PREVALENCE AND ASSOCIATED FACTORS OF COMMON MENTAL HEALTH PROBLEMS AND UTILIZATION OF MENTAL HEALTH SERVICES AMONG PEOPLE LIVING WITH HIV/AIDS IN UNIVERSITY OF GONDAR COMPRESSIVE SPECIALIZED HOSPITAL, ETHIOPIA

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ABSTRACT

Mental health problems in this thesis refer to a wide range of mental conditions, ranging from self-reported symptoms such as worries and mildly depressed mood to symptoms that meet the criteria for a diagnosis. This study was conducted in Gondar University Hospital, using quantitative method to achieve the objective of research. And, hence, quantitative survey study design was applied; data were collected from a total of 357 participants selected from antiretroviral service users using simple random sampling technique. Self-reporting questionnaire was used to collect data. Descriptive statistics was employed to show the frequency and distribution of sociodemographic characteristics of the study participant. Binary logistic regression model was used to identify association between dependent (Prevalence of common mental health problems) and independent variables (Sociodemographic, clinical and mental health service utilization). The result revealed that the prevalence of common mental health problem among people living with HIV/acquired immunodeficiency syndrome (AIDS) attending antiretroviral therapy in the study setting was 32.77% from 357 study participants. In the multivariable logistic regression model occupation, the presence of antiretroviral drug side effect and lack of social support were statistically associated with common mental health problems among people living with HIV/AIDS attending ART at University of Gondar Compressive specialized hospital. Regarding mental health service utilization, only 60 (16.8%) of the study participant were utilizing the mental health service in the hospital. In this study, the prevalence of common mental health problem was high but mental health service utilization was low.

In this study, about one-third (32.77%) of people living HIV reported that having mental health problem. This shows that the prevalence of common mental health problem among people living with HIV in University of Gondar comprehensive specialized hospital is high. Beside this utilization of mental health service among this group of people is low which 16.8%. Being unemployed, the presence of antiretroviral drug side effect and having social support were independent predictors of common mental health problem among HIV-positive adult patients attending ART follow-up at the University of Gondar compressive specialized hospital. However, utilization of mental health service among these groups of population is low compared with its prevalence. Therefore, further researcher and interventions are need for prevention and control of common mental health disorder (CMD) among people living with HIV. Especial attention, care, and support are mandatory for those HIV-positive people having ART drug side effect and unemployed. Strengthen and improve social support have good effect in the reduction of CMD among people living with HIV.

Keywords: Utilization, Common mental problem, Factors, HIV/acquired immunodeficiency syndrome, ART, Knowledge, Attitude, Behavior.

INTRODUCTION

Mental health problems in this study refer to a wide range of mental conditions, ranging from self-reported symptoms such as worries and mildly depressed mood to symptoms that meet the criteria for a diagnosis. Some mental health problems, such as symptoms of anxiety and depression, can be normal reactions to a stressful life event and are often temporary (Bremberg and Dalman, 2015).

According to the Joint United Nations Program on HIV and acquired immunodeficiency syndrome (AIDS) (UNAIDS, 2012), HIV/AIDS remain one of the world's most serious health challenges. In 2011, an estimated 34 million people globally were living with HIV; 2.5 million people became newly infected with HIV; and 1.7 million people died from AIDS-related illnesses (UNAIDS, 2012). Although the country has been hit by the HIV/AIDS epidemic later than many East African countries, HIV has now spread throughout the country. According to the Ethiopian Federal Ministry of Health/FMHE/(2010), an estimated 1.2 million people are living with the virus.

Physical health is not the only issue for people living with HIV/AIDS (PLWHA). Along with the physical illness associated with the virus are mental health conditions (Frankian, 2002). Studies conducted in some low- and middle-income countries (LMIC) show that common mental disorders (CMDs), which consist of depression, anxiety disorders, and mixed depression and anxiety disorders, are among the most prevalent mental neurological and substance use conditions with a prevalence of over 30% among PLWHA (Brandt, 2009; Olley *et al.*, 2006; Myer *et al.*, 2009).

Similarly, the World Health Organization (WHO, 2008) stated that PLWHA often suffer from depression and anxiety as they adjust to the impact of the diagnosis of being infected and face the difficulties of living with a chronic life-threatening illness and its consequences, for instance, shortened life expectancy, complicated therapeutic regimens, stigmatization, and loss of social support, family, or friends.

Psychological distress in PLWHA contributes emotional burden of HIV/AIDS in addition to being linked to lower CD4 count (Golub *et al.*, 2003), poor adherence to Highly Active Antiretroviral Therapy

(Sternhell and Corr, 2002) and, in turn, rapid progression to AIDS (Golub *et al*., 2003).

METHODS

Study setting and period
This chapter describes about the methodological part. The data collection tool was prepared after reviewing different literature and WHO guidelines. The data collection tool first it was prepared in English language then translated to local language (Amharic) again it was translated back to English for purpose of consistency by language experts. The tool was pretested from 5% of total sampled population at Kolladiba primary hospital ART clinic.

This study was conducted in Gondar university comprehensive specialized hospital found in Gondar city administration. The study area was selected because Gondar comprehensive specialized hospital is one of the biggest hospitals in Amhara region which gives service to a lot of patients including ART treatment and care service for HIV-positive patients. As far as my searching, there is no study done in the topic in this study area. In addition, due to the current pandemic of corona virus related restriction, it is impossible to include other hospitals as study site.

As the objective of this study is to examine common mental health problems and utilization of mental health services among people living with HIV/AIDS, the study employed quantitative survey study design. A survey design provides a quantitative or numeric description of a population by studying a sample of that population. The quantitative approach or method was applied in this study which is statistics expressed in descriptive and inferential statistics such as frequencies and percentages. In terms of time, the study design is cross-sectional because its major objective is to examine the prevalence of common mental health problems and to assess the nature of mental health service utilization among people living with HIV/AIDS over the period of time.

Source and study population
The source population for this study was all antiretroviral service users and adult HIV-positive patients 18 years and above who have follow-up at the University of Gondar comprehensive specialized hospital. The total number of this population was 5145.

Inclusion and exclusion criteria
All adult clients who were attending an HIV testing and counseling service consultation centers during the data included in the study. On the other hand, client who has a mental disorder was excluded from the study.

Sample size determination and sampling procedure
Sample size for the study determined based on the formula of sample size determination suggested by Kothari (2004). The level of significance is taken as 95% (Z=1.96) and margin of error 5% (e=0.05). The sample size is calculated based on the following standardized formula:

$$N = \frac{Z^2}{4e^2 + \frac{Z^2}{N}}$$

The letter: n= required sample size, N= population size, Z= critical value at 95% confidence level assumption (1.96), and e= margin of error between the sample and population or the precision (0.05). Thus, the sample size was calculated as n=1.962/(4*0.052) + 1.962/5145 = 357. Therefore, standing from the formula determined sample size was 357 patients/people living with HIV in University of Gondar specialized hospital. Simple random sampling (by lottery method) was used to select the study participants.

Data gathering tools
The data collection tool was prepared after reviewing different literature and WHO guidelines. The data collection tool first it was prepared in

English language then translated to local language (Amharic) again it was translated back to English for purpose of consistency by language experts. The tool was pretested from 5% of total sampled population at Kolladiba primary hospital ART clinic. According to the result of the pre-test, appropriate modification was made on the tool before actual data collection to produce quality data.

The collected data were reviewed and checked for completeness before data entry. To assess the prevalence of common mental health disorder (CMD), the structural interview was used. The questioner contains 20 yes/no questions developed by the WHO (Rafael, 2008) and is a widely used tool. It was designed for screening for the presence of symptoms of CMD in patients in primary health care settings. It has been validated in sub-Saharan countries including Ethiopia the optimal cutoff for defining cases for CMD which has also varied widely depending on the setting, community surveys, or primary care.

The data were collected from HIV-positive patients during their scheduled follow-up time for ART drug in the ART clinic. First using simple random sampling technique, the required number of study population was selected from ART follow-up registration form and it took 45 days to complete the data collection. The data collectors wait for those study participants on the date of follow-up. On arrival, the data collectors asked their permission and if they are volunteer to participate in the study, interview has conducted using structured question. Two BSc nurses who have training on ART were recruited for the data collection and one MSc nurse was supervising the data collection process. Training was given for data collectors and supervisor on objectives, ethical issue, data collection tool, and procedure for one day by principal investigator. The data were collected on daily base until the required randomly selected study population is achieved.

Data entry process
After the completion of data collection, cleaning, editing, and coding were performed in a scientifically rigorous way; then, the data were entered into the Statistical Package for the Social Sciences (SPSS) Software and Export to STATA 17.0. Any errors were repaired as necessary.

Procedure of data collection
Support letter was obtained and then concerned officials of University of Gondar comprehensive specialized hospital was communicated then secured from hospital administration before actual data collection process started.

Method of data analysis
Data were entered, coded, and cleaned using SPSS version 20 statistical software and exported to STATA statistical software for analysis, STATA version 17 software was used.

To address the first objective, descriptive statistics was used. The goodness of fit of the final model was checked using Hosmer and Lemeshow test. The result of the test shows that the model was fit.

Logistic regression model was used to identify association between dependent and independent variables. The association between dependent and independent variables was determined by bivariate analysis using odds ratio with 95% confidence interval (CI). Binary logistic regression was performed to identify associated factors variables and 0.05 was considered to test significance level.

Ethical consideration
Primarily the researcher tries to make the data collection tools based on ethically sound. As well, the researcher approached the participants (adult HIV positive patients who have follow-up at the University of Gondar comprehensive specialized hospital) and other concerned bodies through the legal paper which take from social work department to assure legality.

Data collector informs her background and the purpose of the study for participants and conducts the study based on their consent verbally. For this study, the data were collected based on the respect, dignity, and freedom of each individual participant. Participants get awareness that the information they provide kept confidential and could not be disclosed to anyone else to build trust.

Statistical models

There are various logistic regression models that consider the ordinal form of outcomes. The logit of these various logistic regression models are formed in various ways. For instance, the proportional odds model (considered as cumulative higher category(s) versus cumulative remaining lower category[s]); the continuation ratio model (considered as cumulative higher category[s] versus just lower category alone); and the adjacent category model (between any two consecutive categories). As a result, each form of the logit has its own set of advantages and disadvantages, and the models can be used to meet individual needs. More specifically, the continuation ratio model and nearby category model do not rely on the entire data set.

Model goodness fits and comparison

To apply logistic regression model analysis, the assumption of the POM was assessed using the Stata command or Brant test, and we, therefore, deployed the binary logistic regression model. The POM assumptions, which indicate that the effects of all independent factors are constant across categories of the outcome variable, are necessary to select a suitable model for the data. The proportionate odds assumption was verified using the omodel Stata command and by the Brant test (p=0.681) to be true. The AIC, BIC, and LLR were also smaller in Binary logistic regression models as compared to the others. Therefore, the model was found to be the best fit over binary and multinomial logistic regressions.

RESULTS

Socio-demographic descriptive characteristics of participants

In this study, a total 357 HIV-positive study participants were included in the study. The median age of the study participants was 40 ((±11.94) with the minimum 18 and maximum 78. Most of the study participants (66.9%) were male and (81%) were from urban residence. Regarding the marital status of the study, about half of the participants (47.9%) were married. Majority of the study participants (84.3%) were Orthodox Christian religious followers, and about (91.9%) were from Amhara ethnicity. More than half of (54.3%) HIV-positive people who participated in this study had >2000 Ethiopian birr monthly income and about two-third of them (74.5) were live with their family members Table 1 socio-demographic characteristics of study participants. A total 357 HIV-positive study participants were included in this study with 100% response rate.

Clinical, social support, and substance related characteristics of study participants

Most of HIV-positive individuals' (80.7%) who participated in the study had CD4 counts above 200 on recent records. About (59.1%) of the study participants were in stage-I WHO stage at the time of data collection. More than (77.3%) of the percipient had good adherence to ART drug but about 68.6% of them reported that they devolved ART drug side effect. Regarding HIV disclosure status of the participant to their family member, majority (87.4%) of them did not disclose their HIV status to the family member and nearly half (52.4%) of the study populations' partners are HIV positive, whereas 55.7% of their children are HIV negative. More than half (58.8%) of HIV positive who involved in the study reported that as the experienced perceived stigma and discrimination related with their HIV status and 72.8% of them the participant feel that they have poor social support from the community. About 73.9% of the participants have at least one child and more. Almost (99.4%) all of the study participates reported that they did not participate in HIV-related membership activities and 94.1% of them consider themselves as bereave currently (Table 2).

Table 1: Socio-demographic characteristics

Variable	Frequency	Percent
Sex		
Male	239	66.9
Female	118	33.1
Age		
18–29 year	51	14.3
30–39 year	124	34.7
40–49 year	96	26.9
50 year and above	86	24.1
Residency		
Rural	68	19.0
Urban	289	81.0
Marital status		
Married and live together	142	39.8
Single/never married	87	24.4
Divorced	37	10.4
Widowed	62	17.4
Married but separated	29	8.1
Educational status		
Illiterate	101	28.3
Primary	55	15.4
Secondary	88	24.6
Diploma	51	14.3
Degree and above	62	17.4
Religion		
Orthodox Christian	301	84.3
Muslim	45	12.6
Protestant	11	3.1
Ethnicity		
Amhara	328	91.9
Tigre	12	3.4
Others	17	4.7
Occupation		
Government employed	98	27.5
Private employed	134	37.5
NGO employed	11	3.1
Self employed	28	7.8
Housewife	49	13.7
Unemployed	15	4.2
Student	22	6.2
Monthly income (by Ethiopian birr)		
<500	40	11.2
500–1000	51	14.3
1001–1500	26	7.3
1501–2000	46	12.9
>2000	194	54.3
Living status		
With Family	266	74.5
Alone	82	23.0
With relatives	9	2.5

Common mental health problems among people living with HIV/AIDS

The prevalence of CMD was assessed by interval using 20 question developed by the WHO to assess common mental health problems among HIV-positive adult individuals. The result revealed that out of 357 HIV-positive study participants, 117 (32.77%) have CMD (95% CI, 27.7–37.8).

The prevalence of CMD was more common among non-social support individual and has perceived stigma and discrimination study participants (Fig. 1).

Factors associated with common mental health problems

To identify factors associated with common mental health problem, binary logistic regression analysis was conducted. As can be seen from the regression model in Table 3, occupational status, antiretroviral drug side effect, and social support had statistically significant factors for the development of common mental disorders among people living with

Table 2: Clinical, social support, and substance related characteristics of study participants

Variable	Frequency	Percent
Duration of the illness after (HIV) conformed		
<5 years	114	31.9
5–10 years	139	38.9
≥10 years	104	29.1
Duration of the ART		
<5 years	119	33.3
5–10 years	144	40.3
≥10 years	94	26.3
CD4 cell count of the participants (the recent one)		
CD4<200	65	18.2
CD4 200–1000	288	80.7
No recorded	4	1.1
WHO staging of HIV/AIDS		
Stage-I	211	59.1
Stage –II	76	21.3
Stage-III	37	10.4
Stage-IV	33	9.2
Antiretroviral drug side effect		
Yes	245	68.6
No	112	31.4
ART drug adherence		
Good	276	77.3
Fair	78	21.8
Poor	3	0.8
HIV disclosure to family member		
Yes	45	12.6
No	312	87.4
HIV status of the partner		
Positive	187	52.4
Negative	48	13.4
Do not know	38	10.6
Do not have partner	84	23.5
Number of children		
No children	93	26.1
1–3 children	200	56.0
4 children and above	64	17.9
Child HIV status (at least one)		
Positive	32	9.0
I don't know	27	7.6
Negative	199	55.7
No child	99	27.7
Family member death due to HIV (other than spouse)		
Yes	53	14.8
No	304	85.2
Spouse death due to HIV		
Yes	50	14.0
No	307	86.0
Family history of mental illness		
Yes	31	8.7
No	326	91.3
Psychiatric/mental illness before HIV status confirmed		
Yes	7	2.0
No	350	98.0
Psychiatric illness after HIV status confirmed		
Yes	116	32.5
No	241	67.5
Perceived stigma and Discrimination		
Yes	210	58.8
No	147	41.2
Perceived social support		
Very good	5	1.4
Fair	54	15.1
Good	38	10.6
Poor	260	72.8

(Contd...)

Table 2: (*Continued*)

Variable	Frequency	Percent
Comorbid illness		
Yes	93	25.8
No	264	74.2
Types of comorbid illness		
No comorbidity	264	73.9
TB	5	1.4
Heart diseases	5	1.4
Diabetes	17	4.8
Kidney disease	21	5.9
Hypertension	25	7.0
Others	20	5.8
Perceived religiosity		
Excellent	16	4.5
Very good	92	25.8
Good	152	42.6
Fair	74	20.7
Low	23	6.4
Current substance or alcohol use		
Yes	58	16.0
No	299	84.0
If yes for the above questions what type of substance		
Alcohol	32	9.0
Chat	8	2.2
Cigarette	3	0.8
Combine use	5	1.4
Others	10	2.8
Member of HIV association		
Yes	2	0.6
No	355	99.4
Current bereavement		
Yes	21	5.9
No	336	94.1

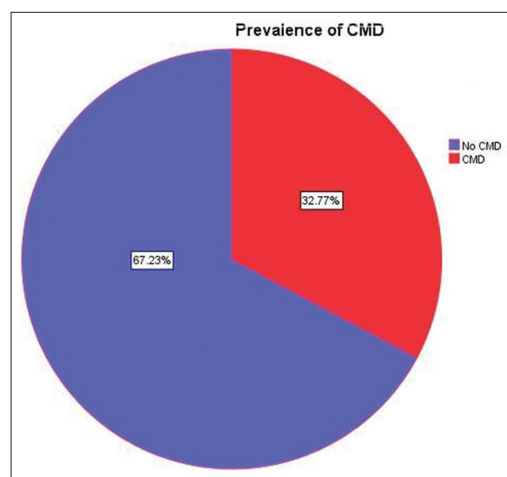WHO: World Health Organization, AIDS: Acquired immunodeficiency syndrome

Fig. 1: Prevalence of common mental health disorder among people living with HIV/acquired immunodeficiency syndrome

HIV/AIDS. Other variables which were considered for this study were not found statistically significant factors for the development of the disorder. In addition, the adjusted odds ratio of the regression model revealed that being unemployed (OR=2.566, 95% CI: 1.297–5.080), presence of antiretroviral side effect (OR=2.055, 95% CI: 1.212–3.486), and those did not have social support (OR=2.307, 95% CI: 1.133–4.699) were identified as risk factors for the development of common mental disorders among the study participants (Table 3).

Utilization of mental health service
From a total of 357 study participants, 60 (16.8%) of them have started mental health services in university of Gondar hospital. However, the

Table 3: Factors associated with common mental health disorders among people living with HIV/AIDS

Variables	Categories	Prevalence of CMD		COR (95% CI)	AOR (95% CI)	p-value
		Yes	No			
Marital status	Married and live together	32	110	1	1	
	Single	34	53	2.205 (1.230–3.952)	0.517 (0.220–1.211)	0.129
	Divorced	21	16	2.619 (1.225–5.602)	0.823 (0.409–1.654)	0.584
	Widowed	23	39	2.027 (1.060–3.877)	0.580 (0.251–1.340)	0.202
	Married and live separate	12	17	2.426 (1.050–5.605)	0.814 (0.375–1.770)	0.604
Occupation	Employed	99	172	1	1	
	Unemployed	18	68	2.174 (1.223–3.866)	2.566 (1.297–5.080)	0.007
Antiretroviral drug side effect	No	69	176	1	1	
	Yes	48	64	1.913 (1.200–3.050)	2.055 (1.212-3.486)	0.008
Perceived stigma and discrimination	Yes	79	131	0.578 (0.364–0.918)	0.705 (0.391-1.271)	0.245
	No	38	109	1	1	
Social support	No	100	160	2.941 (1.647–5.253)	2.307 (1.133–4.699)	0.021
	Yes	17	80	1	1	
Perceived religiosity	Excellent	3	13	0.338 (0.089–1.291)	0.438 (0.104–1.838)	0.259
	Very good	22	70	0.461 (0.237–0.898)	0.613 (0.287–1.308)	0.206
	Good	51	101	0.741 (0.417–1.314)	0.766 (0.405–1.447)	0.411
	Low	11	12	1.344 (0.525–3.444)	1.434 (0.497–4.137)	0.505
	Fair	30	44	1	1	1
Age	Age 18–29 year	20	31	2.129 (1.003–4.518)	1.814 (0.633–5.196)	0.267
	Age 30–39 year	47	77	2.014 (1.086–3.737)	1.447 (0.646–3.240)	0.369
	Age 40–49 year	30	66	1.500 (0.775–2.904)	1.408 (0.655–3.029)	0.381
	50 year and above	20	66	1	1	1
Duration of the illness	<5 years	51	63	1.112 (0.627–1.974)	1.090 (0.201–5.906)	0.921
	5–10 years	39	100	2.309 (1.302–4.095)	1.225 (0.114–13.185)	0.854
	≥10 years	27	77	1	1	1
Duration on ART	<5 years	53	66	2.216 (1.237–3.971)	1.049 (0.097–11.319)	0.969
	5–10 years	39	105	1.025 (0.570–1.844)	0.726 (0.131–4.023)	0.714
	≥10 years	25	69	1	1	1
Number of Children	No children	37	56	2.592 (1.240–5.417)	1.676 (0.628–4.474)	0.302
	1–3 children	67	133	1.976 (1.005–3.886)	1.431 (0.648–3.160)	0.375
	Four children and above	13	51	1	1	1

CMD: Common mental health disorder, AIDS: Acquired immunodeficiency syndrome

remaining (297) 83.2% of the study participants were not using mental health service. Among those individuals who started mental health service 12 (3.4%) were using drug treatment, 25 (7%) on psychotherapy, and 23 (6.4%) used combination intervention which drug and psychotherapy.

DISCUSSION

In this chapter, results of the present study are discussed in line with the research objectives. The following are the research objectives which were stated at the beginning of the study:

1. Determine the prevalence of common mental health problems among PLWHA who are currently using antiretroviral treatment in Gondar University Hospital.
2. To examine factors associated with the development of common mental disorders among PLWHA.
3. To determine the level of professional mental health service utilization among PLWHA.

HIV is one of the non-curable infectious pandemic diseases that affect all population regardless of sex, age and race, and other classifications. HIV has imposed different impacts in the community such as social, economic, psychological, political, cultural, and religious and other related beyond health consequence.

The problem becomes worth in Africa particularly in sub-Saharan Africa including Ethiopia. This is because these countries have a lot of health coverage and accessibility problems for their larger community. HIV can directly compromise the health of the population, family, and communities. One of the health impacts of HIV is mental health problem. Mental health problem may be more concern among HIV-positive peoples related with the nature of the disease, stigma and discrimination, and ART drugs.

In Ethiopia, the problem needs more attention due to HIV and mental health problem and its service utilization are poorly addressed. Therefore, this study address issue related with mental health problem and mental health service utilization in at the university of Gondar compressive specialized hospital.

In this study, the prevalence of common mental health problem was 32.77% (27.7–37.8) among HIV-positive patients attending ART follow-up at the University of Gondar compressive specialized hospital. The finding is consistent with the study conducted in Ethiopia, Hawasa city ART clinic which 32.7% of HIV-positive patients had CMD (Duko *et al.*, 2019).

The result of this study is higher than a study conducted in Amhara region, Debre Markos Referral Hospital, Ethiopia which is 24.3% (Zewdu and Abebe, 2015), the result also higher than another study in Dilla hospital in Ethiopia which were 11.2% (Tesfaye and Bune, 2014) and South Africans study which found 19% psychiatric morbidity among people living with HIV/ADIS (Myer *et al.*, 2008) the discrepancy may be due to difference in time the study conducts and sample size.

The finding of the study is lower than the study previously conducted studies in different part of the world. The prevalence of CMD in this study was lower than previously conducted studies in Ethiopia. Accordingly, it is lower than a hospitals-based study conducted in Oromia region, Ethiopia which was 46.7% (Deribew *et al.*, 2010). Another study from three hospitals in Tigray region involving three hospitals which show 43.9% of patients had depressed (Berhe and Bayray, 2013).

This study finding also lower than studies conducted in different part of the world. The result of this study is lower than studies conducted in Albanian prevalence of depression and anxiety was as 82.3% and 62.3%, respectively (Shane D Morrison *et al.*, 2011).

In another study conduct Central Nigeria showed that prevalence of CMD was 56.7% (Shittu *et al.*, 2013), Cameron 63% of individuals had moderate depression (Youngmann *et al.*, 2008).

In this study, occupational status of the study participants, presence of antiretroviral drug side effect, and social support to the patients were significantly associated with CMD among individuals attending ART follow-up at University of Gondar comprehensive specialized.

Those unemployed study participants 2.566 times more likely to develop CMD than those employed individuals. The possible reasons may be those unemployed individuals may have different economic and social problems that contribute to the development of CMD than employed. Unemployment by itself is stressful, when the it happened in people living with HIV, the problem becomes double burdened that leads to mental health disorder. Unemployment by was reported in different studies as a source of dependency which a social crisis, unless it managed properly unemployment expose the people to stressful life, depression, and mental health disorder even to suicide.

Those individuals who develop antiretroviral drug side effect on the course of ART treatment 2.055 times more likely to develop CMD than those who did not have ART drug side effect during their follow-up. The possible explanation for this may be those individuals having ART drug side effect may have poor adherence to the drug, this poor adherence may contribute to the development of poor viral suppression and related complication that expose the patient to mental health disorders. Taking ART drug for life long also may impose stress and depression for those peoples living with HIV that leads to common mental health problem. Some ART drugs have direct effect on mental health disorders due to their side effect. In other way, taking ATR drug may also have a problem with stigma and discrimination which leads to development of CMD among peoples living with HIV and taking ART drugs for life long.

Those did not have social support 2.307 times more likely to have common mental health manifestation than having social support. This may due the fact that those ART patients have good social support may not be exposed to stress, worry, and related mental health disorders. Not only for people living with HIV for all human kind social support and social relation are vital for life. Especially, people living with HIV are vulnerable to social stigma and discriminations. This stigma and discrimination may directly lead to hopelessness and mental health related problems. Therefore, improving and strengthen social support and social interaction among people living with HIV is strongly advisable in the prevention and control of CMDs.

CONCLUSION AND RECOMMENDATION

Conclusion

In this study, about one-third (32.77%) of people living HIV reported that having mental health problem. This shows that prevalence of common mental health problem among people living with HIV in University of Gondar comprehensive specialized hospital is high. Beside this utilization of mental health service among this group of people is low which 16.8%. Being unemployed, presence of antiretroviral drug side effect and having social support were independent predictors of common mental health problem among HIV-positive adult patients attending ART follow-up at the University of Gondar compressive specialized hospital. However, utilization of mental health service among these groups of population is low compared with its prevalence. Therefore, further researcher and interventions are need for prevention and control of CMD among people living with HIV. Especial attention, care and support is mandatory for those HIV-positive people having ART drug side effect and unemployed. Strengthen and improve social support have good effect in the reduction of CMD among people living with HIV.

Implications

Since the case became prevalent better to include mental health related counseling for those patients attending ART follow-up.

To identify the problem in early phase, CMD screening shall be conducted periodically.

For betterment good health outcome, ART follow-up service has to be linked with mental health service. This important health problem shall be investigated in well-organized large scale research to identify barriers and enabling factors for mental health service utilization using different research approaches.

Limitations of the study

Even though an attempt has been made to address the objectives of the study using available resources, this study is not without limitations. Therefore, this study has the following limitations

1. The study did not show the factors, reasons, and barriers for poor utilization of mental health service due to time and other resource shortage
2. Due to the nature of the data collection (self-reporting) may under/over estimation the magnitude of the problems, because the problem did not verify by mental health experts
3. Due to time and other resource constraint, the finding of this study is not supported with qualitative research method even though the problem needs qualitative investigation.

REFERENCES

Altevogt, B., Hanson, S., Ssali, Z. N., & Cuff, P. (2010). Mental, neurological, and substance use disorders in sub-Saharan Africa: Reducing the treatment gap, improving quality of care: Workshop summary. United States: National Academies Press.

Baingana, F., Thomas, R., & Comblain, C. (2005.). HIV/AIDS and mental health. Washington, DC: World Bank.

Barrow, L. F. M. (2016). Factors that influence access to mental health care service: The perspective of service users and the community in Western 2 health region of the Gambia (Master's thesis).

Berhe, H., & Bayray, A. (2013). Prevalence of depression and associated factors among people living with HIV/AIDS in Tigray, North Ethiopia: A cross sectional hospital based study. *International Journal of Pharmaceutical Sciences and Research*, *4*(2), 765-775.

Bing, E. G., Burnam, M. A., Longshore, D., Fleishman, J. A., Sherbourne, C. D., London, A. S., Turner, B. J., Eggan, F., Beckman, R., Vitiello, B., Morton, S. C., Orlando, M., Bozzette, S. A., Ortiz-Barron, L., & Shapiro, M. (2001). Psychiatric disorders and drug use among human immunodeficiency virus-infected adults in the United States. Archives of General Psychiatry, 58(8), 721-728.

Brandt, R. (2009). The mental health of people living with HIV/AIDS in Africa: A systematic review. *African Journal of AIDS Research*, *8*, 123-133.

Deribew, A., Tesfaye, M., Hailmichael, Y., Apers, L., Abebe, G., Duchateau, L., & Colebunders, R. (2010). Common mental disorders in TB/HIV co-infected patients in Ethiopia. *BMC Infectious Diseases*, *10*(1), 201.

Duko, B., Toma, A., & Abraham, Y. (2019). Prevalence and correlates of common mental disorder among HIV patients attending antiretroviral therapy clinics in Hawassa City, Ethiopia. *Annals of General Psychiatry*, *18*, 17.

Ethiopian Federal Ministry of Health. (2010). *National factsheet*. Retrieved from https://localetharc.eth

Ethiopian Federal Ministry of Health. (n.d.). *National mental health strategy 2012/13 - 2015/16*. Ethiopia: Ethiopian Federal Ministry of Health.

Frankian, N. (2002). *Mental health issues with HIV/AIDS*. The Center for AIDS. Retrieved December 24, 2001, from https://www.thebody.com/content/art16935.html

Freeman, M. C, Nkomo, N.,Kafaar, Z., & Kelly, K. (2007). Factors associated with prevalence of mental disorder in people living with HIV/AIDS in South Africa. *AIDS Care*, *19*(10), 1201-1209.

Freeman, M. C., Patel, V., Collins, P. Y., & Bertolote, J. M. (2005). Integrating mental health in global initiatives for HIV/AIDS. *British Journal of Psychiatry*, *187*, 1-3.

Golub, E. T, Astemborski, J. A., Hoover, D. R., Anthony, J. C., Vlahov, D., & Strathdee, S. A. (2003). Psychological distress and progression to AIDS in a cohort of injection drug users. *Journal of Acquired Immune Deficiency Syndrome*, *32*(4), 429-434.

Lazarus, R., & Freeman, M. (2009). *Primary-level mental health care for common mental disorder in resource-poor settings: Models and practice. A literature review*. Pretoria: Medical Research Council.

Mahajan, A. P., Sayles, J. N., Patel, V. A., Remien, R. H., Sawires, S. R., Ortiz, D. J., Szekeres, G., & Coates, T. J. (2008). Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward. *AIDS*, *22*, S67-S79.

Morrison, S. D., Banushi, V. H., Sarnquist, C., Gashi, V. H., Osterberg, L., Maldonado, Y., & Harxhi, A. (2011). Levels of self-reported depression and anxiety among HIV-positive patients in Albania: A cross-sectional study. *Croatian Medical Journal*, *52*, 622-627.

Motumma, A., Negesa, L., Hunduma, G., & Abdeta, T. (2019). Prevalence and associated factors of common mental disorders among adult patients attending HIV follow up service in Harar town, Eastern Ethiopia: A cross-sectional study. *BMC Psychology*, *7*, 11.

Myer, L., Seedat, S., Stein, D. J., Moomal, H., & Williams, D. R. (2009). The mental health impact of AIDS-related mortality in South Africa: A national study. *Journal of Epidemiology and Community Health*, *63*(4), 293-298.

Myer, L., Smit, J., Roux, L. L., Parker, S., Stein, D. J., & Seedat, S. (2008). Common mental disorders among HIV-infected individuals in South Africa: Prevalence, predictors, and validation of brief psychiatric rating scales. *AIDS Patient Care STDS*, *22*, 147-158.

Olley, B. O., Seedat, S., & Stein, D. J. (2006). Persistence of psychiatric disorders in a cohort of HIV/AIDS patients in South Africa: A 6-month follow-up study. *Journal of Psychosomatic Research*, *61*(4), 479-484.

Owande, J. A. (2011). *Effectiveness of local community based organizations (CBOs) in providing support services to orphans and vulnerable children (OVC) in Kisumu East Distric*. Kenya: University of Nairobi.

Saag, L. A., Tamhane, A. R., Batey, D. S., Mugavero, M. J., & Eaton, E. F. (2018). Mental health service utilization is associated with retention in care among persons living with HIV at a university-affiliated HIV clinic. *Aids Research and Therapy*, *15*(1), 1.

Shittu, R. O., Issa, B. A., Olanrewaju, G. T., Mahmoud, A. O., & Odeigah, L. O. (2013). Prevalence and correlates of depressive disorders among people living with HIV/AIDS, in North central Nigeria. *Journal of AIDS and Clinical Research*, *4*, 251.

Sternhell, P. S., & Corr, M. J. (2002).Psychiatric morbidity and adherence to antiretroviral medication in patients with HIV/AIDS. *Australian and New Zealand of Psychiatry*, *36*(4), 528-533.

Tesfaye, S. H., & Bune, G. T. (2014). Generalized psychological distress among HIV-infected patients enrolled in antiretroviral treatment in Dilla University Hospital, Gedeo zone, Ethiopia. *Global Health Action*, *7*, 23882.

UNAIDS. (2004). *The changing HIV/AIDS epidemic in Europe and Central Asia. CP102*. Geneva, Switzerland: UNAIDS.

UNAIDS. (2012). *AIDS epidemic update*. Geneva. Retrieved from https://www.unaids.org

World Health Organization. (2008). *Mental health and HIV/AIDS therapy series*. Geneva: World Health Organization.

Wright, J., Lubben, F., & Mkandawire, M. C. (2007). Young Malawians on the interaction between mental health and HIV/AIDS. *African Journal of AIDS Research*, *6*, 297-304.

Youngmann, R., Zilber, N., Workneh, F., & Giel, R. (2008). Adapting the SRQ for Ethiopian populations: A culturally-sensitive psychiatric screening instrument. *Transcultural Psychiatry*, *45*, 566-589.

Zewdu, S., & Abebe, N. (2015). Common mental disorder among HIV infected individuals at comprehensive HIV care and treatment clinic of Debre Markos referral hospital, Ethiopia. *Journal of AIDS and Clinical Research*, *6*, 420.