

Prevalence of Common Mental Disorders and its Related Factors Among People Living with HIV and are Accessing ART from ART Clinics in Lilongwe, Malawi.

A Cross Sectional Study using SCID-RV

Chimwemwe Tembo¹*, Japhet Myaba², Justice Khosa¹ and Chipiliro Kambombe¹

¹Saint John of God Hospitaller Services, Lilongwe, Malawi

²Department of Mental Health, Kamuzu College of Nursing, University of Malawi, Blantyre, Malawi

*Corresponding author: Chimwemwe Tembo, Saint John of God Hospitaller Services, Lilongwe, Malawi, Tel: +265997214588, E-mail: chimweptembo@yahoo.co.uk

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Abstract

Introduction: Mental, neurological and substance use disorders (MNS) contribute to the burden of diseases globally. In clients with HIV/AIDS, untreated mental health disorders are associated with increased HIV/AIDS morbidity. In Malawi, epidemiological studies on Common mental Disorders (CMDs) among patients who are on Antiretroviral Therapy (ART) remain limited.

Therefore, this study investigated the prevalence of CMDs (Depression, and, substance use disorders and anxiety disorders) among clients accessing ART in Lilongwe, Malawi.

Methodology: A quantitative cross-sectional study design was used. Two hundred and thirty-seven participants who were 18 years and older and receiving ARTs were systematically and randomly recruited from three public ART clinics in Lilongwe, Malawi. Structured Clinical interview for DSM 4 (SCID), was used to collect data for CMDs. Data analysis was done using Statistical Package for the Social Sciences, software SPSS version 22.

Results: Majority of participants, 73.8% (n=176) had CMD. The most prevalent CMD in this study was Mood disorder 50.6% (n=120), with Depression as the most prevalent mood disorder 37.1% (n= 88). Multiple logistic regression analysis showed that a unit increase in Global Assessment Functioning (GAF) score reduced the odds of presenting with mental disorders (AOR = 0.820, 95%CI = 0.761 – 0.885). In addition, patients visiting Area 18 Health Centre (a public and integrated primary health facility) were about 3 times more likely to have Mental Disorders than those visiting Lighthouse KCH (AOR = 2.679, 95%CI = 1.036 – 6.931). Being male was associated with reduced odds of presenting with mood disorders (AOR = 0.206, 95%CI = 0.085 – 0.497).

Discussion and Ethics: The study shows that prevalence of CMDs is high among clients living with HIV and accessing ART. The results call for efforts to have strategies to effectively identify and manage clients with mental health issues at primary health care level. The study was approved by National Health Research Ethics committee (20/04/2541) in Malawi

Keywords: Common Mental Disorders; HIV and AIDS; HAART Depression; Anxiety

Introduction

Common mental disorders (CMDs) are an all-encompassing term for mental health conditions that affect a substantial number of people [1-3]. These conditions include substance use disorders, anxiety and depression [1]. The global burden of disease survey indicated that by 2020 mental illness and HIV will be among the top 10 causes of morbidity [1]. In Malawi, the prevalence of HIV/AIDS among women and men aged 15-49 is 10.8% (ICF, 2017). The estimates from other sub-Saharan African countries indicated that the burden of mental illness contributes to 19% disability-associated burden [1,4]. Major depressive disorder (MDD) makes the largest contribution, accounting for approximately 40% of YLDs in this burden of disease [4]. There is substantial evidence showing that the prevalence of anxiety and depression in people living with HIV/AIDS is higher than the prevalence in those who are HIV negative [5].

A meta-analysis by [6], reported that the prevalence of CMDs in people living with HIV/AIDS is double than that in the general population. It is asserted that, HIV affects the mental health state in various ways. For example, the progression of HIV may cause depression and anxiety [2]. Furthermore, medication non adherence, non-willingness to access health care services and other high risk personal behaviours like substance use increase the risk of having common mental disorders among People Living with HIV (PLWHA) [7]. In some cases, the side effects of antiretroviral medications especially those with efavirenz cause their own neuropsychiatric complications [8], Untreated mental health disorders in PLWHA are associated with faster HIV disease progression due to poor drug adherence, failure to access HIV care and treatment, poor nutrition that consequently contribute to increased mortality [6, 8-10]. Furthermore, may result in a significant burden to the individual, their families, the community, and the economy [3,11]. Therefore, addressing the mental health issues is very key to comprehensive client support Factors like poor support, HIV disease stage, poor disclosure, stigma and discrimination, death of a significant other due HIV, being female, experiencing poor health, receiving poor-quality health services, lack of material and emotional support from family and friends; are outlined as associated with greater mental health disorders' morbidity [7].

Evidence exists that support that some psychological interventions that particularly involve Cognitive Behavioural Therapies (CBIs) are efficacious in improving various psycho-

logical states of people living with HIV [2,12]. However, limited effective psychosocial intervention have been documented to treat CMDs in Africa including Malawi. In addition, several studies have shown that antidepressant treatment for those individuals with depression is associated with improved adherence to antiretrovirals. Despite, the existence of effective treatment for common mental health disorders, many people with CMDs in Malawi do not present for treatment, or if they do, they usually present to primary health care facilities, where these diagnoses are often missed and not treated. Yet, there is good evidence that these disorders can be effectively treated and that much of this treatment can be provided by primary health care clinicians if properly integrated in routine HIV care. In Malawi studies on Common mental Disorders (CMDs) among HIV patients who are on Antiretroviral Therapy (ART) remain scarce and limited [13]. Little is known about the prevalence of these CMDs in Malawi and its associated factors. Therefore, this study was conducted to determine prevalence and associated factors of CMDs in ART clinics in Lilongwe, Malawi. In this study CMDs will refer to Depression, substance use disorders, and Anxiety disorders. However, psychosis was also included because of use of SCID that also classified psychosis.

Objective of the study

The main objective of this study was to determine the prevalence of common mental disorders and its related factors among people accessing ART from the ART clinics in Lilongwe. Specifically, the study intended to:

- Determine the prevalence of CMDs (Depression, Anxiety, and Substance use disorders) including psychosis among clients that are receiving ART at Light house, Bwaila and area 18 clinics in Lilongwe.
- Investigate the social demographic factors associated with Common mental disorders among clients that are receiving ART at Light House, Bwaila, and Area 18 clinics in Lilongwe.

Methods Study design

The study employed a cross sectional descriptive quantitative design. The study recruited participants from ART clinics namely Area 18 Health Centre, Bwaila Hospital and Lighthouse. The clinics provide ART to HIV positive clients who visit the clinic monthly. The clinics also represent the public and specialized ART centres respectively. For instance, Area 18 ART clinic is run by Lilongwe District Health Office, and Lighthouse Clinic at Kamuzu Central hospital is a specialized HIV/AIDS care centre.

Study population and sampling

The study targeted participants who were adults aged 18 years and above, receiving ART at either Light house, or Area 18 or Bwaila clinics. Participants were simple randomly sampled. The sample size was Calculated using the formula $n = N / [1 + N(e)^2]$, where n is the sample size, N is the population size (i.e. 1000, average attendance of eligible clients in the clinics), and e is the level of precision (also called the sampling error) [32]. Furthermore, in this formula, a 95% confidence level and a precision of 0.05 are assumed. Two hundred and thirty-seven participants were recruited. Only participants who consented after informed consent participated in the study. In this study participants were excluded if they presented with severe illnesses and those that were critically sick that may impede their ability to answer the study questionnaire. Participants were also excluded if it was their first appointment to come for consultation or are new cases and starting ART at the time of data collection.

Procedure for data collection

Nurses and other health workers informed all potential participants of the study upon arrival at the ART clinics. Those patients who were willing to take part in the study were systematically referred to the researcher by staff nurses or the health worker on duty. Every third participant from the consultation room if agreeable to participate, was referred to research Assistants. The researcher then explained the study to individual patients in private including the time to be taken. Patients who agreed to participate were asked to sign an informed consent form. Upon completion of the interviews each participant received a token of appreciation for their time and a brochure with information on common mental disorders and where to seek help and contact numbers.

Data collection measures/tool

Data collection took place from July 2020 to October, 2020. Data was collected from three ART clinics in Lilongwe, (Area 18, Bwaila, and Lighthouse ART centres). The Structured Interview Schedule for the Diagnostic Statistical Manual (Research Version) (SCID-RV) for Axis 1 Psychiatric disorders was used to diagnose common mental disorders [Depression, Anxiety and Substance use disorders] and psychosis. SCID -VR is semi structured diagnostic interview that was adapted for use in Malawi in psychiatric research studies, including cross-national epidemiological and treatment studies [14]. In addition, it has

been used in local language in a validation of PHQ9 among patients with HIV and type-2 diabetes mellitus (NCD) [14-16]. Data were collected through face-to-face interviews by SCID trained mental health workers. The Investigators and Research Assistants conducted peer review sessions as a process to authenticate the collected data in terms of diagnosis and related factors. Data were thoroughly checked for completeness and organized into access data base. Then exported into SPSS software (Version 22) for analysis.

Data Analysis

In this study, continuous variable such as age and GAF scores were described using mean and standard deviations (SD), Frequencies and percentages were generated for categorical variables. The main outcomes of the study were Mental health Disorders. Independent variables included the socio-demographic variables, clinical factors, and the general characteristics of the study participants such as, gender, and educational level, employment status, and marital status, facility, use of cotrimoxazole, and use of psychotropic medication. Variables that estimated the prevalence of the common mental disorders were tabulated. Bivariate analyses were conducted to assess the likelihood, or odds, of all participants, social demographics, clinical, and characteristics that were significantly associated with each CMDs with p-values of ≤ 0.05 on bivariate analysis [17]. These were then entered into a multiple logistic regression model using the "Enter" method in order to obtain the adjusted odds of these factors being associated with each CMDs [17]. The Enter method in binary regression allows the inclusion of all variables in the model irrespective of their level of significance in bivariate analysis [17]. They were entered in regression model to find out the strength of their association. Data were analysed using SPSS version 22 and p-values $\leq .05$ were considered statistically significant.

Ethics

The study got an ethical approval National Health Science Research Ethics Committee [NHSRC] (20/04/2541). Another authorization was sought from Executive Director of Light House Trust and Lilongwe District Health Officer to conduct the study in Ant Retroviral Therapy clinics jointly run by the two Institutions.

Each eligible participant was presented with an information sheet containing the details of the study and were asked to voluntarily sign the consent form after agreeing to participate. The interviews were done at the clinic in a private room and well secured for privacy from other service users. Participants who

were found with severe problems, like severe mental health disorder; were referred to a mental health clinic for proper evaluation of the problem and management.

Study results

Data were collected from 237 participants from three research sites in Lilongwe representing a response rate of 100% of those who were approached.

Demographic characteristics of the study participants

The median age of participants was 39.2 years. The majority of the respondents were females (75.1%, n=178). More than half of the participants were married (64.1%, n=152) while the rest were either single, divorced or widowed. Almost half

of the participants were in employment. A smaller proportion of participants reached secondary school education or more (36.3%, n= 86). Majority are taking cotrimoxazole treatment (82.7%, n= 196) as prophylaxis. Majority of the participants were on Ant retroviral 13A (TDF/3TC/DTG) (94.1%, n=223) type of ART and a few on Ant retro viral drug 5A(TDF/3TC/EFV) (5.1% n=12), Ant retro viral drug 6A (TDF/3TC/NVP) (04% n=1) and Ant retro viral drug 14A(AZT/3TC+DTG) (0.4% n=1).

Half of the participants were diagnosed with mood disorders (50.6%, n=120), Psychotic and anxiety disorders accounted for 9.7% (n=23) and 6.8% (n=16) respectively. Six percent had alcohol abuse problems and 0.8% had alcohol dependency. Out of the participants, 74%, n=178, who had mental disorders, 19.4% were found to have comorbidity of mental disorders. Table.1 presents descriptive statistics describing the demographic characteristics of the study participants.

Table 1: Demographic, clinical and other related characteristics of study participants

Variable	Category	N	Mean±SD or %
Study area	Area 18 Health Centre	142	59.9
	Bwaila	39	16.5
	Lighthouse KCH	56	23.6
Gender	Male	59	24.9
	Female	178	75.1
Age in years	NA	237	39.2±10.2
Marital status	Married	152	64.1
	Divorced/Separated Widowed/ Single	85	35.9
Have children	Yes	223	94.1
	No	14	5.9
Number of Children	NA	237	3±1.7
Living arrangement	Living with spouse	148	62.4
	Living with children	53	22.4
	Living with guardian	25	10.5
	Living alone	11	4.6
Level of education	Primary or less	151	63.7
	Secondary or more	86	36.3
Occupation	Working	127	53.6
	Not working	110	46.4
Current treatment status	Outpatient	237	100.0
	Inpatient	0	0.0
Reasons for visiting clinic	To get ARVs	218	92.0
	Other	19	8.0
Time since the start of ARVs	NA	196	6.5±5.2

SD = standard deviation; and NA = not applicable.

Demographics (Continued)

	1A	0	0.0
	2A	0	0.0
	5A	12	5.1
	7A	0	0.0
	13A	223	94.1
	6A	1	0.4
	14A	1	0.4
Any changes made on ART?	Yes	162	68.4
	No	75	31.6
Changed from which ART?	1A to 13A	0	0.0
	2A to 13A	0	0.0
	5A to 13A	59	24.9
	6A to 13A	1	0.4
	7A to 13A	5	2.1
	Unknown to 13A	94	39.7
	Not applicable	77	32.5
	Unknown to 14A	1	0.4
Taking cotrimoxazole	Yes	196	82.7
	No	41	17.3
Taking psychotropic medications	Yes	4	1.7
	No	233	98.3
GAF	NA	237	81.2±10.3
Diagnosis	Psychotic disorder	23	9.7
	Mood disorder	120	50.6
	Anxiety disorder	16	6.8
	Alcohol/Drug abuse	14	5.9
	Alcohol/Drug abuse dependence	2	0.8
	None	62	26.2

SD = standard deviation; and NA = not applicable.

Demographics (Continued)

Mood disorders	Bipolar 1 disorder	4	1.7
	Bipolar 2 disorder	0	0.0
	Major depressive disorder	88	37.1
	Depressive disorder NOS	20	8.4
	Others	8	3.4
	None	117	49.4
Psychotic disorders	Schizophrenia	3	1.3
	Schizophreniform disorder	3	1.3
	Brief psychotic disorder	3	1.3
	Psychotic disorder secondary to GMC	5	2.1
	Substance induced psychotic disorder	8	3.4
	Psychotic disorder NOS	7	3.0
	Schizoaffective disorder	2	0.8
	None	206	86.9
Anxiety disorders	Panic disorder	3	1.3
	Generalized anxiety disorder	1	0.4
	Anxiety disorder NOS	29	12.2
	Others	8	3.4
	None	196	82.7

SD = standard deviation; and NA = not applicable.

Demographics (Continued)

Drug/Substance disorder	Abuse	14	5.9
	Dependence	12	5.1
	Others	2	0.8
	None	209	88.2
Comorbidity	Yes	46	19.4
	None	191	80.6

SD = standard deviation; and NA = not applicable.

Prevalence of Mental Disorders

Table 2 shows the prevalence of mental disorders among the participants. Almost 73.8% of the respondents (n=176) had

presented with at least a mental disorder. Among these, 64.1% n= 152 had CMDs (substance use disorder, depression, and anxiety) and (9.7%, n= 23 had psychosis. The rest (25.7%, n=61) were categorised as having no disorder.

Table 2: Prevalence of common mental disorders

Mental Disorders	Frequency	Percentage	95% CI		P value**
			Lower	Upper	
Yes	175	73.8	67.8	79.3	< 0.001
No	62	26.2	20.7	32.2	

Chi-square homogenous test. ** = significant association p = <0.05.

Demographic factors associated with the prevalence of Mental Disorders

A multivariate logistic regression model in the Table 3 below, shows that a unit increase in GAF score reduced the likelihood of having a mental disorder (AOR = 0.820, 95% CI =

0.761 – 0.885). In addition, patients visiting Area 18 Health Centre were about 3 times more likely to have Mental Disorders than those visiting Lighthouse KCH (AOR = 2.679, 95%CI = 1.036 – 6.931); and visiting a facility to receive ARVs was less likely to be associated with Mental Disorders (AOR = 0.103, 95%CI = 0.016 – 0.648)

Table 3: Demographic factors associated with the prevalence of Mental Disorders

Variable	N (%)	Mental Disorders n (%)	AOR	95%CI	P value
Age	237 (100.0)	175 (73.8)	0.997	0.933 – 1.023	0.318
Functionality (GAF)	237 (100.0)	175 (73.8)	0.820	0.761 – 0.885	< .001**
Number of children	237 (100.0)	175 (73.8)	0.950	0.742 – 1.217	0.686
Study area					
Area 18 Health Centre	142 (59.9)	109 (76.8)	2.679	1.036 – 6.931	0.042
Bwaila Lighthouse	39 (16.5)	23 (59.0)	0.775	0.240 – 2.507	0.671
Lighthouse KCH	56 (23.6)	43 (76.8)	Reference		
Sex					
Male	59 (24.9)	44 (74.6)	1.489	0.580 – 3.820	0.408
Female	178 (75.1)	131 (73.6)	Reference		
Marital status					
Divorced/Separated/ Widowed/Single	85 (35.9)	66 (77.6)	2.913	0.525 – 16.175	0.221
Married	152 (64.1)	109 (71.7)	Reference		
Living arrangement					
Living with spouse	148 (62.4)	108 (73.0)	0.972	0.087 – 10.839	0.982
Living with children	53 (22.4)	41 (77.4)	0.588	0.070 – 4.925	0.624
Living with guardian	25 (10.5)	17 (68.0)	0.186	0.018 – 1.924	0.158
Living alone	11 (4.6)	9 (81.8)	Reference		

Variable	N (%)	Mental Disorders n (%)	AOR	95%CI	P value
Occupation					
No	110 (46.4)	81 (73.6)	0.913	0.438 – 1.902	0.808
Yes	127 (53.6)	94 (74.0)	Reference		
Education					
Primary or less	151 (63.7)	111 (73.5)	0.867	0.406 – 1.849	0.711
More than primary	86 (36.3)	64 (74.4)	Reference		
Reason for visit					
To get ARVs	218 (92.0)	158 (72.5)	0.103	0.016 – 0.648	0.015**
Other	19 (8.0)	17 (89.5)	Reference		
Change of ART					
No	75 (31.6)	55 (73.3)	0.901	0.408 – 1.987	0.795
Yes	162 (68.4)	120 (74.1)	Reference		
Taking cotrimoxazole					
No	41 (17.3)	29 (70.7)	0.563	0.211 – 1.500	0.250
Yes	196 (82.7)	146 (74.5)	Reference		
Taking psychotropic medication					
No	233 (98.3)	172 (73.8)	0.317	0.021 – 4.828	0.409
Yes	4 (1.7)	3 (75.0)	Reference		

AOR = Adjusted Odds Ratio; CI = confidence interval; Log likelihood = 201.636; Omnibus tests of model coefficients (Chi-square = 70.785, $df = 16$, and $P < 0.001$); Hosmer and Lemeshow Test (Chi-square = 27.861, $df = 8$, $P = 0.001$); Pseudo R^2 (Cox and Snell $R^2 = 0.258$; Nagelkerke $R^2 = 0.378$).

Demographic factors associated with the prevalence of Mood Disorders

A multivariate logistic regression model in the Table 4 below shows that a unit increase in GAF score was associated with a reduced likelihood of having mood disorders (AOR

= 0.904, 95%CI = 0.871 – 0.938) and, similarly, being male was associated with reduced odds of having mood disorders (AOR = 0.206, 95%, CI = 0.085 – 0.497). Further, visiting a clinic to get ARVs was associated with less likelihood of having Mood Disorders (AOR = 0.207, 95%CI = 0.059 – 0.726

Table 4: Factors associated with Mood Disorders

Variable	N (%)	Mood Disorders n (%)	AOR	95%CI	P value
Age	237 (100.0)	175 (73.8)	1.000	0.960 – 1.041	0.984
GAF	237 (100.0)	175 (73.8)	0.904	0.871 – 0.938	<0.001**
Number of children	237 (100.0)	175 (73.8)	0.914	0.734 – 1.138	0.420
Study area					
Area 18 Health Centre	142 (59.9)	73 (51.4)	1.936	0.869 – 4.314	0.106
Bwaila Lighthouse	39 (16.5)	20 (51.3)	1.792	0.627 – 5.121	0.276
Lighthouse KCH	56 (23.6)	27 (48.2)	Reference		
Sex					
Male	59 (24.9)	18 (30.5)	0.206	0.085 – 0.497	<.001**
Female	178 (75.1)	102 (57.3)	Reference		
Marital status					
Divorced/Separated/ Widowed/Single	85 (35.9)	47 (55.3)	2.417	0.394 – 14.835	0.340
Married	152 (64.1)	73 (48.0)	Reference		
Living arrangement					
Living with spouse	148 (62.4)	73 (49.3)	0.917	0.092 – 9.099	0.941
Living with children	53 (22.4)	29 (54.7)	0.381	0.070 – 2.081	0.265
Living with guardian	25 (10.5)	10 (40.0)	0.158	0.024 – 1.051	0.056
Living alone	11 (4.6)	8 (72.7)	Reference		
Variable	N (%)	Mood Disorders n (%)	AOR	95%C	P value
Occupation					
No	110 (46.4)	57 (51.8)	0.722	0.383 – 1.358	0.312
Yes	127 (53.6)	63 (49.6)	Reference		
Education					
Primary or less	151 (63.7)	73 (48.3)	0.574	0.296 – 1.112	0.100
More than primary	86 (36.3)	47 (54.7)	Reference		
Reason for visit					
To get ARVs	218 (92.0)	106 (48.6)	0.207	0.059 – 0.726	0.014**
Other	19 (8.0)	14 (73.7)	Reference		
Change of ART					
No	75 (31.6)	38 (50.7)	1.157	0.581 – 2.304	0.678
Yes	162 (68.4)	82 (50.6)	Reference		
Taking cotrimoxazole					
No	41 (17.3)	18 (43.9)	0.476	0.207 – 1.092	0.080
Yes	196 (82.7)	102 (52.0)	Reference		
Taking psychotropic medication					
No	233 (98.3)	119 (51.1)	1.371	0.099 – 18.991	0.814
Yes	4 (1.7)	1 (25.0)	Reference		

AOR = Adjusted Odds Ratio; CI = confidence interval; Log likelihood =116.420; Omnibus tests of model coefficients (Chi-square = 55.742, $df = 15$, and $P < 0.001$); Hosmer and Lemeshow Test (Chi-square = 9.933, $df = 8$, $P = 0.270$); Pseudo R² (Cox and Snell R² = 0.210; Nagelkerke R² = 0.406).

Discussion

The overall prevalence of common mental disorders was high in this study, with almost 64% (n=152) of the participants having either depression, anxiety, and alcohol abuse/dependence. The findings are consistent with prior reports of a meta-analysis of studies that looked at the mental health of HIV infected adults in Africa between 1994 and 2008, (n=23). The meta-analysis reported that more than half of HIV-infected adults had some form of psychiatric disorder, with depression the most common problem [5]. It is noted that the prevalence of depression alone in HIV-infected persons is varied widely, from 22% to 71% [18]. In this study the prevalence of depression is 51%. While results from Cameroon (n=100) found 63% of participants were probably depressed [18], 51.3% in Burkina Faso [5], 47% in Uganda [19] and in Ethiopia Addis Ababa (n=417) was 41.2% [20] and, 41% among a South African sample of pregnant rural women undergoing routine HIV testing, [19,21,22]. The noted variations in the prevalence rates of depression and anxiety are due to different tools that are used to measure symptoms of CMDs that are mainly anxiety, depression and psychosomatic symptoms. Socio-cultural differences may also result in the difference. Regardless of the variations, all these studies have found depression to be a major problem in HIV-infected patients compared to the general population. In this study, the SCID diagnostic tool was used to assess the disorders and detect the psychiatric co-morbidities beyond depression and anxiety unlike some studies that use screening tools to classify CMDs

Nevertheless, some studies have found lower prevalence rates of depression among the similar group. For example, in Ethiopia (n=412) found a prevalence of 24.3% among HIV infected individuals at Comprehensive HIV Care and Treatment Clients [23] which is lower than most of the SSA?. In contrast to the lower prevalence of Depression in the reported studies, this study agrees with those studies that found high prevalence considering the measures that were used. Given the diagnostic tool which was used to determine the Depression in this study, the high prevalence of the Depression in this population is a cause of worry and need for intervention. The high prevalence of depressive symptoms in this study population may be due to several factors. For example, it may be a reflective of psychological distress, precisely an adjustment reaction, due to

seropositivity [24]. Other studies have also found factors such as unemployment and single status to strongly contribute to depression in HIV-patients [23]. However, in the current study, these factors were not significantly associated with depressive symptoms. It is worth noting that, the magnitude of depression reported in this study emphasizes the need to incorporate the management of depression in HIV-care guidelines. These results warrant the need for health professionals in all ART clinics, most notably nursing staff and clinicians, to be encouraged to screen for symptoms of depression,

Twelve percent of the respondents in the study screened positive for alcohol abuse during the past six months and 0.8 % had alcohol dependency. This percentage is lower compared to other studies in Malawi that found a prevalence of 25.5% [13]. The excessive use of alcohol among clients who are on ART renders a great concern in terms of treatment since it undermines treatment adherence and may contribute to treatment failure [25,26]. In addition, alcohol interaction with medications may lead to reduced treatment efficacy and may compound adverse effects such as liver failure. Therefore, there is great need of devising ways of integrating some strategies that may aim at reducing alcohol related harms [25,26].

In this study, the prevalence of alcohol abuse and dependency was found to be low possibly because most of the participants were females. In Malawi, the percentage of women who currently drink alcohol is lower (4.2%) than males (30.1%) [27]. However, the results show that males were about 14 times more likely to develop drug and substance disorders than females (AOR = 14.024, 95% CI: 4.275 – 46.005). Consistent with the previous reports, male gender has shown to strongly be associated with alcohol abuse in HIV-patients [25].

This study found a significant association between GAF scores and presentation of common mental disorders. However, some authors explain that, the relationship between functional impairment and mental disorders is bi-directional [28]. Mental disorders may cause functional impairment or vice versa [28]. Therefore, these findings suggest that better social functioning, occupational functioning and physical functioning are protective factors for mental disorders among people with HIV receiving ART as well.

The study found that, patients visiting Area 18 Health Centre were 3 times more likely to have common mental disorders than those visiting Lighthouse KCH. In addition, visiting a facility to receive ARVs was less likely to be associated with having common mental disorders. It is not clear why there is this difference between the facilities. However, it was noted during data collection that the Light house Clinic provides professional psychosocial counselling services for clients who are HIV positive and also provides intensive treatment follow up of all clients that are registered with the facility. The services are provided by professionally trained counsellors. In the meantime, area18 facility does not have psychosocial counselling services that are provided by professional counsellors and no intensive follow-up of clients. This therefore, may explain this result. However, there is need to explore further on this.

It is also found that for both depression and anxiety being male was associated with reduced odds of having mood disorders and anxiety disorders. While, being male also increased the odds of having alcohol and substance use disorders. This possibly can be explained by the differences in the exposure of the stressors or precipitators of depression and alcohol substance between males and females which may be due to cultural differences and expectations within the society in disclosing emotional problem. However, there is need for further exploration.

The majority of the participants who were found with CMDs in this study including those who had psychosis, regardless whether they had active symptoms or not, were not on any psychotropic medication to treat their conditions. It is known from other studies that untreated psychosis is a risk factor to treatment non adherence for patients who are on long term HIV treatment [13].

This study also found an association between the use of cotrimoxazole and psychosis using likelihood ratio χ^2 (7, N=237) 15.98 $P \leq 0.02$. and in a regression model it shows that patients who were not taking cotrimoxazole were 3 times more likely to suffer from psychosis than those that were on cotrimoxazole (AOR 2.653, CI: 0.986-7.137, $P \leq 0.05$). Cotrimoxazole is used as a preventive therapy for treatment of protozoan, bacterial and fungal infections (WHO 2014). The HIV management guidelines recommend Cotrimoxazole as an integral component in HIV care. Cotrimoxazole further reduces HIV-related morbidity and mortality. Therefore, the findings of this study highlight the need of encouraging patients who are HIV positive to

take cotrimoxazole to reduce opportunistic infections. However, contrary to this result, another study found that cotrimoxazole induces psychosis [29]. This has to be further investigated

Some possible explanations exist for the finding that more women than men participated in this study. More women choose to seek care promptly compared to men because of their primary care givers role and therefore, they feel the need for remaining to be healthy [30]. The findings are similar to study by [1,7], where 75% of the participants were also female in the similar type of setting. This is because Men are more likely to be lost to follow-up ART treatment programs due to work commitments as a result are found to be few at the clinics [26,31]. In addition, due to the complexity of the SCID data collection tool and time, more men found the time to be too long to participate in the study. However, these did not affect the findings because looking at the findings, they reflect a similar trend to other studies where the number of male and female participants were almost equal. This study has some limitations. First, the study was conducted in public facilities within the urban context, and patients from low social economic backgrounds were majority of participants since the areas are mainly accessible rural outskirts of the town. As a result, patients with high social economic status were very few, and most of them opt of getting medications from private hospitals. Therefore, the study lack generalisability to other socioeconomic groups because the impact of social economic status on the occurrence of common mental disorders was not well assessed.

Secondly, majority of the participants were females and this may bring some bias in terms of generalization of results. However, our data are from three referral centres for HIV/AIDS management and mental health in Lilongwe, thus supporting their generalizability especially in the urban context of Malawi. The cross-sectional design was not the most robust design because can only identify associations and not causal relationships.

Conclusion

The results from this study demonstrate that more than half of clients that visit ART clinics suffer from one of mental health disorders with majority suffering from Depression. These findings confirm the need to create a unique opportunity for mental health screening, treatment, and care in ART clinics. There is a clear need for brief, simple screening tools which can be used to identify mental health disorders in HIV-infected individuals. In addition, there is ultimately need to build capacity

of health workers to effectively manage these co-morbidities in primary health care settings. The startling findings calls for greater investment in public health strategies that are universal, targeted, and indicated.

Finally, it would be very important to evaluate the impact of depression on the adherence to ART using meta-analyses and random control trials.

Recommendations

Routine screening in ART settings is suggested especially in settings where follow-up of positive screen scores is possible. There is a strong need for necessary interventions that will assist clients to resolve common mental disorder of concern.

Utilising psychotherapeutic treatment, and medication treatment in facilities that provide follow up ART therapy to address common mental health problems is very vital.

Furthermore, finding effective ways of promoting social support is recommended for ensuring optimal mental health, and possibly mitigating the adverse effects of mental health problems.

Further research is needed to find feasible ways of identifying, assessing and treating patients with mental health problems in resource-constrained settings where HIV prevalence is high,

Given the differences in gender susceptibility or risk to CMDs and also differences in prevalence of CMDs among gender, there is need to explore more on the facilitators and barriers to health seeking behaviours by gender and understand modifiable factors that can facilitate early recognition of CMDs and intervene early.

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