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FACULTY OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

PREVALENCE OF DEPRESSION AND ITS ASSOCIATED FACTORS AMONG ADULT EPILEPTIC PATIENTS FOLLOWING TREATMENT AT PUBLIC HEALTH FACILITIES OF BENCH MAJI ZONE, SOUTH WEST ETHIOPIA, 2017.

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JIMMA, ETHIOPIA

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Abstract

Back ground: *Depression among epileptic patients has multiple effects: poor quality of life, increased seizure frequency, risk of suicide and increased health care cost. It is often under recognized and untreated among these patients. This study is therefore aimed to assess the prevalence of depression and its associated factors among epileptic patients in public health facilities of Bench Maji zone, south west Ethiopia.*

Objective: *The objective of this study was to assess prevalence of depression and its associated factors among epileptic patients on treatment follow up at public health facilities of Bench Maji zone, south west Ethiopia,2017.*

Methods: *Institution based quantitative cross-sectional study design was conducted in public health facilities of Bench Maji zone. Face to face interview was used to collect data with semi structured questionnaires adapted from different literatures. Beck depression inventory was used to assess depression. The study involved 247 adult participants who were selected by systematic random sampling. Data were collected from March 3- April 3 2017. Data were categorized, coded, entered in EPI info 3.5.1 and exported to SPSS 21.0 for analysis. Bivariate and multivariate logistic regression analysis were used to describe the association of dependent and independent variables. P value less than 0.05 was considered as significant in multivariate logistic regression analysis.*

Result: *out of 247 aimed sample, 244 involved in the study and yields a response rate of 98.8%. The prevalence of depression among patients with epilepsy was 51.2%. Of these; 60%, 36%, and 4% of the patients were found to have mild, moderate and severe depression respectively. Low educational status (AOR=2.5, CI (1.32, 4.78)), Seizure frequencies >=3 per month (AOR=3.06, CI (1.412, 6.65)), Age at onset of epilepsy <=11years (AOR=4.58, CI (1.94, 10.82)), low anti-epileptic drug adherence (AOR=4.81, CI (2.32, 9.97)) and poor knowledge about epilepsy (AOR=2.77,CI(1.5,5.12)) were found to be independent factors of depression among epileptic patients.*

Conclusion and recommendations: *The prevalence of depression among the adult patients with epilepsy wash high, although the levels of depression varied. Routine early depression screening for early recognition and treatment should be done in people living with epilepsy.*

Key words: *Depression, epilepsy, Beck Depression Inventory-II scale, South West Ethiopia.*

Contents

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List of acronyms and abbreviations

AED: Antiepileptic Drug

AIDS: Acquired immune deficiency syndrome

AOR: Adjusted odds ratio

BH: Bachuma hospital

BDI II: Beck depression inventory version two

COR: Crude odds ratio

ETB: Ethiopian birr

HC: Health center

HRSD: Hamilton Rating Scale for Depression

ICD-10: International Classification of Diseases Ten Edition

JUSTH: Jimma University specialized teaching hospital

MTUTH: Mizan Tepi university teaching hospital

MMAS-8: Eight item Morisky Medication Adherence Scale

PHQ: Patient health questionnaires

PWE: People living with epilepsy

QOL: Quality of life

SS: Systematic sampling

SPSS: Statistical package software for social sciences

USA: United States of America

Chapter One: Introduction

1.1Background

Epilepsy is a group of syndromes characterized by unprovoked, recurring seizures in which individuals are considered as epileptic patient if they have equal or more than two seizures [1].It is the common neurological disorder affecting people across the world without considering race, age, gender and economic class. Approximately 50 million people worldwide are living with this condition [2]. Depressive symptoms in these patients is characterized by the development of symptoms of disturbed sleep, decreased energy, loss of interest, tiredness and generally which interferes with the daily activities of the patients [3].

There are many misconceptions and myths regarding people living with epilepsy in the society. These misconceptions and myths can lead them to different psychosocial difficulties including depression [4]. The issue of depression in epileptic patients is not a new concept as it is traced as far back as 400 BC by Hippocrates [5].Studies done in different part of the world showed that, epileptic patients were the most victims of depression and the prevalence of depression in these patients were remained in constant raise[6, 7].

There is overwhelming evidence that, people with epilepsy (PWE) have a number of psychosocial difficulties; of which depression is the one greatly affecting their quality of life [8]. Depression is common comorbid features in PWE, up till now the condition is undertreated and underdiagnosed [9]. The magnitude of the problem across the world is too high and studies identified that, forty to sixty percent of PWE display symptoms of depression [7, 10].

The rate of depression in PWE, is four to five times more common than in the general population. Suicide secondary to depression in these patients, is also extreme common than in the general population [2]. There has been strong evidence that, those with epilepsy are more likely to experience depression and the existence of depression in these patients can lowers the quality of life considerably, even though it is an eminently treatable condition [10, 11].

1.2 Statement of the problem

Epileptic patients have a high tendency to develop depression and the rate in these patients is significantly higher than the rate of depression in patients with other chronic diseases and the general population [12, 13].

Depression in PWE is a common and worldwide problem with the prevalence between 9 and 55% in developed countries. [6, 14, 15] The problem is more significant in the developing countries, particularly in sub-Saharan Africa with the prevalence more than 51%, though it is not well documented. [16, 17]In our country; Ethiopia, studies done in University of Gondar hospital showed that, the prevalence rate was 45.2%. [18]

Epilepsy can cause depression as it brings about social discrimination. This can lead to undermining, reduced self-worth and a hostile perspective towards life. Epileptic patients have a risk of either becoming unconscious or falling in public and the condition lead them to social embarrassment which amounts for depression in epileptic patients. All these consequences leads to depression and in turn depression in these patients can lead them to different psycho-social problems. These problems can affect patients' performance such as; deprived treatment adherence, reduced quality of life, joblessness, decreased educational status, high burden of health care cost and increased risk of suicide. [14, 19, 20, 21, 22] In addition to above psychosocial related factors, Anti-epileptic drug adherence is also another factor for depression in epilepsy. [23]

There is shortage of research done about the prevalence of depression and its factors among epileptics in developing country including Ethiopia. Despite the different measures taken, the prevalence remained too high in different part of the world particularly in developing countries [6, 7]. In additions to previously studied predictors of depression in epileptics, perceptions of epileptics about their illness is a suggested factor even if the exact association is not known. The fact that, Patients' perception on some chronic illness about their illness is associated with negative emotional reaction. For instance study conducted on the knowledge about illness and its outcome in chronic heart failure is associated with bad emotional reaction including depression [24].

In Ethiopia few studies are conducted to assess the prevalence of depression among epileptic patients. The prior studies conducted in Jimma university specialized hospital and university Gondar hospital which were different from current study site in socio cultural context and belief in disease causation. There is no similar prior study in this particular zone. In addition to this, the zone has diversified ethnicity with many epileptic patients lived, still the magnitude of depression and its predictors on them is not known. Epileptic patients in this site in some ethnic group are excluded from their family due to false perception, which may dispose them to depression. Therefore, seeing at the prevalence and various associated factors related to depression including perception related factor of patients, is important to design more effective treatment programs for the management and preventions of its consequences like suicidal idea, increased cost for treatment, and generally improves quality of life of people living with epilepsy. Thus, the main purpose of this study was to assess the prevalence and associated factors of depression among people with epilepsy attending at public health facilities of Bench Maji zone, south west Ethiopia,2017.

Chapter Two: Literature Review

2.1 Overview of Depression and Epilepsy

Depression can exist with epilepsy even though the condition is not treated and diagnosed [9]. Finding showed that; even if attention is not given, forty to sixty percent of PWE display symptoms of depression [14]. Depression is 4 to 5 times higher in epileptic patients than in general population [2]. Depression is one of known factors which is the most powerful determinants of quality of life in people with epilepsy [25]. Variables like age of onset, Seizure frequency, duration, and difficult to control seizures due to poor adherence are all known factors for the prevalence of depression in epileptic patients [26]. People with epilepsy isolates them self from public to not to have seizure in public front , as result social isolation is common in which they have reduced social opportunities, lack of social support, poor self-esteem, stigma and discrimination. As the result, this conditions leads epileptic patients to depression and increased feelings of depression [27].

2.2 Prevalence of depression in epileptic patients

Among different psychiatric illness in people with epilepsy, depression is a common disorder in patients with epilepsy. The life time prevalence of depression in epileptic is varied between six (6) and fifty (50%) [28]. A cross sectional study in a primary care setting by using Hospital Anxiety and Depression Scale (HADS), from 155 patients in the United Kingdom 33% of samples were found to be depressed [29]. Other Cross sectional study in England by using the Patient Health Questionnaire nine-item depression scale (PHQ-9), founded that 30% of patients attending epilepsy were founded in the depressed range [30].

Cross sectional study conducted in USA by using The Hospital Anxiety and Depression scale to evaluate the prevalence of depression among patients with epilepsy, from two hundreds patients participated, nineteen (9.5%) patients had depression [31]. In Egypt a case control study using Beck Depression Inventory (BDI II) scale, identified that from 200 Egyptian adults with epilepsy, depression was found on 25.5% of participants [32].

Case control study conducted in Nigeria to assess the prevalence of depression in people living with epilepsy by using Hamilton Rating Scale for Depression (HRSD) showed that, the

prevalence of depressive symptoms in 152 sample was 42% [17].A cross sectional study conducted in Pakistan to identify the prevalence of depression by using ICD-10 showed that, from 100 epileptic participants in the study, depression was found in 60% of participants [33].

2.3 Factors associated with depression in Epileptic patients

2.3.1 Socio demographic factors

2.3.1.1 Gender

Many studies recognized that, there was increased risk of depression in female epileptic patients than male patients. Study done in Egypt by using Beck Depression Inventory (BDI II) scale revealed that the odds of depression was high among female epileptic patients than male epileptic patients[32].This finding was also revealed by study done in USA by using the Hospital Anxiety and Depression scale[31].

2.3.1.2 Age

In study conducted in Bosnia by using Beck and Hamilton depression scales, depression was more common in young aged participants than old aged [34].

2.3.1.3 Marital status

Finding from Pakistan by using ICD 10 screening tool depicted that, there was significant association between marital status and depression in which, those single epileptic patients experience more depression than married epileptic patients[33]. Study done in Iran also showed that marital status was significant factor of depression in epileptic patients [35].

2.3.1.4 Level of education

Finding from Iran identified that, educational status was associated with depression in epileptic patients[35].A cross sectional research conducted in Jimma university specialized hospital by using Beck depression inventory scale screening tool revealed that, those participants with lower educational status were found with more depression than participants with high educational status[36].Another study done in University of Gondar Hospital by using Beck depression inventory scale also pointed that, educational status was associated with depression in epileptic patients[18].

2.3.2 Clinical related factors

2.3.2.1 Seizure frequencies

Many studies identified that, epileptic patients with high seizure frequency were more frequently depressed than seizure free patients [17, 18, 33, 36, 37, 38, 39].

2.3.2.2 Age at onset of epilepsy

Different studies portrayed that, depression is more common in patients with early onset of epilepsy than patients with late onset [18, 34].

2.3.2.2 Comorbidity of other illness with epilepsy

A cross sectional study in USA identified that, having other chronic illness was significant predictors of depression among epileptics [37]. Study from China also depicted that, presence of comorbidity was one predictor variable of depression in people living with epilepsy [40].

2.3.2.3 Anti- epileptic drug adherence

Studies revealed that, the rate of depression was common in epileptic patients who had poor adherence to their AED than epileptic patients who had high adherence [18, 40].

2.3.3 Psychosocial related factors

Research done in Bosnia showed that, Epilepsy related stigma and lack of social support were the significant predictors of depression in patients living with epilepsy [34]. Finding from Jimma University specialized teaching hospital also indicated that, felt stigma was factors associated with depression in epileptic patients [36].

Summary

The comorbidity of depression among epileptic patients can occur with varied prevalence with reported high rates of 60 % and low rates of 9.5 % [31]. Studies showed that; age, marital status, level of education, income and employment were highly associated with depression among people living with epilepsy [38, 40]. Studies also identified that; duration of illness, age of onset of epilepsy, Controllability of seizures and adherence to medications were also some clinical related factors for prevalence of depression in epileptic patients [18, 37]. And different studies in other chronic illness are suggesting for the association between knowledge about the illness and depression [13, 24].

Conceptual frame work

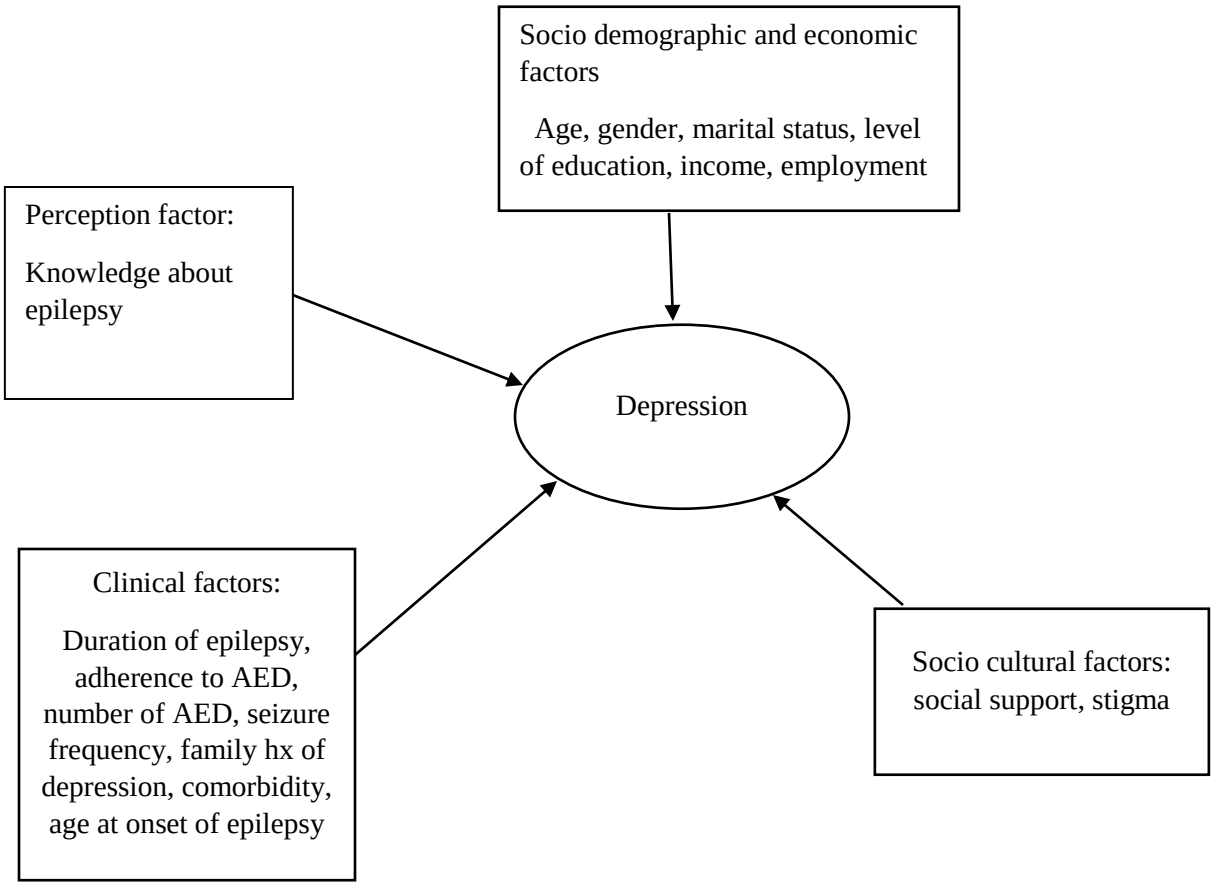

Fig. 1 (Conceptual frame work adapted from Ahmed A, 2012)

Significance of the Study

The finding of this research will be communicated with managers of institutions to design appropriate intervention for regular screening and treatment of the depression among epileptic patients. This findings will also aware health care providers at different facilities to screen depression in epileptic patients for early recognition, treatment and preventions; thereby it also enhances patients' quality of life, decreases patients' health care cost and reduces risk of suicidal ideation. This findings can be also used as a source of data for researchers who are interested to conduct further study.

Chapter Three: Objective

3.1 General objective

To assess the prevalence of depression and its associated factors among epileptic patients on treatment follow up at Public health facilities of Bench Maji zone, south west Ethiopia,2017.

3.2 Specific objectives

1. To determine the prevalence of depression among epileptic patients following treatments at Public health facilities of Bench Maji zone, south west Ethiopia, 2017.

2. To identify factors associated with depression among epileptic patients following treatments at Public health facilities of Bench Maji zone, south west Ethiopia, 2017.

Chapter Four: Methodology and Materials

4.1 Study area and period

The study was conducted in governmental health facilities of Bench Maji zone from March 3-April3, 2017. Bench Maji zone is one of the zones in SNNP Regional State. It is situated at about 561km away from Addis Ababa, the capital city of Ethiopia, in the Southwest direction. There are a total of 219 health facilities in the zone consisting of one Teaching hospital, one district hospital, 35Health Centres and 182 Health post. All of these serving around 760313 peoples. There are 541 adult epileptic patients attending at public health facilities of Bench Maji zone and they are attending at health facilities of Mizan Tepi university teaching hospital (200); Bachuma hospital (110); Shewa Bench health center (89); Sheko health center (72) and Mizan health center (70).

4.2 Study Design

Institutional based quantitative cross-sectional study design was used.

4.3 Source population

All adult epileptic patients following their treatments at MTUTH, Bachuma hospital, Shewa Bench, Sheko and Mizan health center.

4.4 Study unit

All sampled patients from total adult epileptic patients following treatments at MTUTH, Bachuma hospital, Shewa Bench, Sheko and Mizan health center.

4.5 Eligibility Criteria

4.5.1 Inclusion criteria

All Patients with a clinical diagnosis of epilepsy coming for follow up with an age greater than or equal to 18 years was selected.

4.5.2 Exclusion criteria

Individuals with epilepsy who were critically ill, unable to hear and duration of follow up less than two weeks was excluded from the study.

4.6 Sample Size determination

The sample size was determined by using single population proportion formula. The following assumptions were made, marginal error (d) that was tolerated in either sides of the true proportion to be 5%, and using 95% confidence level, α=0.05 and adding 10% to compensate for

non-responses and the proportion of depression in epileptic patient taken from research done in Jimma university specialized hospital in 2012 (P) = 49.3 %.

$$n = \frac{(z\ \alpha/2)^2\ (p\ (1-p))}{d^2}$$

Where n = minimum sample size required for the study.

Z= standard normal distribution (Z=1.96) with confidence interval of 95% and α=0.05

P=prevalence/ population proportion (p=0.493)

d=is a tolerable margin of error (d=0.05)

$$= \frac{(1.96)^2\ 0.493(0.507)}{(0.05)^2} = 384.08 = 384$$

Since the number of epileptic patients are 541 (<10,000), finite population correction formula was used as follows

N f = n/ 1+ n/N Where n = calculated sample size and n f = exact (final sample)

= 384/1+384/541 = 224.588 = 225

By adding 10 % non-response rate the final sample size was 247.

4.7 Sampling procedures

Systematic sampling method was employed to get proportionally allocated sample from each health facility. For all health facilities K; which is N/n was 2 and between 1 and 2, 1 was randomly chosen by using lottery method. The first comer patient in the beginning day of the study at each health facility was taken as a first sample and then every 2 interval comer patients were taken to get the desired samples at each health facility.

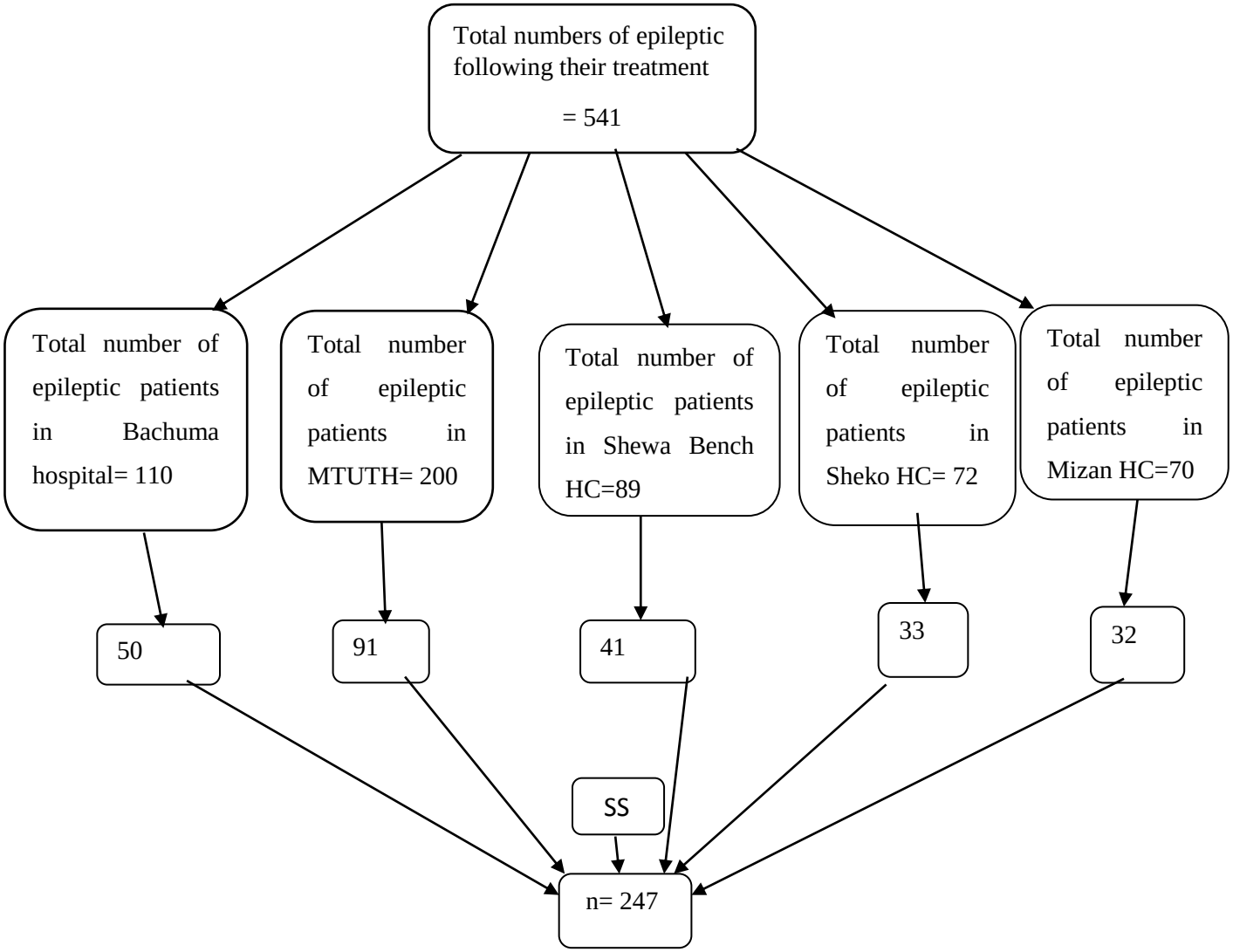

Fig. 2 Schematic presentation of sampling procedure in Bench Maji health facility, 2017.

4.8 Data Collection techniques and Tools

Data was collected by face-to-face interview using a semi-structured questionnaire with the Amharic version. Questionnaires were translated from English to Amharic by language experts. In addition two psychiatrist were involved in translation of English version of BDI to Amharic version and retranslation of Amharic version back to English version. Language experts were evaluated for consistency of this translation and retranslation of BDI items.

Depression was assessed by using standardized questionnaire which is Beck Depression Inventory (BDI II) scale. Beck Depression Inventory is one of the most widely used measures of

depression. It is a reliable and valid measure of depression in a range of cultural groups and has been validated with both psychiatric and non-psychiatric populations in most of the countries including developing countries. For this study internal consistency was found with cronbach's alpha of 0.876. The content and face validity of this instrument were seen by two Psychiatry MSc students and one medical doctor and they judged as, instrument can measure what supposed. The Construct validity of this tool was good with overall Kaiser's measure of sampling adequacy of 0.701 and the total variance explained by the items was 89.0%.The BDI-II can be administered orally by an examiner to those with reading difficulties. It consists of 21 items and each statement is scored on a 4-point scale (0–3) and a total score is obtained by summing the ratings for each statement [41].

Social support was assessed by Oslo three items social support scale. This tool is the most reliable and for this study cronbach's alpha was 0.72.Regarding to the construct validity of this tool the Kaiser's measure of sampling adequacy was 0.74 and the total variance explained by the items was 70.2% [42].

Drug adherence was assessed by using standardized structured questionnaire by modified eight item Morisky Medication Adherence Scale (MMAS-8). This tool is the most widely used and applicable in developing country. In this study, this tool had an internal consistence of Cronbach's alpha of 0.76. The construct validity of this tool was good with Kaiser's measure of sampling adequacy of 0.65 and the total variance explained by the items of 76.4%. The item consists of seven question with dichotomous responses and one item with five point likert scale. A reciprocal scoring for each item and summing those yields the final score of eight [43].

Tools for assessing respondents' knowledge about epilepsy was adapted from Epilepsy knowledge questionnaire and epilepsy knowledge scale. In this study, this tool had an internal consistence of Cronbach's alpha 0.815.The construct validity of this tool was valid with Kaiser's measure of sampling adequacy of 0.6 and the total variance explained by the items was 72.6% [44].

Perceived stigma was assessed by three item scale with positive response indicating felt stigma and negative response of no felt stigma with Cronbach's alpha of 0.95 in this study. The

construct validity of this tool was good with over all Kaiser's measure of sampling adequacy of 0.673 and total variance explained by the items was 82.2% [45].

Tool for collecting information on socio-demographic characteristics and clinical factors of participants was developed by investigator after reviewing literature. Patients' card review was made for numbers of anti-epileptic drugs that they were taking.

4.9 Variables

4.9.1 Dependent variable

Depression in epileptic patients

4.9.2 Independent variables

Socio demographic variables: age, sex, marital status, education status.

Socio economic variables: Income, employment.

Socio cultural variable: social support, stigma

Perception related variable: knowledge about epilepsy

Clinical related variables: family history of depression, adherence to antiepileptic medications, seizure frequency, number of antiepileptic drugs, comorbidity, age at onset of disease and duration of illness.

4.10 Operational Definitions

For dependent variable:

- Not depressed: Participants with Beck depression score of 0-13.
- Depressed: Respondents with Beck depression score of 14-63.
- Mild depression: Respondents with Beck depression score of 14-19.
- Moderate depression: Respondents with Beck depression score of 20-28
- Severe depression: Respondents with Beck depression score of 29-63[41].

For social support based on the Oslo 3 item social support scale:

- Poor social support: 3-8
- Moderate social support: 9-11
- Strong social support: 12-14 [42].

For Anti-epileptic drug adherence, based on the Modified 8 item Morisky Medication Adherence scale:

- High AED adherence: Score equal to 8.
- Medium AED adherence: Score between 6 and 8.
- Low AED adherence: score less than 6 [43].

Good knowledge: Score above mean from epilepsy related knowledge questions.

Poor knowledge: Score below mean from epilepsy related knowledge questions.

Felt stigma: Respondent with score >=1 from three item stigma scale.

No felt stigma: Respondent with score = 0 from three item stigma scale [45].

4.11 Pre-test

Before the actual data collection pre-test was made on 5 % of sample size in Tepi hospital which is found in other zone near to the study site to check the reliability and validity of the instruments. The reliability and validity of the instruments were found to be good.

4.12 Data Quality Assurance

Four diploma nurses and two BSC nurses was involved in data collection and supervision respectively. One day data collection training was given for data collectors prior to actual data collection time to familiar them with the instrument. On each days of data collection, both principal investigator and supervisors were checked the data for its completeness. The principal investigator was checked the data during entry into computer and again before analysis for missing values.

4.13 Data analysis and processing

EPI info version 3.5.1 statistical software and SPSS windows version 21 program were used for data entry and analysis respectively. Descriptive statistics was used for the socio-demographic and clinical variables, including individual's response to BDI. Bivariate logistic regression analysis was used to identify candidate variables for multiple logistic regression analysis at $P < 0.25$. All candidate variables in multiple logistic regression analysis were done through enter method to control the effects of confounding variables and to identify independent factors of

depression. Statistical significance was accepted at $P < 0.05$ in multiple logistic regression analysis.

4.14 Ethical Consideration

The study was approved by Institutional review board of Jimma University. Permission letter was provided to the administrators of each respective health facility of study site before data collection. The purpose and procedure of data collection was clearly stated and confidentiality and privacy was ensured. The right to refuse or to withdraw from the study was also informed for the participants. There was no risks or hazards for the participants. Those participants with moderate to severe depression was referred to the psychiatric clinics for early treatment.

4.15 Data dissemination plan

Result of the study would be communicated to Mizan Tepi university teaching hospital, Bachuma hospital, Sheko health center, Mizan health center, Shewa Bench health center and Jimma University. Furthermore, all attempts will be made to publish the findings in different reputable journal.

Chapter Five: Result

Out of 247 sampled respondents in the selected study area during the study period, 244 participated in the study and gives 98.8% response rate.

5.1 Socio demographic characteristics

Majority (65.6%) of the participants were males, while 84(34.4%) were females. The mean age was 30 years old with minimum and maximum of 19 and 55 years old respectively. More than half 126(51.6%) of respondents were married and almost half of them 123(50.4%) were protestant religion followers. Widely held (42.6%) ethnic group was Bench and more than half 132(54.1%) of participants were dweller of rural. More than two third (82.4%) of them were living with their family and majority 55 (22.5 %) of participants neither read nor write. About 102 (41.8%) of participants were farmer and majority 108(44.3%) of them were have monthly income less than six hundred Ethiopian Birr. (Table1)

Table 1: Socio Demographic Characteristics of Epileptic Patients in Public Health Facilities of Bench Maji Zone, South West Ethiopia, 2017. (N=244)

Characteristics	Response	Frequency	Percent
Sex	Male	160	65.6
	Female	84	34.4
Age	18-24	83	34.0
	25-34	82	33.6
	35-44	47	19.3
	>=45	32	13.1
Marital Status	Single	99	40.6
	Married	126	51.6
	Divorced	7	2.9
	Widowed	12	4.9

Religion	Protestant	123	50.4
	Orthodox	77	31.6
	Muslim	43	17.6
	Catholic	1	.4
Ethnicity	Bench	104	42.6
	Kaffa	92	37.7
	Sheko	38	15.6
	Menit	8	3.3
	Amhara	1	0.4
	Other*	1	0.4
Residence	Urban	112	45.9
	Rural	132	54.9
Living Status	With family	201	82.4
	Alone	23	9.4
	With relatives	19	7.8
	Other*	1	.4
Educational status	Can't read &write	55	22.5
	Only read &write	27	11.1
	1-4	47	19.3
	5-8	42	17.2
	9-10	25	10.2
	11-12	16	6.6

	College & university	32	13.1

Ethnicity (Other* Tigre) Living status (other * home less)

Occupation	Farmer	102	41.8
	Gov't employee	43	17.6
	Student	43	17.6
	Daily laborer	28	11.5
	House wife	13	5.3
	Not employee	10	4.1
	Other*	5	2.0
Monthly income in ETB	<600	108	44.3
	601-1400	93	38.1
	1401-2500	9	3.7
	2501-3500	19	7.8
	3501-5000	15	6.1

Occupation (other*merchant, Tailor)

5.2 Depression among Epileptic patients

Concerning to depression among participants, more than half 125(51.2%) of them were found to have depression. (Fig 3)

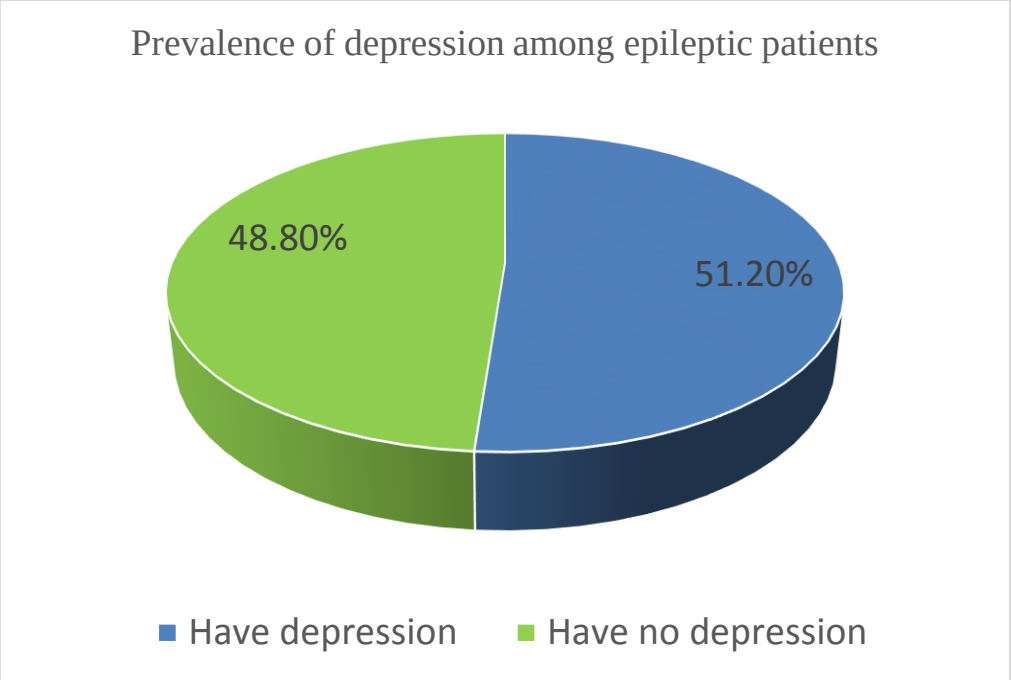

Figure 3 percentage distribution of depression among epileptic patients following treatment at public health facilities of Bench Maji zone, south west Ethiopia, 2017.

Concerning to the level of depression among participants with depressive symptoms, more than half 75(60%) of them were have mild depression, 45(36%) were have moderate depression and 5(4%) of them had severe depression. (Fig 4)

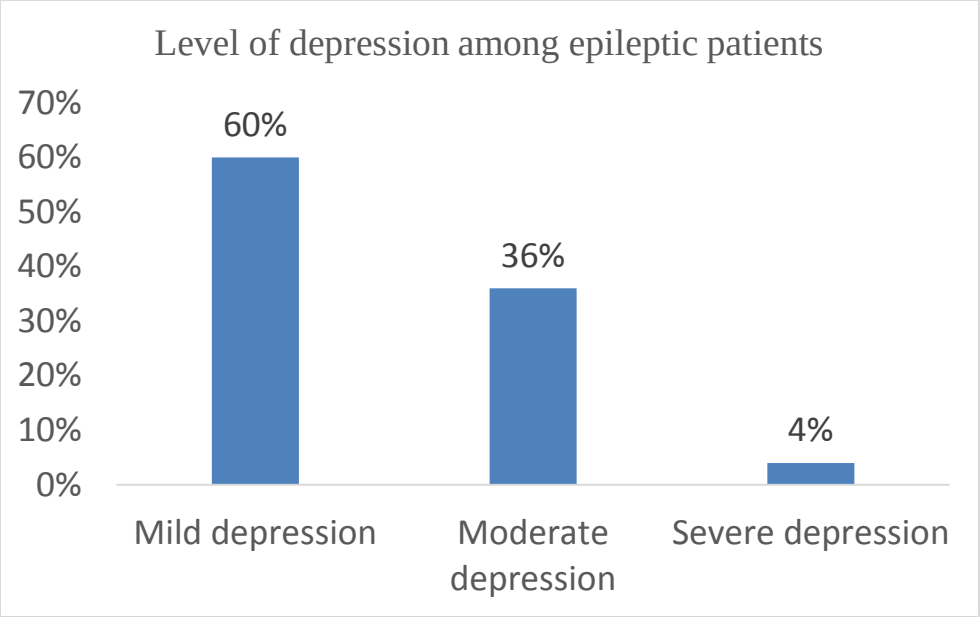

Figure 4. Level of depression among epileptic patients following their treatments at public health facilities of Bench Maji zone south west Ethiopia 2017.

5.3 Clinical related variables

About 238 (97.5%) of participants had no family history of depression, More than half 134(54.9%) them were have no seizure attack during last month at the time of the study. Half of the respondents were have an age onset of epilepsy between 12 and 24 years old and nearly half (48.8%) of them had stayed with epilepsy for more than eleven years. Majority of patients (90.6%) were have no other comorbidity with their epilepsy and most (88.9%) of them were receiving single AEDs. (Table 2)

Table 2. Clinical related characteristics among epileptic patients following treatment at public health facilities of Bench Maji zone south west Ethiopia, 2017. (N=244)

Clinical related variables	Response	Frequency	Percent
Family hx of depression	Yes	6	2.5
	No	238	97.5
Seizure frequency per month	None	134	54.9
	1-2	57	23.4
	>=3	53	21.7
Age at onset of disease in years	<=11	55	22.5
	12-24	122	50
	>=25	67	27.5
Duration of illness in years	<1	22	9.0
	2-5	22	9.0
	6-10	81	33.2
	>=11	119	48.8
Comorbidity	Yes	23	9.4
	No	221	90.6
Number of AEDs	One type	217	88.9
	More or equal to two type	27	11.1

5.4 Knowledge of people living with epilepsy about their epilepsy

The mean knowledge score was 5 with the minimum score of 0 and maximum score of 10. More than half (53.3%) of the respondents had scored below mean and were have poor knowledge about epilepsy, while 114(46.7%) of participants had scored above mean knowledge score and were have good knowledge about their epilepsy. (Fig 5)

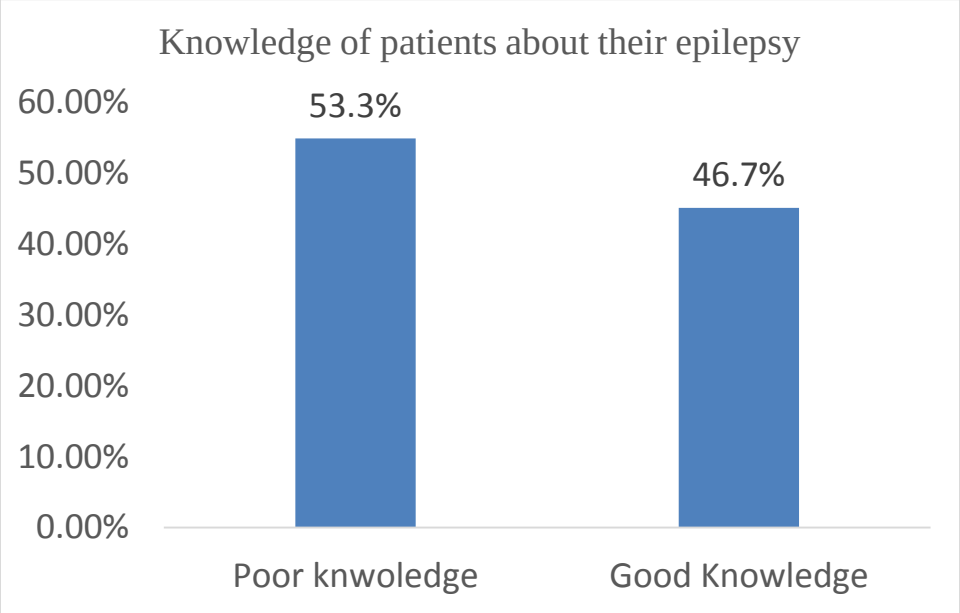

Figure 5 Percentage distribution of knowledge of epileptic patients about their illness at public health facilities of Bench Maji zone south west Ethiopia, 2017.

5.5 Social support

Measurement by the Oslo Three Items Social Support Scale revealed that 115(47.1%) of respondents received poor social support, 104(42.6%) of them had moderate social support while 25(10.3%) were have strong social support. (Fig 5)

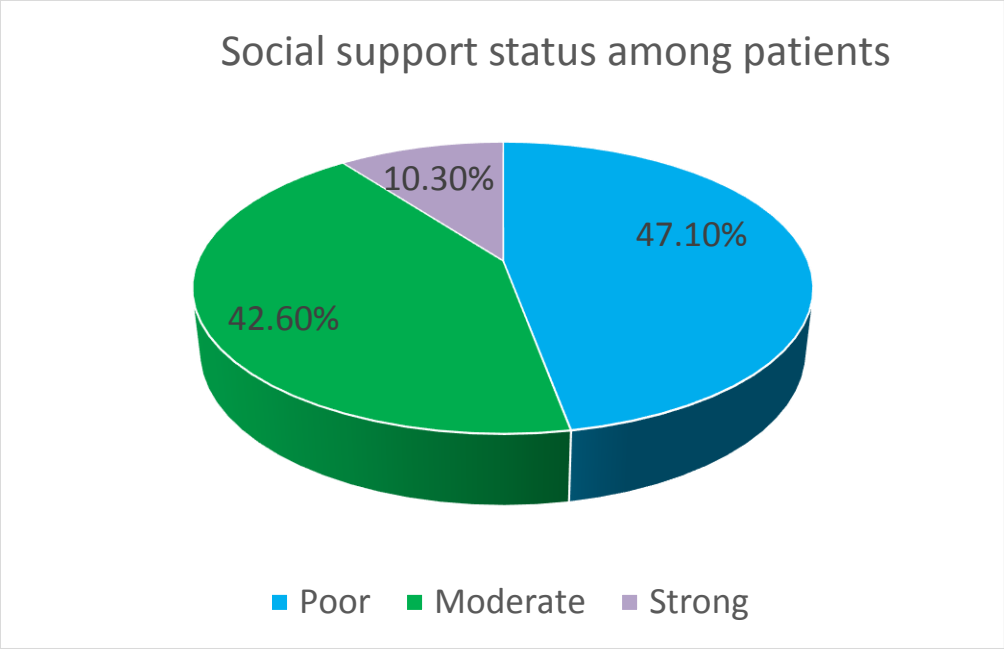

Fig 6. Percentage distribution of social support among epileptic patients following treatments at public health facilities of Bench Maji zone, south west Ethiopia, 2017.

5.6 Stigma

Majority (68.9%) of respondents were have not felt stigma and 76(31.1%) of participants had felt stigma. (figure7)

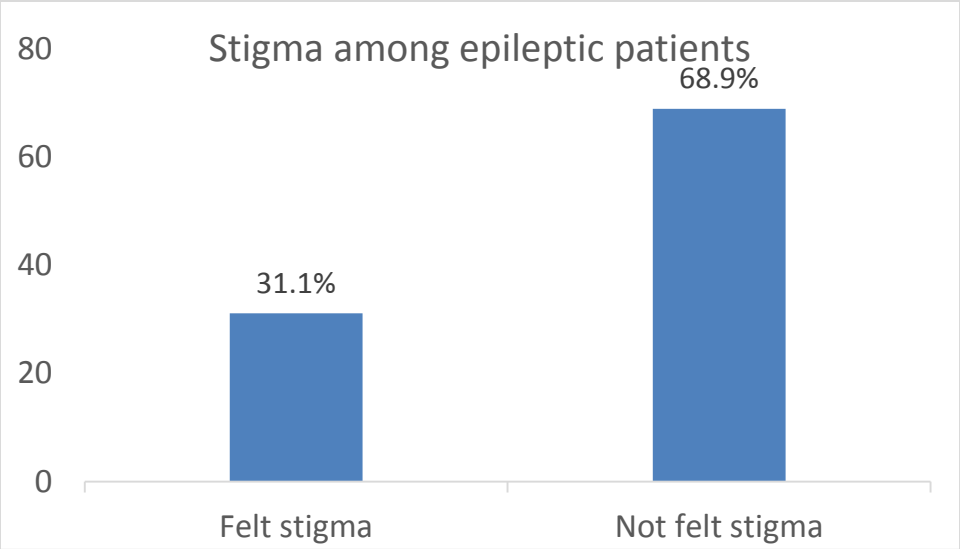

Figure 7: Percentage distribution of stigma among epileptic patients following treatments at public health facilities of Bench Maji zone, south west Ethiopia, 2017.

5.7Anti-epileptic drug adherence

Majority (42.2%) of participants were have low adherence to their anti-epileptic drugs, 71(29.1%) were have high adherence and 70(28.7%) had medium adherence to their drugs. (Figure 8)

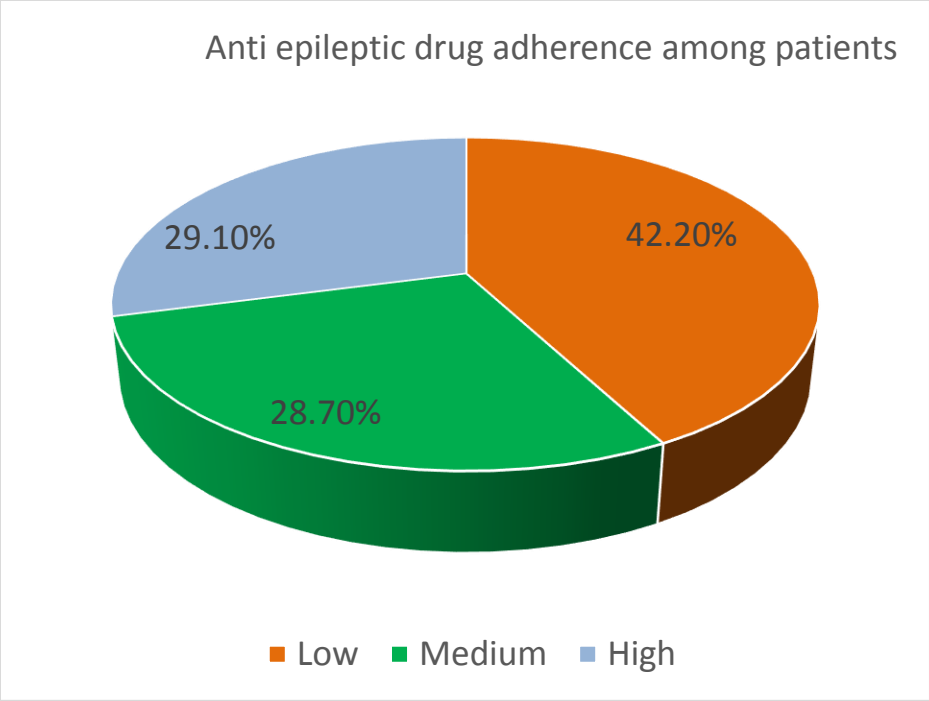

Fig 8. Percentage distribution of anti-epileptic drug adherence among epileptic patients following treatments at public health facilities of Bench Maji zone, south west Ethiopia, 2017.

5.8 Factors associated with depression among epileptic patients

The Hosmer and Lemeshow good ness of fit from multiple logistic regression analysis with P value of 0.23 indicates all predicting variables are good predictors of depression among epileptic patients. Assumptions were checked and no multicollinearity was detected. All variables with P value less than 0.25 from bivariate logistic regression analysis were candidate for multiple logistic regression analysis to control confounding variables and to identify independent factors of depression. (Table 3)

Table 3: Bivariate logistic regression analysis for factors of depression among epileptic patients following treatment at public health facilities of Bench Maji zone, south west Ethiopia, 2017. (N=244)

Variables		Depression				P	COR(95%CI)
		Yes	%	No	%		
Marital status	Single	56	56.6	43	43.4	0.072*	1.628(0.958,2.767)
	Widowed	7	58.3	5	41.7	0.361	1.75(0.527,5.812)
	Divorced	6	85.7	1	14.3	0.066*	7.50(0.877,64.127)
	Married	56	44.4	70	55.6		1
Educational status	No formal education	54	34.1	28	65.9	0.001*	2.47(1.423,4.293)*
	Formal education	71	43.8	91	56.2		1
Seizure frequency per month	1-2	36	63.1	21	36.9	0.003*	2.62(1.382,4.968)*
	>=3	36	67.9	17	32.1	0.001*	3.23(1.652,6.342)*
	None	53	39.6	81	60.4		1
Age at onset of epilepsy	<=11	36	65.5	19	34.5	0.002*	3.18(1.512,6.701)*
	12-24	64	52.5	58	47.5	0.047*	1.85(1.008,3.410)*
	>=25	25	37.3	42	62.7		1
AED adherence	Poor	67	65.0	36	35.0	0.000*	4.43(2.311,8.497)*
	Medium	37	52.9	33	47.1	0.005*	2.67(1.335,5.337)*
	High	21	29.6	50	70.4		1
Knowledge	Poor	80	61.3	50	38.7	0.001*	2.45(1.46,4.10)*
	Good	45	39.4	69	60.6		1

*candidate for multiple logistic regression analysis at P < 0.25

Multiple logistic regression analysis indicated that; educational status, seizure frequency, age at onset of epilepsy, anti-epileptic drug adherence and knowledge about epilepsy were independent factors of depression among epileptic patients. The odds of depression among epileptic patients with no formal education were almost three times higher compared to those epileptic patients with formal education, AOR = 2.5 CI (1.32, 4.78). Adjusted odds ratio also showed that the likelihoods of depression among epileptic patients with seizure attack more or equals to three times per month were three times more compared to epileptic patients with seizure free, AOR = 3.06 CI(1.412,6.65).

Age at onset of epilepsy is another factor as adjusted odds ratio showed that, the odds of having depression among epileptic patients with their age onset of epilepsy less than 11 years old were five times more compared to epileptic patients with age onset greater than 25 years, AOR = 4.58 CI (1.94, 10.82).The odds of depression among epileptic patients with age onset of epilepsy between twelve and twenty four were three times higher than epileptic patients with age onset greater than twenty five, AOR 2.797 CI (1.36, 5.75) .

The adjusted odds ratio also displayed that the likelihoods of depression among epileptic patients who adhere poorly to their drugs were five times more compared to those with highly adhered to their drugs, AOR = 4.81 CI (2.32, 9.97). The odds of depression among epileptic patients who adhere moderately to their AED were three times higher compared to epileptic patients who adhered highly to their AEDs, AOR = 3.41 CI (1.547, 7.55).

Knowledge about epilepsy was another independent factor and the likelihoods of depression among epileptic patients who didn't know the fact about their epilepsy were almost three times more compared with epileptic patients who know the fact about their epilepsy, AOR = 2.77 CI (1.5,5.12).(Table 4)

Table 4: Multiple logistic regression analysis for factors of depression among epileptic patients following treatment at public health facilities of Bench Maji zone, south west Ethiopia, 2017. (N=244)

Variables		Depression				P	AOR(95% CI)
		Yes	(%)	No	(%)		
Marital status	Single	56	56.6	43	43.4	0.238	1.467(0.776,2.770)
	Widowed	7	58.3	5	41.7	0.480	1.717(0.383,7.694)
	Divorced	6	85.7	1	14.3	0.078	8.298(0.78,87.57)
	Married	56	44.4	70	55.6		1
Educational status	No formal education	54	34.1	28	65.9	0.008*	2.5(1.32,4.78)**
	Formal education	71	43.8	91	56.2		1
Seizure frequency per month	1-2	36	63.1	21	36.9	0.113	1.91(0.94,3.90)
	>=3	36	67.9	17	32.1	0.003*	3.06(1.412,6.65)**
	None	53	39.6	81	60.4		1
Age at onset of epilepsy	<=11 years	36	65.5	19	34.5	0.002*	4.58(1.94,10.82)**
	12-24 years	64	52.5	58	47.5	0.006*	2.797(1.36,5.75)**
	>=25 years	25	37.3	42	62.7		1
AED adherence	Low	67	65.0	36	35.0	0.000*	4.81(2.32,9.97)**
	Medium	37	52.9	33	47.1	0.005*	3.41(1.547,7.55)**
	High	21	29.6	50	70.4		1
Knowledge	Poor	80	61.3	50	38.7	0.001*	2.77(1.5,5.12)**
	Good	45	39.4	69	60.6		1

* Statistically significant at P < 0.05 in adjusted logistic regression analysis

Chapter Six: Discussion

This study was aimed to assess the prevalence of depression among epileptic patients following their treatment at public health facilities of Bench Maji zone, south west Ethiopia.

More than half (51.2%, 95% CI: 45.0 -57.4%) of the respondents were found to have depression. Among these majority (60%) of participants had mild depression, 45(36%) of them had moderate depression, while 5(4%) had severe depression. This finding was supported by the study conducted in Jimma University specialized teaching hospital where the prevalence of depression was 49.3% [36].

However; in comparison with other developing countries this finding is not consistent and the prevalence of depression is more than studies conducted in Nigeria (42%) [17] and Egypt (25.5%) [32].The possible explanation for this variation was sample size differences in which, sample involved in these (Nigeria=152, Egypt=100) countries were less than that of current study. And other variation might be due to the tools used to assess depression where; Hamilton Rating Scale for Depression (HRSD) were used in Nigeria but BDI II in this study.

This study was also not in line and the finding was more than studies conducted in developed countries like USA (9.5%) [31] and England (30%) [30].The possible reasons for this variations were difference in development status including better health care service and instrument used to assess depression. The instrument used to assess depression in USA and England were the Hospital Anxiety & Depression scale and Patient Health Questionnaire nine-item depression scale (PHQ-9) respectively, but in this study the instrument was BDI II.

The finding of this study depicted that the prevalence of depression was less than study conducted in Pakistan (60%) [33].The possible suggestion for this variations was instrument used to assess depression in which ICD-10 was used to determine depression in Pakistan with different cut point for diagnosis of depression which may over estimates the prevalence.

In this study; educational status, seizure frequency, age at onset of epilepsy, anti-epileptic drug adherence and knowledge about their epilepsy were found to be independent factors of depression among people living with epilepsy.

This study founded that the odds of developing depression in epileptic patients who have no formal education were almost three times more compared to those with formal education, AOR =

2.5 CI (1.32, 4.78).This finding was consistent with study done in Jimma University specialized teaching hospital [36], University of Gondar hospital [18] and Iran [35] where depression was more frequent in lower educational level than higher educational level. However; this finding was in contrast with study done in Turkey [39] where there was no association between educational level and depression in people living with epilepsy. The possible explanation for this finding was, those with high educational status can aware and cope with their illness as well as can adjust different psycho socials issue when compared to the illiterates [46].

Seizure control was another significant factors of depression in this study. The odds of depression among epileptic patients with seizure attacks more or equal to three per month were three times more compared to epileptic patients with no seizure, AOR = 3.06 CI(1.412,6.65). This finding was supported by study done in Nigeria [17], Bosnia [34] and Pakistan [33] however; in contrast with finding from USA [31].The possible explanation for this association was, having frequent seizure can refrain patients from taking different social involvements. And having seizure in public front can lead them to have poor self-confidence, poor self-esteem and decrease quality of life of the patients which all over can lead them to have depression [46].

Age at onset of epilepsy of epilepsy was significantly associated with depression in this study. Depression was more frequent among people living with epilepsy whose onset of epilepsy were early than late onset [34]. In this study the odds of depression among epileptic patients with their age at onset of epilepsy less than 11 years were 5 times more compared to epileptic with age onset greater than 25 years, AOR = 4.58 CI (1.94, 10.82).And the odds of depression among epileptics with age onset between 12 and 24 were three times more than epileptics with age at onset greater than 25. AOR 2.797 CI (1.36, 5.75).

This finding was consistent with study done in Bosnia [34] and was in contrast with study done in Jimma University specialized teaching hospital [36], Turkey [39] and china [40]. This associations were suggested by different literatures and this is because of the early occurrence of disease can have different social impacts on individuals from different cultural believes, in which, with that age they cannot cope [47, 48]. In addition early occurrence can cause early separation from parents in some ethnic groups which can cause poor schooling and different psycho social consequences that might dispose them to depression [47].

This study also showed that drug adherence was predictors of depression. The likely hood of having depression among epileptic patients with poor adherence to their drugs were five times higher compared to those with highly adhered to their drugs, AOR = 4.81 CI (2.32, 9.97). The odds of depression among epileptic patients with moderately adhered to their AED were three times higher compared to epileptic patients highly adhered to their AEDs, AOR = 3.41 CI (1.547, 7.55). This finding was consistent with study done in China [40] and in contrast with finding from Jimma University specialized teaching hospital [36]. This study suggested that depression was more common in poor drug adherer than high drug adherer. This is in fact that those who were highly adhered to their anti-epileptic drugs can have controlled seizure than patients with poor adherence and findings revealed that discontinuations and withdrawals of drugs can cause relapse of seizure [33, 40].

Knowledge about their epilepsy was also significantly associated with depression. The odds of depression among epileptic patients who didn't know the fact about their epilepsy were almost three times more compared with epileptics who know the fact about their illness, AOR = 2.77 CI (1.5,5.12).This finding suggested that those patients who aware the fact about their epilepsy have less depression than that with poor knowledge. Those who know the fact about epilepsy can adjust them self and cope with different psycho social and life issue; as the result would have less depression. This finding is supported by study conducted in other chronic illness as those patients who aware for the fact about their illness can better cope with their illness and would have less depression [24].

Chapter Seven: Conclusion and recommendations

7.1 Conclusion

In this study depression among epileptic patients were found to be high. Low educational status, early age onset of epilepsy, low anti-epileptic drug adherence, poor seizure controllability and poor knowledge about epilepsy were independent factors of depression in epileptic patients.

7.2 Recommendations

Based on the findings the following recommendations were drawn.

For Hospital and health center managers

- Design appropriate screening programs for depression among epileptics in their facilities for early recognition and treatments.

For health care providers

- Routinely screen epileptic patients for depression for early prevention, detection and treatments.
- Provide information regarding the fact about their illness, strength care receivers' drug adherence and design educational sessions that focus on the risk factors for depression for early prevention.

For future studies

- Conduct further study using different study design other than cross-sectional and community based study than facility.

8: Strength and limitations of the study

8.1 Strength

Conducting at zonal level by including both hospitals and health center to get representative sample. In additions this findings add one important variables in addition to existing variables which was knowledge about epilepsy.

8.2 Limitations

Since the study is cross sectional, it may not identify cause effect relationship and there may be recall bias in some variables like age at onset, family history of depression, seizure frequencies which relies on memorization abilities of respondents.

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Annex-I: Questionnaire (English version)

JIMMA UNIVERSITY

INSTITUTE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

Consent Form

This questionnaire is prepared to assess the Prevalence of depression and associated factors among epileptic patient following treatment at public health facility of Bench Maji zone. The assessment is made for the partial fulfillment of Master's Degree in Adult health Nursing.

The information you provide is confidential and is used only for the purpose of this study. If you have any question, don't hesitate to ask the data collector. Your cooperation and participation until the completion of the questionnaire is very necessary for the successful completion of the assessment. We therefore ask your genuine willingness.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting time. But I hope you will participate in the study by considering the benefit of the research result. There is no risk or hazard in participating in this research project.

Benefits

If you participate in this research project, there may not be direct benefit to you. But the findings of this study will help us to identify the gap and take the appropriate intervention by the authorized stakeholder. Those participants with moderate to severe depression will be referred to psychiatry clinic for early treatment.

Incentives

You will not be provided any incentives or payment to take part in this project

Right to refuse or withdraw:

You have full right to refuse from participating in this research. You can choose not to respond to some or all questions if you do not want to give your response. You have also the full right to withdraw from this study at any time you wish, without losing any of your right.

Persons to contact:

Abiy Tadesse Tel:+251917461988 Email: abiyutad@gmail.com

Are you voluntary? Yes ☐ No ☐ Thank you in advance for your cooperation!

Part I. Socio-demographic data

Instruction1: This Question is about Back ground information. Please circle the option that represents the response and write appropriate answer on the space.

NO	Back ground information	Response
101	Sex	1. Male 2. Female
102	Age in complete year	_____
103	Marital status	1. Single 2. Married 3. Widowed 4. Divorced 5. Separated
104	Religion	1. Orthodox 2.Protestant 3. Muslim 4.catholic 5. others___
105	Ethnicity	1. Bench 2.Menit 3. Kafa 4.Sheko 4.Amhara 5. other_____
106	Residence	1. Urban 2. Rural
107	Living status	1.With family 2.Alone 3.With relatives 4.Other_____

PART.2. Question to assess Participants' Socio-economic status

Instruction 2: This Question is about Socio-economic status of participants. Please circle the option that represents the response and write appropriate answer on the space.

No	Socio economic factor	Response
201	What is your monthly income in ETB?	_____
202	What is your educational status?	1. Can't read and write 2.Only read and write 3. Primary school first cycle (1-4) 4. Primary school second cycle (5-8) 5. secondary school (9-10) 6.preparatory school(11-12) 7.college and university
203	What is your occupation?	1. Farmer 2. Employee 3. Student 4. Daily laborer 5. House wife 6. Not employee 7.Other_____

Part III clinical factor related questionnaire

Instruction 3: For closed ended questions circle on the responses and for open ended Questions write the response on the spaces provided under response column.

SNO	Question	Response
301	Have you family history of depression?	1.Yes 2.No
302	What is your Seizure frequency in last month?	_____
303	What was your age when epilepsy happened?	_____year
304	What was the duration of epilepsy in your life?	_____ year
305	How much number of drug are you taking?	1.One 2.>=Two
306	Do you have other illness?	1 No 2.yes

Part IV Questionnaires to assess social support

Instruction 4: encircle the participants' response in response column.

No	Questions	Responses

401	How easy can you get help from neighbors if you should need it?	1. Very easy 2.Easy 3.Possible 4.Difficult 5.Very difficult
402	How many people are so close to you that you can count on them if you have serious problems?	1. None 2.1-2 3. 3-5 4. 5+
403	How much concern do people show in what you are doing?	1.A lot 2.Some 3. Uncertain 4. Little 5. No

Part V Questionnaires to assess perceived stigma

No	questions	Response
501	Would some people prefer to avoid having social interaction with you?	1 yes 2 no
502	Would some people prefer to avoid you from some social related activities?	1 yes 2 no
503	Would you feel that you are treated as inferior in your community?	1 yes 2 no

Part VI: Questionnaires to assess medications adherence

Instruction VI: The following questions are about participants' medication adherence. Please encircle the participants' response in response column.

No	Questions	Response
601	Do you sometimes forget to take your medications?	0.No 1.yes
602	Over the past two weeks were there any days when you did not take your medicine?	0.No 1.yes
603	Have you stopped taking your medications without informing to health care provider because you felt worse when took it?	0.No 1.yes
604	When you travel outside from home do, you sometimes forget taking your medications?	0.No 1.yes
605	Did you take your medications yesterday?	0.No 1.yes
606	When you feel like your epilepsy is under control do you sometimes stop taking medications?	0.No 1.yes
607	Do you ever feel hassled about sticking to your treatment plan?	0.No 1.yes
608	How often do you have difficulty remembering in taking your medications?	0.Never1.once in while2.sometimes 3.usually 4.all the time

Part VII: Questions to assess participants Knowledge about their illness

Instruction VII: The following questions are about participants' knowledge in epilepsy. Please encircle the participants' response in response column.

No	**Questions**	**Response**
701	Is epilepsy contagious?	1. Yes 2. No 3. I Don't know

702	Is epilepsy due to sine from parents?	1. Yes 2. No 3. I Don't know
703	Can epileptic clench hand with others?	1. Yes 2. No 3. I Don't know
704	Is epilepsy due to supernatural powers?	1. Yes 2. No 3. I Don't know
705	Are People with epilepsy can capable as other people?	1. Yes 2. No 3. I Don't know
706	Can a person with epilepsy marry?	1. Yes 2. No 3. I Don't know
707	Can people with epilepsy live with their parents?	1. Yes 2. No 3. I Don't know
708	Can epileptic employed in any institution?	1. Yes 2. No 3. I Don't know
709	Epileptic should isolate themselves from social.	1. Yes 2. No 3. I Don't know
710	Can epilepsy controlled with medications?	1. Yes 2. No 3. I Don't know

PART VIII. Question to assess presence of depressive disorder

Instruction VIII: This Question is about presence of depressive disorder. Please encircle the option that represents the participants' responses in the response column.

NB:-In this study it will be expected that some of participants may have Depression which requires mental health professional help and it is unethical to use participants only for study purpose without suggesting some help for this participants. The way to reach these participants to help them is after interviewing the questionnaire and by looking to the score of PART VIII (BDI); that means the current part. Therefore we request the data collectors to put the sum of each chosen items at the end of PART VIII (BDI) table on the space in front of total score and if your total score is above 19 and if participants response to item number BD809 is 1, 2 or 3 it means that participants need professional help. Therefore please contact the principal investigator or call on 0917461988 (Mr. Abiy Tadesse).

No	BDI	Responses		BDI	Responses
801	Sadness	0 I do not feel sad. 1 I feel sad much of the time. 2 I am sad all of the time. 3 I am so sad or unhappy that I can't stand it.	804	Loss of Pleasure	0 I get as much pleasure as I ever did from the things I enjoy. 1 I don't enjoy things as much as I used to. 2 I get very little pleasure from the things I used to enjoy. 3 I can't get any pleasure from the things I used to enjoy.
802	Pessimism	0 I am not discouraged about my future. 1 I feel more discouraged about my future than I used to be. 2 I do not expect things to work out for me. 3 I feel my future is hopeless and will get only worse.	805	Guilty Feelings	0 I don't feel particularly guilty. 1 I feel guilty over many things I have done or should have done. 2 I feel quite guilty most of the time. 3 I feel guilty most of the time.

803	Past Failure	0 I do not feel like a failure. 1 I have failed more than I should have. 2 As I look back I see a lot of failures. 3 I feel I am a total failure as a person.	806	Punishment Feelings	0 I don't feel I am being punished. 1 I feel I may be punished. 2 I expect to be punished. 3 I feel I am being punished.
807	Self-Dislike	0 I feel the same about myself as ever. 1 I have lost confidence in myself. 2 I am disappointed in myself. 3 I dislike myself.	811	Agitation	0 I am no more restless or would up than usual. 1 I feel more restless or would up than usual. 2 I am so restless or agitated that it's hard to stay still. 3 I am so restless that I have to keep moving or doing something.
808	Self-Criticisms	0 I don't criticize or blame myself more than usual. 1 I am more critical of myself than I used to be. 2 I criticize myself for all of my faults. 3 I blame myself for everything bad that happens.	812	Loss of Interest	0 I have not lost interest in other people or activities. 1 I am less interested in other people or things than before. 2 I have lost most of my interest in other people or things. 3 It's hard to get interested in anything.
809	Suicidal Thoughts or Wishes	0 I don't have any thoughts of killing myself. 1 I have thoughts of killing myself, but I would not carry them out. 2 I would like to kill myself. 3 I would kill myself if I had the chance.	813	Indecisiveness	0 I make decisions about as well as ever. 1 I find it more difficult to make decisions than usual. 2 I have much greater difficulty in making decisions than usual. 3 I have trouble making any decision.
810	Crying	0 I don't cry any more than I used to. 1 I cry more than I used to. 2 I cry over every little thing. 3 I feel like crying, but I can't.	814	Worthlessness	0 I do not feel I am worthless. 1 I don't consider myself as worthwhile and useful as I used to. 2 I feel more worthless as compared to other people. 3 I feel utterly worthless.
815	Loss of energy	0.I have as much energy as ever 1.I have less energy than I used to have			2 my appetite is much less than or much greater than usual 3 I have no appetite at all or I crave food all the time.

		2.I don’t have enough energy to do very much 3.I don’t have enough energy to do any thing			
816	Changes in Sleeping Patterns	0 I have not experienced any change in my sleeping pattern. 1 I sleep somewhat more than or less than usual. 2 I sleep a lot or less than usual. 3 I sleep most of the day &I wake up 1-2 hours early and cannot get	819	Concentration difficulty	0 I can concentrate as well as ever. 1 I cannot concentrate as well as usual. 2 It‘s hard to keep my mind on anything for very long. 3 I find can‘t concentrate on anything.
717	Irritability	0 I am no more irritable than usual. 1 I am more irritable than usual. 2 I am much more irritable than usual. 3 I am irritable all the time.	820	Tiredness or Fatigue	0 I am no more tired or fatigued than. 1 I get more tired or fatigued more easily than usual. 2 I am too tired or fatigued to do a lot of the things I used to do. 3 I am too tired or fatigued to do most of the things I used to.
818	Change in appetite	0 I have not experienced any change in my appetite. 1 my appetite is somewhat less than or somewhat greater than usual.	821	Loss interest in sex	0 I have not noticed any recent change in my interest in sex. 1 I am less interested in sex than I used to be. 2 I am much less interested in sex now. 3 I have lost interest in sex completely.
				Total score	_____

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Annex-II: Questionnaire (Amharic version)

ጅማ ዩኒቨርሲቲ

የ ጤናሳይንስ እንስቲትዩት

የነርስኢንግ እና ሚድዋይፈሪ ትምህርት ክፍል

ስለ ፍቃደኝነት ስምምነት

ይህ ቃለመጠይቅ የተዘጋጀዉ በቤንችማጅ ዞን በመንግስት ጠና አገለግሎት ዉስጥ ለሚጥል በሽታ ህክምናቸዉን ለሚከታተሉት ነዉ::የጥናቱ አላማም የድብርት መጠን እና የሚያጋልጡ ምክንያቶችን የሚጥል በሽታ ባለባቸዉ ሰዎች ላይ ለማጥናት ነዉ::

እስርስዎ የሚሰጡት ምላሽ በሚስጥር ይጠበቃል። የእርስዎ ቀና የሆነ ምላሽ ይህን ቃለመጠይቅ ለመጨረስ ያስፈልጋል:: ስለዚህም ትብብሮን እጠይቃለሁ::

ከቃለመጠይቁ የሚመጣ ችግር

ይህ ጥናት ላይ በመሳተፎ የሚመጣም ሆነ የሚደርስብሆት ችግር የለም::ነገርግን ትንሽ ስአቶችን ሊሻማ ይችላል::

ከ ቃለ መጠይቅ ሊገኝ የሚችል ጥቅም

ከቃለ መጠይቅ ቀጥተኛ ጥቅም ላይገኝ ይችላል።ነገርግን ከጥናቱ የሚገኘዉ ዉጤት በችግሩ ዙሪያ ያለዉን ክፍተት ለመዝጋት እና አስፈላጊ የሆነ እርምጃን ለመዉሰድ ያስችላል::ከዚያዉጪ ቀጥተኛ የሆነ ጥቅማጥቅም የለም::የድብርት መጠን መካከለኛና ከፍተኛ ያላቸዉ ወደ ስነ አእምሮ ክልንክ እንደሄዱ ይደረጋል።

ጥናቱ ላይ ያለመሳተፍ እና ስለ መቁረጥ

ጥናቱ ላይ ያለመሳተፍ እና በማንኛዉም ሰዓት አቋርጦ መዉጣት ይችላሉ። ችግርም ሆነ ጥያቄ ሲያጋጥሞት አጥኒዉን በሚከተለዉ አድራሻ ሊያገኙ ይችላሉ::

አብይታደሰ

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ስለዚህ ፍቃደኛ ኖት ? አዎ ☐ አይደለም ☐

ስለትብብርዎአመሰግናለሁ::

ክፍል 1፡ስለማህበራዊ እና የተገናኙ ቃለ መጠይቆች

መመሪያ 1 ፡ ለመጠየቁ የቴሳታፉውን ምላሽ ይክበቡ፡፡

ተ.ቁ	መሬጃ	ምላሽ
101	ፆታ	1 ወንድ 2 ሴት
102	ዕድሜ	_____
103	የጋብቻ ሁኔታ	1ያላገባ/ች 2 ያገባ/ች 3 ባሏ /ሚስቱ የሞተባት /የሞተበት 4 የፈታች/የፈታ
104	ሀይማኖት	1 ኦርቶዶክስ 2 ፕሮተስታንት 3 ሙስልም 4 ካቶሊክ 5 ሌላ_____
105	ብሄር	1 ቤንች 2 ከፋ 3 ሽኮ 4 መንት 5 አማራ 6 ሌላ_____
106	የመኖሪያ ቦታ	1 ኬቴማ 2 ገጠር
107	የ ኑሮ ሁኔታ	1 ከበቴሰብ ጋር 2 ለብቻ 3 ከ ዘመድ ጋር 4 ለላ_____

ክፍል 2፡ስለማህበራዊ እና እኮኖምያው ቃለ መጠይቆች

መመርያ 2: ለመጠየቁ የቴሳታፉውን ምላሽ ይክበቡ፡፡

ተቁ	ጥያቄ	ምላሽ
201	የትምህርት ደረጃህ/ሽ ምንድ ነው ?	1 ማንበብ እና መጻፍ የማይችል 2 መጻፍ ና ማንበብ ብቻ የሚችል 3 አንደኛ ደረጃ ት/ቤት(1-4) 4 አንደኛደረጃ ሁለተኛ ዐደት ት/ቤት(5-8) 5 ሁለተኛ ደረጃ ት/ቤት(9-10) 6 መሰናዶ ት/ቤት 7 ኮሌጅ እና ዩኒቨርሲቲ
202	ስራህ/ሽ ምንድ ነው?	1 ግብርና 2 ተቀጣሪ 3 ተማሪ 4 የቀን ሰራተኛ 5 የቤት እመቤት 6 ምንም ስራ የሌለ 7 ለላ____
203	ወራው የ ገብህ/ሽ መጠን በ እ/ያ ብር	_____

ክፍል 3 ከህክምና ጋር የተገናኙ ቃለመጠይቆች

***መመርያ* 3 :** ለመጠየቁ የቴሳታፉውን ምላሽ ይክበቡ፡፡

301	በቤተሰብህ/ሽ ውስጥ የድብርት ህመም ያለው አለ?	1 አዎ 2 የለም
302	ባለፈው ዎር ስንት ግዘ ጥሎህ/ሽ ያውቃል?	_____
303	በሽታዉ ሰከሰት አድሜህ/ሽ ስንት ነበር?	_____
304	የምጥል ቢሽታ በአንተ/ች ላይ ምን ያህል ቆይቷል?	_____
305	ከምጥል በሽታ ለላ በሽታ አለህ/ሽ?	1 የለም 2 አዎ
306	ለበሽታዉ የሚወስዱት የመድሀኒት መጠን ስንት ነው?	1 አነድ አይነት 2 ሁለት እና ከዝያ በላይ

ክፍል 4: ስለ ማህበራው ድጋፍ ጥያቄ

***መመርያ* 4 :** ለመጠየቁ የቴሳታፉውን ምላሽ ይክበቡ፡፡

401	ከነረበት እርዳታ ማግኘት ለአንት/ች የግድ ብሆን እንደት በቀላሉ	1 በጣም በቀላሉ 2 በቀላሉ 3 ማግኘት

	ማግኘት ትችላለህ/ሽ?	ይቻላል 4 ያስቸግራል 5 በታም ያሥቸግራል
402	በጣም ከፍተኛ ችግር ብያጋጥምህ/ሽ ምደርስሊህ/ሽ የቅርብ ስው ስንት መቁጠር ትችላለህ/ሽ?	1ማንም የለም 2) 1_2 3) 3_5 4)5+
403	በምትሰራው/ርው ስራ ላይ ሰዎች ምንያክል አመለካከት ይሰጣሉ ?	1 ብዙ 2 የተዎሰነ 3 አይታወቅም 4 ትንሽ 5 ምንም አይሰጡም

ክፍል 5 መጥፎነት ስም ስለመገነዘብ ጥያቄ

መመርያ 5 : የተሳታፍውን ትክክለኛ መልስን ይክበቡ

ተቁ	ጥያቀ	ምላሽ
501	አንድ አንድ ሰዎች አንተን/ችን በማህበራው ግንኙነት ዉስጥ እንዳትኖር/ሪ ይመርጣሉ?	1 አዎ 2 አይደለም
502	አንድ አንድ ሰዎች አንተን/ችን ከማህበራው ጋር በተገናኙ እንቅስቃሰዎች ውስጥ እንዳትሳተፍ/ፊ ይፈልጋሉ?	1 አዎ 2 አይደለም
504	ሰዎች አንተን/ችን የበታች አደርገው እንደምያዩ ይሰማሃል/ሻል?	1 አዎ 2 አይደለም

ክፍል 6 : የመድሃንት አዎሳሰድን የምጠይቅ ጥያቀ

መመርያ 6 : የተሳታፍውን ትክክለኛ መልስን ይክበቡ

601	አንድአንድ ግዘ መድሃንትህ/ሽን መዉሰድ ረስተህ/ሽ ታዉቃለህ/ሽ?	0 አላውቅም 1 አዎ
602	ባለፈዉ ሁለት ሳምንት ዉስጥ መድሃንትህ/ሽን ሳትወሰድ/ጅ ያሳለፍከዉ ቀን አለ?	0 የለም 1 አዎ
603	መድሃንትን ሰትዎስድ/ጅ ህመሙ እንደተባባሰ ስሰማህ/ሽ መድሃንትህን ለጠናባለሙያ ሳትናገር/ሪ አቋርጠሃል/ሻል?	0 አላውቅም 1 አዎ
604	ከበት ወደ ለላ ቦታ ስትሄድ/ጅ አንድአንድ ግዘ መድሃንትህ/ሽን መዉሰድ ረስተህ/ሽ ታዉቃለህ/ሽ?	0 አላውቅም 1 አዎ
605	ትላንት መድሃንትህ/ሽን ወስደሃል/ሻል?	0 አልዎሰድኩም 1 አዎ
606	ህመምህ ስሻል አንድአንደ መድሃንት መዉሰድን አቁመህ ታዉቃለህ/ሽ?	0 አላውቅም 1 አዎ
607	ሁልጊዘ መድሃንት መዉሰድ እንደችግር ተሰምቶህ/ሽ ያዉቃል/ሻል?	0 አይታወቀኝም 1 አዎ
608	ምንያክል ግዘ መድሃንትህን አስታዉሰህ/ሽ መዉሰድ ክብዶህ/ሽ ያዉቃል?	0 ምንም 1 አንድ ግዘ ብቻ 2 አንድአንደ 3 ሁልግዘ

ክፍል 7 : የተሳታፍዉን እወቀት የምጠይቅ ጥያቀ

መመርያ 7 : የተሳታፍውን ትክክለኛ መልስን ይክበቡ

701	የምጥል በሽታ ከሰዉ ወደ ሰው ይተላለፋል።	1 አዎ 2 አይደለም 3 አላዉቅም
702	የምጥል በሽታ በበተሰብ ሃጥያት ምክንያት የምመጣ ነዉ፡	1 አዎ 2 አይደለም 3 አላዉቅም
703	የምጥል በሽታ ከሰዉ ጋር መጨባበጥ ይችላል?	1 አዎ 2 አይደለም 3 አላዉቅም

704	የምጥል በሽታ በፈጣር ቁጣ የምመጣ ነው።	1 አዎ 2 አይደለም 3 አላዉቅም
705	የምጥል በሽታ ያላቸው እንደማንኛዉም ሰው መስራት ይችላሉ።	1 አዎ 2 አይደለም 3 አላዉቅም
706	የምጥል በሽታ ያላቸው ማግባት ይችላሉ ?	1 አዎ 2 አይደለም 3 አላዉቅም
707	የምጥል በሽታ ያላቸው ከበተሰቦቻቸዉ ጋር መኖር ይችላሉ ?	1 አዎ 2 አይደለም 3 አላዉቅም
708	የምጥል በሽታ ያላቸው መስርያ በት መቀጠር ይችላሉ ?	1 አዎ 2 አይደለም 3 አላዉቅም
709	የምጥል በሽታ ያላቸው ራሳቸዉን ከማህበረሰብ ማግለል አለባቸዉ።	1 አዎ 2 አይደለም 3 አላዉቅም
710	የምጥል በሽታን በመድሃንት መቆጣጠር ይቻላል።	1 አዎ 2 አይደለም 3 አላዉቅም

ክፍል 8

መመርያ 8 : ማሳሰቢያ፡-በዚህ ጥናት ውስጥ ከሚሳተፉ ተሳታፍዎች መካከል አንዳንዶቹ ምናልባትም በዚህ የመረጃ መሰብሰቢያ ቅጽ ውስጥ የተጠቀሱ ችግሮች ሊገኝባቸው ይችል ይሆናል ብዬ አስባለሁ። እነዚህም ተሳታፍዎች በግል አነጋግረውኝ እርዳታ የሚያገኙበትን መንገድ በእኔ በኩል የተዘጋጀ ስለሆነ እንዲያነጋግሩኝ አሳስባለሁ። ይህም ልክ እንደ መጠይቁ ምስጢራዊ ይሆናል።እነዚህን ተሳታፍዎች የህክምና እርዳታ እንዲያገኙ ሳይጠቁሙ ለጥናት ብቻ ተጠቅሞ መሄድ ካንድ ተመራማሪ የማይጠበቅ እና ስነምግባር የጎደለው ተግባር መሆኑ ይታወቃል።ስለዚህ እነዚህን የህክምና እርዳታ የሚያስፈልጋቸውን ተሳታፍዎች ብቸኛው ማግኛ መንገድ አሁን ያለንበት ክፍል ስምንት ቤክ የድብርት (Depression) መለያ ላይ ባለዉ ውጤት ነው። ስለዚህ በክፍል ስምንት ላይ ያሉትን ጥያቄዎች ድምር ባለው ክፍት ቦታ ላይ እንዲሞሉ እጠይቃለሁ።የደመሩት ውጤት አስራ ዘጠኝ በላይ ከሆነ እና በጥያቄ ተራ ቁጥር BD809 የመረጡት መልስ 1፣2፣3 ከሆነ የህክምና እርዳታ ስለሚያስፈልጎት በ ስልክ ቁጥር 0917461988 አቶ አብይ ታደሰን ብለዉ በመደወል እርዳታ ማግኘት ይችላሉ።

ተቁ	BDI	ምላሽ	ተቁ	BDI	ምላሽ
801	የሀዘን (የመከፋት) ስሜት በማያውቁት ምክኒያት	0 የሀዘን(የመከፋት) ስሜት አይሰማኝም 1 አብዛኛውን ጊዜ የሀዘን (የመከፋት) ስሜት ይሰማኛል. 2 ሁሌም የሀዘን (የመከፋት) ስሜት ይሰማኛል 3 መቋቋም በማልችለው መጠን ከፍተኛ የሀዘን (የመከፋት) ወይም ደስተኛ ያለመሆን ስሜት ይሰማኛል	803	ያለፈው ጊዜ ህይወት አለመሳካት (ውድቀት)	0 የከዚህ በፊት ህይወቴ በውድቀት የተሞላ ነው የሚል ስሜት የለኝም 1 ከምገምተው በላይ ውድቀት ደርሶብኛል 2 የቀድሞ ህይወቴን ወደኋላ ዞርብዬ ስመለከት ብዙ ውድቀቶች ይታዩኛል 3 ህይወቴ በሙሉ በውድቀት የተሞላ አንደሆነ ይሰማኛል
802	ጨለምተኝነት /መጥፎ ነገር ብቻ አለ ወይም ይመጣል (ይደርሳል) ብሎ ማሰብ	0 ለወደፊትህይወት ያቀድኳቸው አቅዶች ይደናቀፋሉ (ስኬታማ አይሆኑም) ብዬ አላስብም 1 ከበፊቱ በበለጠ ባሁኑ ወቅት የወደፊት ህይወቴ ስኬታማ እንደማይሆን ይሰማኛል 2 ነገሮች ለእኔ ይሳኩኛል ብዬ አልጠብቅም	804	የደስተኝነት ስሜት መጥፋት	0 ከዚህ በፊት ደስታ የሚሰጡኝ ነገሮች አሁንም ደስታን ይሰጡኛል 1 ከዚህ በፊት ደስታ የሚሰጡኝ ነገሮች እንደቀድሞ ደስታ እየሰጡኝ አይደሉም 2 ከዚህ በፊት በምደሰትባቸው ነገሮች አሁን እጅግ በጣም ጥቂት ደስታ ነው የማገኘው 3 ከዚህ በፊት ደስታን የሚሰጡኝ ነገሮች አሁን ምንም ደስታ አይሰጡኝም

		3 በወደፊት ህይወቴ እድለቢስ የሆንኩ እና ከዚህም የሚብስ እንደሚሆን ይሰማኛል			

805	የመፀፀት ስሜት	0 ምንም አይነት የመፀፀት ስሜት አይሰማኝም 1 ከዚህ በፊት ማድረግ ሳይኖርብኝ በደረግኳቸው ወይም ማድረግ የሚገባኝን ብዙ ነገሮች ባለማድረጌ የመፀፀት ስሜት ይሰማኛል 2 በአብዛኛው ጊዜ በመጠኑ የመፀፀት ስሜት ይሰማኛል 3 ሁልጊዜ ጊዜ የመፀፀት ስሜት ይሰማኛል	811	መቁነጥነጥ/ መቅበጥበጥ/ እረፍት ማጣት	0 ከዚህ በፊት ከነበረው በተለየ አልቁነጠነጥም/አልቅበጠበጥም 1 ከዚህ በፊት ከነበረው በበለጠ የመቁነጥነጥ/የመቅበጠበጥ ስሜት ይሰማኛል 2 አንድ ቦታ ለመቀመጥ በሚያዳግት ሁኔታ አቁነጠነጣለሁ/እቅበጠበጣለሁ 3 በጣም ከመቁነጥነጤ/መቅበጥበጤ የተነሳ መንቀሳቀስ ወይም የሆና ነገር ማድረግ አለብኝ
806	የመቀጣት ስሜት (በሆነ ሀይል)	0 እየተቀጣሁ መሆኔ አይሰማኝም 1 እየተቀጣሁ ሊሆን ይችላል ብዬ አስባለሁ 2 ቅጣት እንደሚጠብቀኝ አስባለሁ/እጠብቃለሁ 3 እየተቀጣሁ እንደሆነ ይሰማኛል	812	የፍላጎት ማጣት	0 በሌሎች ሰዎች ወይም ድርጊቶች ላይ ፍላጎት አላጣሁም 1 በሌሎች ሰዎች ወይም ነገሮች ላይ ከዚህ በፊት ከነበረኝ የተወሰነ ፍላጎት አጥቻለሁ 2 በሌሎች ሰዎች ወይም ነገሮች ላይ ከነበረኝ ፍላጎት አብዛኛውን (ፍላጎቴን) አጥቻለሁ 3 በማንኛውም ነገር ላይ ፍላጎት ማግኘት አዳጋች ሆኖብኛል
807	እራስን መጥላት	0 ስለራሴ እንደ ድሮ ይሰማኛል 1 በራሴ መተማመንን አጥቻለው 2 በራሴ ቅር ተሰኝቻለሁ 3 ራሴን ጠልቻለሁ	813	የመወሰን ወይም ውሳኔ የመስጠት ችግር	0 ከዚህ በፊት ከነበረው በተመሳሳይ ሁኔታ ውሳኔ እሰጣለሁ 1 ከዚህ በፊት ከነበረኝ በበለጠ ውሳኔ ለመስጠት እቸገራለሁ 2 ከዚህ በፊት ከነበርው በበለጠ መልኩ ውሳኔ ለመስጠት በከፍተኛ ሁኔታ ተቸግሪያለሁ 3 በማንኛውም ነገር ላይ ውሳኔ ለመስጠት ከበፊቱ ሁኔታ አቅቶኛል
808	ራስን መውቀስ ወይም መንቀፍ	0 ከበፊቱ በተለየ ራሴን አልወቅስም ወይም አልነቅፍም 1 ከበፊቱ በበለጠ ራሴን ወቅሳለሁ፤ነቅፋለሁ 2 ለሁሉም ስህተቶቼ አራሴን ወቅሳለሁ፤ነቅፋለሁ 3 በተከሰቱት መጥፎ ነገሮች በጠቅላላ ራሴን ወቅሳለሁ፤ነቅፋለሁ	814	ዋጋቢስነት ወይም የማልረባ ሰው ነኝ ብሎ ማሰብ	0 ዋጋቢስ ወይም የማልረባ ሰው ነኝ የሚል ስሜት አይሰማኝም 1 ከዚህ በፊት እንደነበረው ተፋላጊ ወይም ጠቃሚ ሰው ነኝ ብዬ አላስብም 2 ከሌሎች ሰዎች ጋር እራሴን ሳነፃፅር የበለጠ የማልረባ ሰው እንደሆንኩ ወይም የዋጋቢስነት ስሜት ይሰማኛል 3 ፍፁም (ሙሉ በሙሉ) የዋጋቢስነት ስሜት ይሰማኛል

809	እራስን የማጥፋት ሀሳብ ወይም ምኞት	0 እራሴን የማጥፋት ምንም ሀሳብ የለኝም 1 እራሴን ለማጥፋት አስባለሁ ግን አላደርግም ወይም አልፈፅምም 2 እራሴን ባጠፋ ይሻለኛል 3 እድል ባገኝ አራሴን ከማጥፋት ወደኋላ አልልም	815	የአቅም (ጉልበት) ማጣት	0 ከዚህ በፊት የነበረኝን ያህል/የክል አቅም አሁንም አለኝ 1 ከዚህ በፊት ከነበረኝ ያነሰ አቅም አለኝ 2 ስራዎችን በተፈለገው መጠን ለማከናወን በቂ አቅም የለኝም 3 ማንኛውንም ነገር ለመስራት አቅም የለኝም
810	ማልቀስ	0 ከዚህ በፊት ከማለቅሰው በላይ አላለቅስም 1 ከዚህ በፊት ከማለቅሰው በላይ አለቅሳለሁ 2 በጥቃቅን አሉታዊ ክስተቶች/ነገሮች አለቅሳለሁ 3 አልቅሼ እንዲወጣልኝ እፈልጋለሁ ግን ፈፅሞ አይቻለኝም	816	የእንቅልፍ ስርአት መዛባት	0 የእንቅልፍ ስርአት መዛባት አላጋጠመኝም 1 ከዚህ በፊት ከነበረኝ በዛም አነሰም እተኛለሁ 2 ከዚህ በፊት ከነበረኝ በበለጠ ብዙ/ጥቂት እተኛለሁ 3 አብዛኛውን የለሊትም ሆነ የቀን ጊዜ በእንቅልፍ አሳልፋለሁ ወይም ከቀድምዎ 1-2 ሰአት ቀድሜ ከእንቅልፌ እነቃና እንቅልፍ መልሶ አይወስደኝም
817	መበሳጨት/መነጫነጭ	0 ከዚህ በፊት ከነበረው በበለጠ ሁኔታ ብስጩ/ነጭናጫ አይደለሁም 1 ከዚህ በፊት ከነበረው በላይ ብስጩ/ነጭናጫኛ ነኝ 2 ከዚህ በፊት ከነበረው በላይ አጅግ ብስጩ/ነጭናጫ ነኝ. 3 ሁሌም ብስጩ/ነጭናጫ ነኝ	**820**	ድካም/መዛል	0 ከተለመደው በተለየ አይደክመኝም 1 ከተለመደው በተለየ በቀላሉ ይደክመኛል 2 ቀድሞ የማከናውናቸውን ብዙ ድርጊቶች ሳከናውን ከተለመደው በላይ በጣም ይደክመኛል 3 ቀድሞ የማከናውናቸውን አብዛኛውን ድርጊቶች ሳከናውን ከተለመደው በላይ እጅግ በጣም ይደክመኛል
818	የምግብ ፍላጎት መዛባት	0 የምግብ ፍላጎቴ ተለዋውጦ አያውቅም 1 የምግብ ፍላጎቴ ከተለመደው ከፍ ወይም ዝቅ ብሏል 2 የምግብ ፍላጎቴ ከመጠን በላይ ከፍ ወይም ዝቅ ብሏል 3 ከወትሮ እጅግ በበለጠ ምግብ ያስፈልገኛል ወይም ሙሉ በሙሉ የምግብ ፍላጎቴ ጠፍቷል	**821**	የወሲብ ፍላጎት መጥፋት	0 በቅርቡ ምንም አይነት የወሲብ ፍላጎት መቀነስ አይታይብኝም 1 በፊት ከነበረው ሁኔታ የወሲብ ፍላጎቴ ቀንሷል 2 አሁን ያለኝ የወሲብ ፍላጎት በጣም ዝቅተኛ ነው 3 የወሲብ ፍላጎቴን ባሁን ጊዜ ባጠቃላይ አጥቻለሁ
819	ሀሳብ የመሰብሰብ ወይም የቱክረት ችግር	0 እንደማንኛውም ጊዜ ሀሳቤን መሰብሰብ እችላለሁ 1 እንደቀድሞ ጊዜ ትኩረት ማድረግ አልችልም 2 አዕምሮዬን /ልቦናዬን/ ቀልቤን በአንዳንድ ጉዳዮች ላይ ለረጅም ጊዜ ማቆየት አልችልም 3 በምንም ነገር ላይ ትኩረቴን አሰባስቤ ማቆየት አልችልም		**Total score**	_____

Declaration

I the undersigned, declare that this MSc thesis is my original work and it has not been presented for a degree in this or any other university. All source materials used for the thesis have been fully acknowledged.

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