregivers Name _____

Caregivers Signature/thumb print _____

Witness Signature _____

For any further clarifications, contact:

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PEPALA LA CHIBVOMEREZANO CHA AMENE ALI NDI MPHAMVU ZOSAMALIRA

Mutu wa Phunziro: Unyinji wa kachizidwe ka matenda a mzimu mu anthu ali ndi kadoyo ka HIV pa Kiliniki ya Chilenje mu Lusaka, Zambia

Dzina : _____

Nambala : _____

M'bale wanu aitanidwa kutengako mbali muphunziro yotesa kuona ngati unyinji wa kachizidwe ka matenda a mzimu wa anthu umachuluka mu anthu omwe ali ndi kadoyo kaHIV, mavuto omwe agwira odwala ndipo ndizinthu zothani zomwe zimalengetsa izi.

Phunziro ukuchitika monga mbali ya maphunziro apamwamba a kachizidwe ka matenda a mzimu wa munthu (Psychiatry), ali kuyanganidwa ndi University ya Zambia ndipo yaloledwa ndi bungwe yoyanganira maphunziro ya Biomedical Research and Ethics Committee a University ya Zambia.

Phunziro iyi ili ndi mafunso omwe azafunsidwa otengako mbali atamaliza zomwe ayendela ku kuliniki. Zolembedwa zake zapa kiliniki zizaonedwanso pambuyo pake. Mafunso azapasidwa mumalo obisika ndipo otengako mbali ali omasuka kusayankha mafunso omwe aganizira kuti awagwira kapena zina zache. Azapasidwa ndalama yoonga zikomo pambuyo pofunsidwa mafunso ndi nthawi yomwe azapereka.

Mau onse omwe azateggedwa azasamalidwa machisinsi ndipo azapasidwa manamabala yolimbisa izi. Ngati panthawi yolankhula, mwasankha kusatengako mbali, muli omasuka kuchita zimenezi ndipo sikuzaletsa kasamalidwe ka odwala.

Ngati ndinu pkondwera kuit m'bale wanu atengeko mbali, chonde lembani dzina lanu ndi ku saina kapena kufwatika chala pansa apa

Dzina la osamalira: _____

Kusaina/chala cha osamalira: _____

Kusaina Kwa mboni: _____

Ngati muzafunanso dongosolo lina mungathe kuona:

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