INSTITUTE OF HEALTH

FACULTY OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS AMONG ADULT PATIENTS ADMITTED AT MIZAN TEPI UNIVERSITY TEACHING HOSPITAL, BENCHI-MAJI ZONI, SNNPR, ETHIOPIA 2019

BY: MIRRESA GUTETA (BSc)

THESIS SUBMITTED TO JIMMA UNIVERSITY, INSTITUTE OF HEALTH, FACULTY OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN ADULT HEALTH NURSING

JUNE, 2019.

JIMMA, ETHIOPIA

PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS AMONG ADULT PATIENTS ADMITTED AT MIZAN TEPI UNIVERSITY TEACHING HOSPITAL, BENCHI-MAJI ZONI, SNNPR, ETHIOPIA, 2019

BY: MIRRESA GUTETA (BSc)

ADVISOR:

1. **SUSAN ANAND (M.Sc., PhD)**
2. **WADU WOLANCHO (ASSN, BSc, M.Sc.)**

JUNE, 2019

JIMMA, ETHIOPIA

ABSTRACT

Background: *Depression is a type of mental disorder which is characterized by an excessive and persistent feeling of sadness or despair and/or a loss of interest in things. It is mainly co-morbid with chronic illnesses and is associated with a range of adverse clinical outcomes.*

Objective*: To assess prevalence of depression and associated factors among adult patients admitted at Mizan Tepi University Teaching Hospital, Mizan-Aman, Ethiopia, 2019.*

Methodology*: Institution based cross sectional study design was conducted from April 10 to May 20 at Mizan Tepi University Teaching Hospital among adult patients admitted with sample size of 374. Systematic sampling method was used to select the sample involved in the study every 2 interval. The prevalence of depression was assessed using Patient Health Qurstionnaire-9. Data was entered into Epi data version 3.1 and exported to SPSS version 23 for data analysis. Descriptive statistics was used to identify the distribution of socio demographic, clinical and behavioral characteristics of the study participants. It was processed by using descriptive analysis, including frequency distribution, cross tabulation and summary measures. Bivariate and multivariate logistic regression and odds ratio with 95% confidence interval was used to identify the associated factors with Depression. A p- value of less than 0.05 was considered statistically significant in the final model.*

Results: *The prevalence of depression among adult patients admitted to Mizan Tepi University Teaching hospital was 58.4 %. Depression has statistically significant association with having previous hospital admission [AOR=3.18, 95 % CI: (1.69, 5.97)], being diagnosed with chronic disease [AOR=2.07, 95% CI :(1.19, 3.61)], ward type [AOR=.44, 95% CI: (.22, .87)], being user of cigarette [AOR = 2.16, 95% CI: (1.02, 4.61)] and social support [AOR=.40, 95% CI: (.24, .65)].*

Conclusion and recommendation: *Prevalence of depression among adult patients admitted at Mizan Tepi University Teaching Hospital was high. Those who are smoking, suffering from a chronic illness, ward type, poor social support and previous history of hospital admission were more likely to be depressed. Health care professionals working with admitted patients need to be trained additionally on screening for depression.*

Key words*: Depression, Prevalence, Adult, patients, Mizan-Aman*

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

AKNOWLDGEMENT

LISTS OF ABBREVIATIONS AND ACRONYMS

AIDS =Acquired Immune Deficiency Syndrome

ART =   Anti-Retroviral Treatment

BSC = Bachelor of Science

DC = Data Collector

ETB = Ethiopian Birr

GC= Gregorian calendar

 HIV=Human Immune Virus

KM = Kilometer

MCH = Maternal and Child Health

MRN = Medical Record Number

MSC = Masters of Science

MTU = Mizan Tepi University

OPD = Out Patient Department

PHD = Doctor of Philosophy

PHQ-9 = Patient Health Questionnaire-9

PI = Principal Investigator

SNNPRs = Southern Nations, Nationalities, and People's Region

SPSS= Statistical Package for Social Science

WHO= World Health Organization

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Depression is a type of mental disorder which is characterized by an excessive and persistent feeling of sadness or despair and/or a loss of interest in things [1]. It is mainly co-morbid with chronic physical illnesses and is associated with a range of adverse clinical outcomes. It also characterized by depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration [2].

Depending on the number and severity of symptoms, a depressive episode can be categorized as mild, moderate, or severe. An individual with a mild depressive episode will have some difficulty in continuing with ordinary work and social activities, but will probably not cease to function completely. Depression affects person's capacity to perform his tasks and execute his responsibilities. Globally severe depression could lead to suicide which takes 1 million and 3000 lives per year and day respectively [3].

Depression is an illness that involves the body, mood, and thoughts and that affects the way a person eats, sleeps, feels about him or herself and thinks about things. Everyone experiences feelings of unhappiness and sadness occasionally, but when these depressed feelings start to dominate everyday life and cause physical and mental deterioration, they become what are known as depressive disorders [4–6].

World Health Organization (WHO) estimated, globally 350 million people suffer from depression with wide prevalence rates between 3-16.9%. The prevalence of depression in Sub-Saharan Africa ranges from 15 to 30%.Mental illness especially depression directly result in mortality and morbidity and a significant risk factor for adverse health outcomes [7].

Although depression could be a consequence of adverse life events such as loss of significant person relationship or health, it could also occur without apparent cause [8].

Based on studies risk factors for depressive illness can be categorized into psychosocial, biological, personality characteristics, medication and socio-demographic factors [9].

Prevalence of depression is unequally distributed in the population; it is more common among women, poorer economic conditions, marital conflicts, major life trauma and social failures including absence of confiding relationships, professional and educational failures are identified risk factors associated with depression [10].

Depression is more resistant to therapy when it co-exists with other medical or psychiatric illness. According to different studies, the most common psychiatric disorder in patients who are hospitalized in emergency wards is anxiety, while patients admitted in wards mostly suffer from depression [11].

In Ethiopia mental Health has been one of the most disadvantaged health programs, both in terms of facilities and trained manpower, however, during the last decade; encouraging efforts have been taken to expand services throughout the country. In Ethiopia depression was found to be the seventh leading cause of disease burden. Generally the prevalence of depression is high in hospital compared to community setting because hospital environment itself is stressful [12–17].

Integrating mental health into primarily health care and studying risk for mental health particularly depression needs assessment of different factors including those that impede diagnosis and treatment of mental disorders.

1.2. Statement of the problem

People with mental health conditions are among the most marginalized and vulnerable groups. They often are excluded from mainstream social and economic activities, as well as from decision-making on issues that affect them [18].

Hospital environment is an area which is stressful to the admitted patient as well as patient family. Psychiatric disorders and Behavioral disturbances are reported to be three to five times more common among people with injuries which are severe enough to require hospital admission. Behavioral and mental disorders carry 12% of global burden of disease [19].

Depression is linked to cognitive decline besides impairment in daily living and negatively impacts life satisfaction and quality of living. Thus depression which affects the physical, mental and social aspects of health, is the leading cause of disability ,projected to be the second leading cause of world disability by 2030 [20].

If depression remains undiagnosed and untreated in patients with chronic medical disorders it could prolong hospital stay, result in poor adherence to treatment regimens, increase health care costs, loss of working days, burden to family, community and nation. If untreated it could progress to severe levels posing risk to self harm up to suicide [21].

It is a significant contributor to the global burden of disease and affects people in all communities across the world with prevalence of 11.1 to 53% in low and middle income countries. Today, depression is estimated to affect 350 million people. The world health survey conducted in 17 countries found that on average about 1 in 20 people reported having an episode of depression in the previous year [3].

The high and increasing prevalence of depression in populations of all continents and the serious impacts that it produces make the disease be one of the most serious public health problems of the beginning of the 21st century. Poor mental health status results in poor physical health and decrease productivity. The economic and social burden of depression on an individual, members of family and society at large are very important and this underlines the significance of identification of different factors which are correlated with depression. The economic impacts of depression on the society are also considered to be serious, reaching 118 billion Euros in Europe in 2004 equivalent to 1% of the continent's economy. Nearly 60 million people in the United States live with one of four chronic conditions: heart disease, diabetes, chronic respiratory disease, and major depression [22].

The association of depression with chronic disease such as cardiac problem, diabetic mellitus, stroke, surgery, Alezimer raises the stay of hospitalization, slow recovery and increase disability. Depression and other health problems are causally related and deserve attention from clinicians to ensure better management. Lack of adequate understanding of the relationship between depression and other chronic disease is a problem that has major clinical implications. Depression often coexists with other medical problems whether as a predisposing factor or a sequel [7].

Similarly patient admitted for burn, trauma, orthopedic conditions and surgical interventions are very likely to be depressed [23, 24] .

In addition psychoactive substance use, such as khat, alcohol, and tobacco have become the rising risk factors for major mental health problems globally [25].

Studies revealed that family history of depression, substance abuse, suicide, impulsive behavior, severe or chronic medical conditions, being female sex, intimate partner violence and sexual abuse are associated factors of depression [26,27].

It is the major contributor of disease burden so that failure to recognize and treat endangers the patient life as well as the community. Even though depression is common and linked with negative outcome, only small percentage of it is recognized treated. Burden of depression is around 50.6% among patient in medical setting. In Ethiopia, depression contributes to about 6.5% of the burden of diseases [28].

1.3. Significance of the study

The intention of this study was to assess the prevalence of depression among admitted adult patient and to describe associated factors with depression.

There is no adequate information (data) on the prevalence of depression and associated factor in Mizan-Tepi University teaching hospital. The findings primary help the patient, nursing professional and other health workers to know the prevalence of the problem in this specific study area. It also helps health care provider to initiate early identifying and management of depression among admitted patients.

Studying risk for mental health particularly depression needs assessment of different factors including those that impede diagnosis and treatment of mental disorders. It is obvious that early detection is pivotal to reduce the consequences and sufferings due to these problems.

In addition the result of the study was used as a reference for other studies and may initiate other researchers to conduct similar study in various parts of the country.

CHAPTER TWO

LITERATURE REVIEW

2.1. Prevalence of depression among adult inpatients

WHO report in 2012, one out of ten people suffer from depression and almost one out of five persons has suffered from this disorder during his/her lifetime one-year prevalence is 10% and lifetime prevalence 17%.

Institution based cross-sectional study done in Baquba Teaching Hospital revealed that sixty eight (8.8%) out of 707 admitted patients had depression[6].

Similar hospital based studies at Shariati in Tehranshow that the prevalence of depression was 77.9 % [11]

Another study on prevalence of depression among patients on medical and surgical wards of chaudhryrehmat memorial trust and saira memorial hospitals lahore Pakistan indicated prevalence of depression was 45.3% in Medical and 53.7% in Surgical patients which is unrecognized by their clinicians [29].

Studies done in medical Inpatients at the University Hospital of the West Indies, Jamaica reveal that one in three persons admitted to the medical ward during the study period exhibited depressive symptom [30].

Based on institution based cross-sectional study the prevalence of depression among 489 adult patients admitted to Harari Regional State hospitals was 292 (59.7%) [31].

Other studies done among admitted patient in Gondar University Hospital and Adare General Hospital, Hawassa shows that the prevalence of depression was 58.6% and 38% respectively [32,33].

Similarly study done in Mekelle, Tigray region revealed that the prevalence of depression among 280 adult patients admitted in governmental hospitals is about half of the study participants 153 (54.6%) had depression, while male accounts 62.7% and female were 48.8%. Out of the total depression on the study participants 54.2% had mild depression, 21.5 had moderate depression, 7.2 had severe depression and 17% had very severe depression [22].

2.2. Associated factors of depression among adult inpatients

WHO 2012 report worldwide show that some persons are more likely to have depression than other depending on certain factors. This includes being female, poverty, low education, genetics, exposure to violence, divorced, and had chronic disease [34].

Institution based cross-sectional study done in Baquba Teaching Hospital out of 707 revealed that depression is more common in female 42 (62%) than that in male 26 (38%) also in housewives than employed and in younger age groups than older and in more in early days of admission than later days [6].

Worldwide studies indicate that depression among inpatients mainly associated with socio-demographic, clinical and behavioral factors. It was higher in women, older individuals, widowed or divorced, and poor ones. Those who reported no leisure-time physical activity and medical visits, and who were hospitalized in the last year also showed higher prevalence of depression and chronic diseases. According to finding drawn from study done in Bahawal Victoria Hospital Bahawalpur psychosocial factors have significant role in precipitating and perpetuating the depressive illness being the most prevalent factor followed by social failure, marital conflicts and financial issues, respectively. The prevalence of depression was three times more in women than men [10].

A systemic review of studies in Pakistan concluded that middle age, financial problems female sex, low level education, being a housewife and problems of relationship to be positively correlated with depression [25].

According to institution based cross sectional study done at Tikur Anbessa Specialized Hospital being female, poor social support, and presence of amputation was associated with depression [24].

Based on institution based cross-sectional study among 489 adult patients admitted to Harari Regional State hospitals; having duration of 1-2 weeks in the hospital, being diagnosed with chronic morbidity, being users of psychoactive drugs and having been admitted to surgical ward were significantly associated with depression [31].

Another institution based cross sectional study done among patients admitted to governmental hospital in Mekelle, Tigray region revealed that age of respondents, educational status, medical illness, ward admission had a significant association with depression [22].

Based on institution based cross sectional studies done in Gondar University Hospital among admitted patient shows that being female, being widowed, having a history of previous hospital admissions, illiterate, had substance abuse, or concerned about the length of their hospital stay associated with mental distress [32].

Similar institution based cross sectional study done among patients admitted to Adare General Hospital revealed that being age category 18–24, having cardiovascular disorder and being in surgical ward had association with depression [33].

Conceptual frame work

Socio-demographic factor

- ✓ Sex
- ✓ Age
- ✓ Religion
- ✓ Ethnicity
- ✓ Occupation
- ✓ Educational status
- ✓ Monthly income
- ✓ Marital status
- ✓ Residence
- ✓ living status

Clinical factor

- ✓ Presence of chronic disease
- ✓ Family history of mental illness
- ✓ Pre-existing mental illness.

Substance use

- ✓ Khat
- ✓ Alcohol
- ✓ Tobacco
- ✓ Shisha

Depression

Hospital related factor
- ✓ Hospital stay
- ✓ Ward

Social support

Figure 1:-Conceptual framework developed through reviewing different literature [3, 31-34]

CHAPTER THREE

OBJECTIVES

3.1. General Objectives

➢ To assess prevalence of depression and associated factors among adult inpatients at Mizan-Tepi University Teaching Hospital, Benchi-Maji Zoni, Ethiopia, 2019.

3.2. Specific Objectives

➢ To determine prevalence of depression among adult inpatients.
➢ To identify factors associated with depression among adult inpatients.

CHAPTER FOUR

METHOD AND MATERIAL

4.1. Study setting and period

The study was conducted in MTU Teaching Hospital which is located in Bench-Maji zone, SNNPR, of Ethiopia. Mizan-Aman town is 565 KM far from Addis Ababa and 835 km from regional town, Hawassa. Data was collected from April 10 to May 20. The hospital has 4 wards (medical, pediatric, surgical, gynecology and obstetrics) and 1 emergency, 3 OPDs, MCH, ART, Ophthalmology, Dentistry, Pharmacy, psychiatric departments. MTU Teaching Hospital has 6 specialists,49 General practitioner ,89 nurse,32 midwifery,21 laboratory technician ,19 pharmacist ,4 anesthetist and 200 bed. The hospital serves several zones of SNNPs and Gambella states for around 8, 50538 peoples [35].

4.2. Study design

Institution based cross sectional quantitative study design was used.

4.3. Population

4.3.1. Source population

All adult inpatients admitted to medical, surgical and gynecological and obstetrics wards during study period.

4.3.2 .Study population

Patients who were admitted to the study wards in the study hospitals at the time of data

Collection and meet the inclusion criteria.

4.4. Eligibility criteria

4.4.1. Inclusion criteria

All adult patients, whose age 18 years old and above, and admitted to medical, surgical and gynecological and obstetrics wards.

4.4.2. Exclusion criteria

Patients staying in the hospital less than 24 hour and those patients not fully recovered from anesthesia. Patients unable to respond to the interview.

4.5. Sample size determination and sampling technique

4.5.1. Sample size determination

The sample size was determined by using single population proportion formula, considering the following assumptions; 5%marginal error, 95%confidence interval, adding 1% to compensate for non-response and prevalence of depression p= 59.7% based on study done at Harar Hospital.

$$n= \frac{(Z_{a/2})^2 P(1-P)}{d^2}$$

P 59.7% = 0.597 Prevalence of depression based on study done at Harar Hospital.

W 5$^{\%}$ 0.05 (Margin of error)

$Z_{\alpha/2}$ (95% Confidence interval) 1.96

369.7=370

After adding 1 %non response rate the final sample size became 374.

On an average the number of patients admitted in the MTU Teaching Hospital in medical, surgical and gynecology and obstetrics over a month is 800. A systematic sampling technique used to select from 800 patients and the final sample size become 374.The sampling fraction is: 800/374 = 2. Therefore, the sample interval is 2. The first individual was selected using lottery method and individuals are chosen at regular intervals (every 2nd).

4.5.2. Sampling technique

Systematic sampling method was used to get study participants. As a result, a proportional allocation has done for the 3 wards.
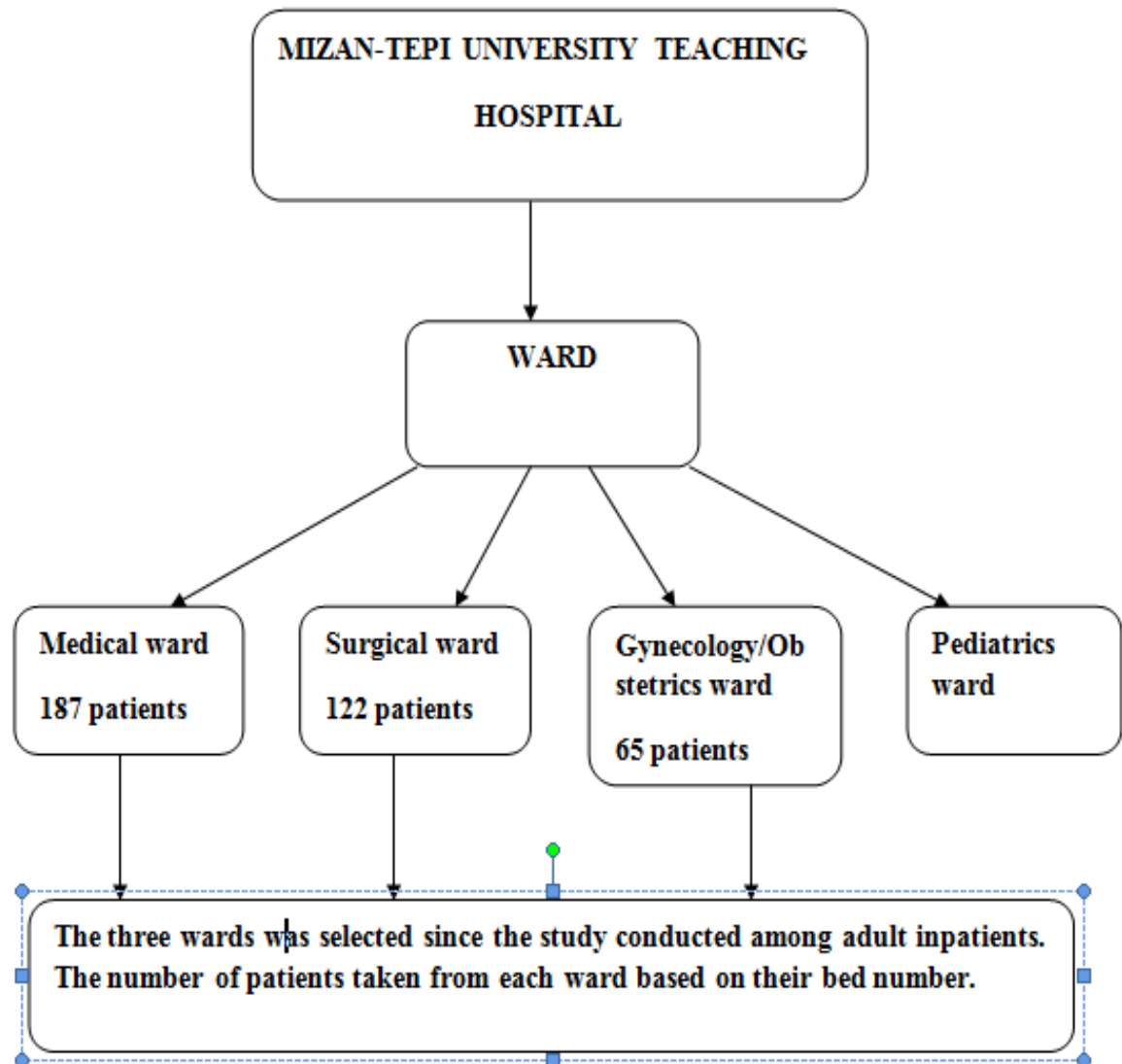
Figure 2 Ward allocation at Mizan-Tepi University Teaching Hospital, Southern, Ethiopia in 2019 (N = 374).

4.6. Study variable

4.6.1. Dependent (outcome) variable
➢ Depression.

4.6.2. Independent (exposure) variable
➢ Socio-demographic factor
✓ Age, sex, religion, ethnicity, educational status, income, marital status, living alone, residence, occupation.
➢ Substance use
➢ Chronic disease
➢ Hospital stay
➢ Family history of mental illness
➢ Pre-existing mental illness
➢ Ward (Medical, Surgical and Gynecology and Obstetrics)
➢ Social support

4.7. Operational definition
Adult is a person older than 18 years of age unless national law defines a person as being an adult at an earlier age [36].

Based on Patient Health Questionnaire- 9 (PHQ -9)

➢ **Depressed:** PHQ-9 score ≥ 5
➢ **Not depressed:** PHQ-9 score less than or equal to 4 [37].

Inpatient: - a person who goes into hospital to receive medical care, and stays there one or more nights while they are being treated

Presence of chronic disease: presence of one or more diseases among hypertension, heart disease, diabetes or others

Substance use: a participant who have a history of a alcohol drinking, khat chewing, shisha and tobacco smoking.

Previous mental illness: refers to a wide range of mental health disorder that affects mood, thinking and behavior identified by qualified professional.

Family mental illness: a diagnosis of mental illness in one or more family members.

Oslo score interpretation

A sum index may also be made by summarizing the raw scores, the sum ranging from 3 – 14.

- ✓ A score of **3-8 is poor social support**,
- ✓ A score of **9-11 is moderate social support** and
- ✓ A score of **12-14 is strong social support.**

In Ethiopia, Cronbach's alpha for OLSO found to be 0.88

4.8. Data Collection Instrument and Procedures

4.8.1. Data collection procedure

The data was collected through structured interviewer administered questionnaires after obtaining consent from participants. A questionnaire was adopted after reviewing of different literatures and the data collection instrument prepared in English. It was translated to Amharic and back to English to ensure consistency by language expert.

4.8.2. Data Collection Instrument

Data collection tool adopted from literature which contains five parts: **part I:** socio demographic factor, **part II**: types of diagnosis, **part III:** substance use, **part IV**: social support, and **part V:** patient health questionnaire-9 (PHQ-9). PHQ-9 is a 9 item questionnaires used to screen symptoms of depression which is used to rate level of depression. It is validated in Ethiopia with internal (Cronbach's alpha=0.85) and test re-test reliability (intraclass correlation coefficient=0.92), sensitivity = 86% and specificity =67. It is a simple depression screening tool which has a brief questionnaire that scores each of 9 DSM-IV criteria for depression as "0" (not at all) to "3" (nearly every day). Oslo perceived social support was used to rate social support. In Ethiopia, Cronbach's alpha for Oslo found to be 0.88.

4.8.3. Data collectors

Three BSc Nursing staff were the data collectors who are responsible to lead the whole situation of the data collection processes, to check the data collected consistency, completeness with one BSc Nurse Supervisor.

4.8.4. Data management and analysis

Data was entered into Epi data version 3.1 and exported to SPSS version 23 for data analysis. Descriptive statistics was used to identify the distribution of socio demographic, clinical and behavioral characteristics of the study participants. It was processed by using descriptive analysis, including frequency distribution, cross tabulation and summary measures Bivariate and multivariate logistic regression and odds ratio with 95% confidence interval was used to identify the associated factors with Depression. Variables with p-value < 0.05 was used as the cut-off point and independent variables with p-value < 0.25 in bivariate logistic analysis was fitted in to multivariate logistic regression to identify independently associated factors in the final model. Finally, finding of study was presented by using table, Chart, graph and narration.

4.8.5. Data quality assurance

One week prior to the actual data collection, the questionnaire was pretested on 5% of the sample in medical, surgical and gynecology and obstetrics ward at Tepi hospital. The purpose of pretest is to ensure that the respondents are able to understand the questions and to check the wording, logic and skip order of the questions in a sensible way to the respondents. Modification was making accordingly after the pre-test. Four BSc Nurses were receiving orientation on data collection techniques. Data collection was supervised by 1 BSc Nurse, and each questionnaire was check for completeness by the principal investigator.

4.8.6. Ethical consideration

Ethical clearance was obtained from Jimma University Institute of Health institutional review board. A formal letter was written and permission obtains from Mizan Tepi University Teaching hospital administration office. After a detail explanation of the purpose of the study, verbal consent was obtained from each study participants. Participants who refused to participate in the study were not being forced and participants can withdraw from the study at any time. Those study participants who had depression based on PHQ 9 and suicidal ideation symptom was linked to the respective health care provider for further diagnosis and treatments.

4.9. Dissemination plan

The result of this study will be presented at Jimma University, Institute of health science, school of nursing and midwifery. Then, the hard copy will be submitted to school of nursing and midwifery as well as the hard copy of the finding also will be send to Mizan Tepi University Teaching Hospital. Lastly, this research finding will be publish at peer reviewed international journal.

CHAPTER FIVE

RESULT

5.1 Socio demographic characteristics of the study participants

A total of 368 patients were interviewed in this study with response rate of 98.4 %. Out of the total 368 study subjects, females make a majority 190 (51.6%). One hundred sixteen (31.5%) were aged between 25 and 34 years with mean age of 36.01 years. They were predominantly protestant 210(57%) by religion and majority of the respondents 148 (40.2%) were Bench in ethnicity. Two hundred seventy one (73.6%) of the respondents were married. Regarding educational status and occupation 178 (48.4%) was unable to write and read and 114(31%) farmer respectively. Two hundred twenty four (60.9%) study participants coming from rural and 325(88.3%) were living with their families (Table 1).

Table 1: Socio demographic characteristics of adult inpatients at Mizan-Tepi University Teaching Hospital, Southern, Ethiopia in 2019 (N = 368).

Variable		Frequency	Percentage
Age	18-24	56	15.2
	25-34	116	31.5
	35-44	103	28
	45-54	64	17.4
	55-64	19	5.2
	≥ 65	10	2.7
Sex	Male	178	48.4
	Female	190	51.6
Religion	Protestant	210	57
	Orthodox	121	32.9
	Muslim	37	10.1
Ethnicity	Bench	148	40.2
	Amhara	80	21.7
	Kaffa	54	14.7

	Oromo	31	8.4
	Tigray	5	1.4
	Other	50	13.6
Marital status	Single	66	17.9
	Married	271	73.6
	Widow	11	3
	Widower	6	1.6
	Divorced	14	3.8
Educational status	Unable to write and read	178	48.4
	Able to write and read	25	6.8
	Attend primary school (1-8)	51	13.9
	Attend secondary school (9-12)	43	11.7
	College and above	71	19.3
Residence	Urban	144	39.1
	Rural	224	60.9
Occupation	Farmer	114	31
	Housewife	77	20.9
	Merchant	24	6.5
	Governmental employee	58	15.8
	Nongovernmental employee	4	1.1
	Daily laborer	35	9.5
	Mining	56	15.2
Monthly income	< 500 birr	90	24.5
	501-1000 birr	100	27.2
	1001-1500 birr	34	9.2
	$\geq$ 1500 birr	144	39.1
Living alone	Yes	43	11.7
	No	325	88.3

5.2 Illness and Hospitalization Profile of study participants

Majority 278 (75.5%) of the respondents stayed in the hospital for less than one week. Ninety nine (26.9 %) had history of previous hospitalization and 156 (42.4) were diagnosed with chronic morbidity, among which 36 (9.8 %) had Heart failure. Three hundred fifty seven (97%) of respondents had not family mental illness and 185 (50.3%) admitted to medical ward (Table 2).

Table 2: Illness and Hospitalization Profile of Adult In-Patients at Mizan Tepi University Teaching Hospital, Southern Ethiopia in 2019 (N = 368).

Variable		Frequency	Percentage
Hospital stay	<1 week	278	75.5
	1-2 weeks	52	14.1
	≥ 3weeks	38	10.3
Previous mental illness	Yes	6	1.6
	No	362	98.4
Family mental illness	Yes	11	3
	No	357	97
Previous hospitalization	Yes	99	26.9
	No	269	73.1
Presence of chronic illness	Yes	156	42.4
	No	212	57.6
Reason of admission	Diabetes	85	23.82
	Hypertension	58	13.97
	COPD	4	1.1
	Heart failure	41	11.17
	Tuberculosis	15	4.1
	Surgery	100	27.97
	Delivery	50	13.74
	Other	15	4.13
Ward	Medical	185	50.3
	Surgical	121	32.9
	Gynecology	62	16.8

5.3 Substance uses of study participants

Alcohol was the most commonly used substance 181(49.2%) with majority of the respondents 77 (20.9 %) having used it for more than eleven years. Whereas fifty-five (14.9%) and 51 (13.9%) were khat users and cigarette smokers respectively (Table 3).

Table 3:- Substance uses of respondents among adult inpatients in Mizan-Tepi University Teaching Hospital, Southern Ethiopia in2019 (N=368)**.**

Variable		Frequency	Percentage
Alcohol use	Yes	181	49.2
	No	187	50.8
Period of alcohol use	≤ 5 year	49	13.3
	6-10 years	55	14.9
	≥ 11 years	77	20.9
Cigarette smoking	Yes	51	13.9
	No	317	86.1
Period	≤ 5 year	21	5.7
	6-10 years	12	3.3
	≥ 11 years	18	4.9
Psychoactive drug use	Yes	56	15.2
	No	312	84.8
Type of psychoactive drug	Khat	55	14.9
	Shisha	1	0.3

5.4 Level of social support of study participants

All of the respondents got social support of which 188 (51.1 %) rated that they received moderate level of support (Figure 1).
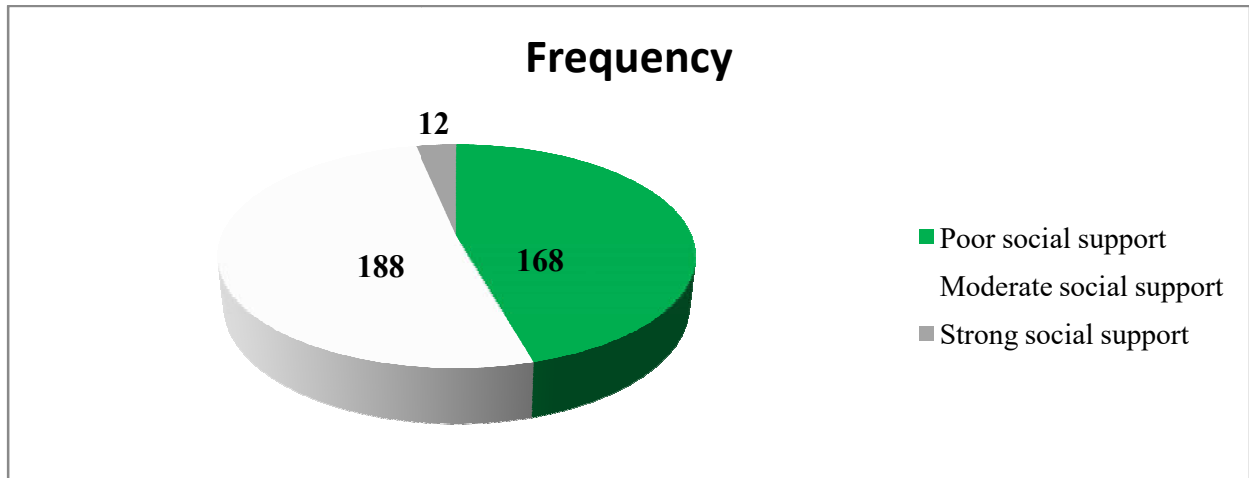
Figure 3:-Level of social support rated among adult inpatients in Mizan-Tepi University Teaching Hospital, Southern Ethiopia in 2019 (N = 368).

5.5 Prevalence of depression

The PHQ-9 was used to screen for depression among 368 in- patients who participated in this study, using cut-off score ≥ 5. More than half the respondents in this study had scores indicative of depression, a prevalence as high as 215(58.4%).Four (1.1%) participants were found to be severely depressed (Figure 4).

Figure 4:- Prevalence of depression among adult inpatients at Mizan-Tepi University Teaching Hospital, Southern Ethiopia in 2019 (N =368).

5.6 Severity of depression

Among the total participants, 195 (53.0%) fulfilled the criteria for mild depression (PHQ-9 score 5-9), 12 (3.3%) of them fulfilled moderate depression (PHQ-9 score 10-14), 4 (1.1%) of them for moderately severe depression(PHQ-9 score 15-19) and 4 (1.1%) of them fulfilled criteria of severe depression (PHQ-9 score 20-27).

Frequency

(Bar chart showing frequency values: No depression = 32, Mild depression = 195, Moderate depression = 12, Moodetely severe depression = 4, Severe depression = 4. Y-axis ranges from 0 to 250.)
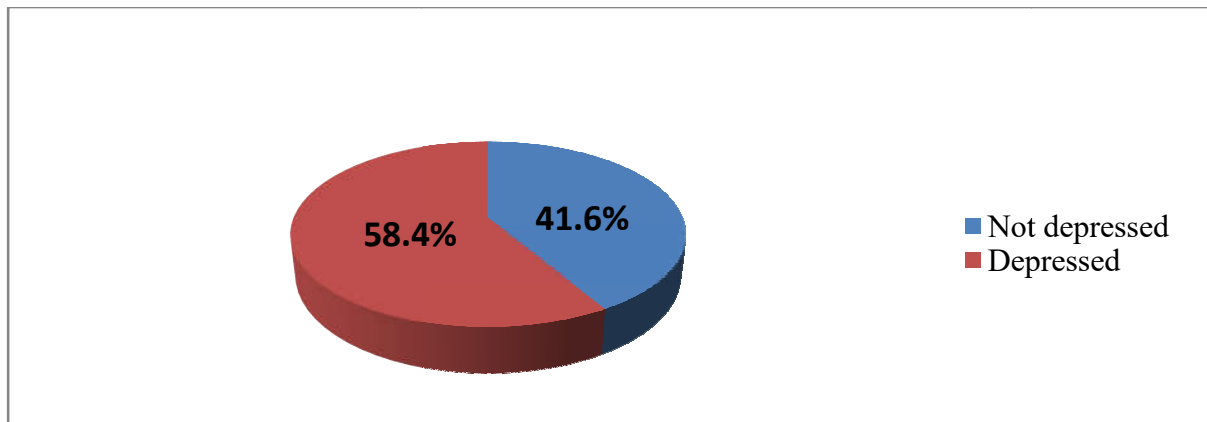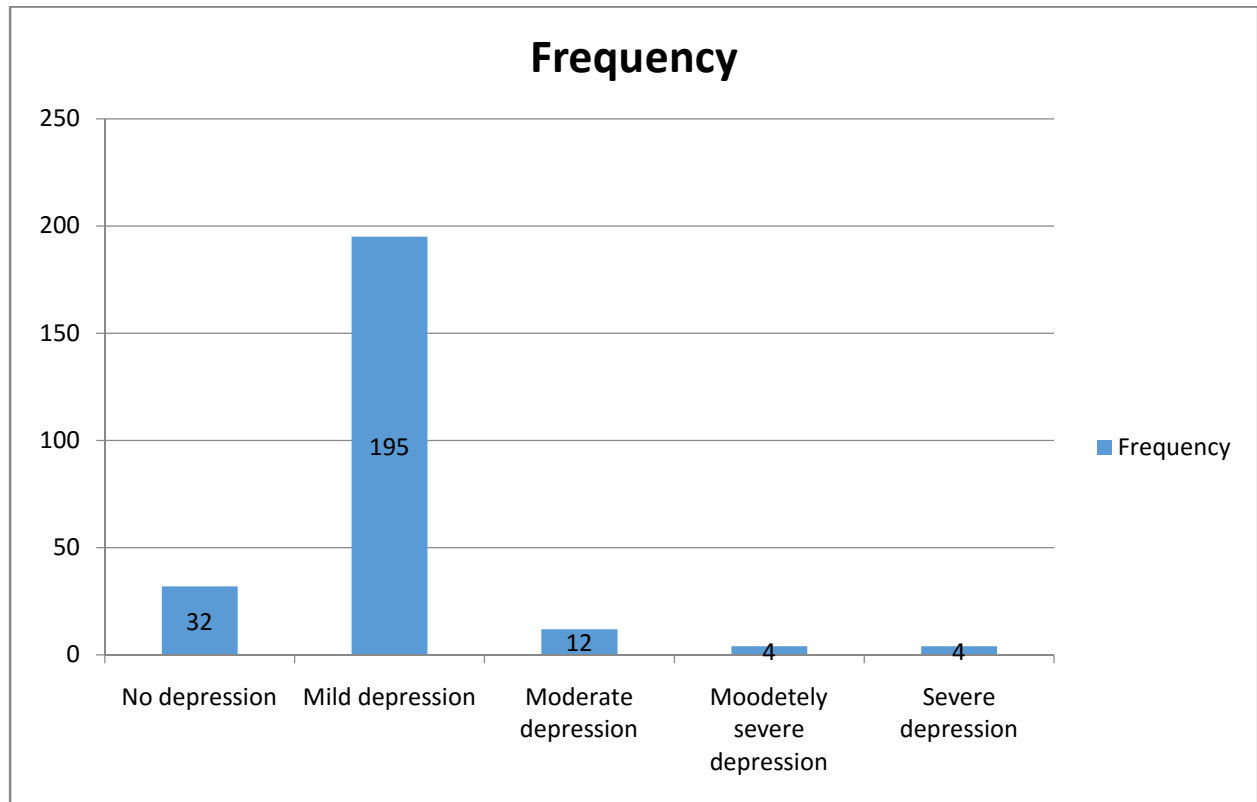
Figure 5: - Severity of depression among adult inpatients in Mizan-Tepi University teaching hospital, Southern Ethiopia in 2019 (N=368).

5.7 Factors associated with depression

Bivariate logistic regression analysis was employed to determine the crude association between the dependent variable with each independent variable. Those exposure variables with p-values ≤ 0.25 were entered into multivariable logistic regression analysis. Adjusted odds ratios with 95% CI were used to identify statistically significant associations between dependent and independent variables.

Result of multivariable logistic regression indicated having previous hospital admission was 3 times more likely to experience depression as compared with patients were not had history of hospital admission before [AOR=3.18, 95 % CI: (1.69, 5.97)], depression was two times more likely common among patients with chronic disease based on present study [AOR=2.07, 95% CI:(1.19,3.61)], patients who were admitted to gynecology ward were less likely to have depressive symptoms compared to those who were admitted to medical ward [AOR=.44, 95% CI: (.22,.87)], participants who smoking cigarette were 2 times more likely to have depression as compared with participants who were non-smoker [AOR = 2.16, 95% CI: (1.02, 4.61)] ; and those study participants who had moderate social support were less likely to be depressed when compared to who had poor social support [AOR=.40, 95% CI: (.24, .65)] (Table 5).

Table 4:-Bivariate logistic regression analysis result among adult inpatients in MTUniversity teaching Hospital, Southern Ethiopia in 2019 (N=368).

Independent variable		Depressed		Univariate	P value
		Yes	**No**	**COR (95%CI)**	
Age	55-65	23	6	3.57(1.26, 10.01)	.02
	18-24	29	27	.93(.49, 1.76)	.83
	45-54	39	25	1.56(.70, 3.00)	.34
	35-44	66	37	1.78 (.86, 3.22)	.13
	25-34	58	58	1	
Marital status	Divorced	11	3	2.87 (.73, 11.26)	.13
	Widow	12	5	1.88 (.59, 5.95)	.28
	Single	37	29	1.20(.61, 1.80)	.87
	Married	155	116	1	
Educational level	Able to write and read	21	4	3.74 (1.23,11.34)	.02
	Attend primary school (1-8)	26	25	.74 (.40, 1.38)	.35
	College and above	42	29	1.03 (.59, 1.80)	.92
	Attend secondary school (9-12)	22	21	.75 (.38, 1.46)	.39
	Unable to write and read	104	74	1	
Occupation	Non Government employee	3	1	1.75 (.18, 17.37)	.63
	Merchant	15	9	.97 (.39, 2.41)	.95
	Daily laborer	21	14	.87 (.40, 1.90)	.74
	Other	33	23	.84 (.43, 1.61)	.59
	Government employee	31	27	.67 (.35, 1.27)	.22
	Housewife	40	37	.63 (.35, 1.13)	.12
	Farmer	72	42	1	
Monthly income	1001-1500	21	13	.86 (.40, 1.86)	.70
	< 500	48	42	.61 (.35, 1.04)	.07
	500-1000	52	48	.58 (.34, .97)	.04
	> 1500	94	50	1	
Hospital stay	≥ 3 weeks	28	10	2.16 (1.01, 4.61)	.05
	1-2 weeks	30	22	1.05 (.58, 1.91)	.87
	< 1week	157	121	1	
Previous mental illness	Yes	5	1	3.62 (.42, 31.23)	.24
	No	210	152	1	
Family mental illness	Yes	10	1	1	
	No	205	152	7.42 (.93, 58.54)	.06
Previous hospitalization	Yes	80	19	4.18 (2.40, 7.28)	.000
	No	135	134	1	

Having chronic disease	Yes	115	41	3.11(2.00, 4.91)	
	No	100	112	1	.000
Reason of admission	Surgery	61	39	1	
	Deliver	20	30	.43 (.14, 1.79)	.45
	Other	7	8	.36 (.10, 1.27)	.113
	Heart failure	13	28	.58 (.05, 6.73)	.661
	Diabetes	35	50	.67 (.19, 2.32)	.531
	Hypertension	29	30	.77 (.16, 3.76)	.746
	TB	3	12	.12 (.04, .33)	.000
Assigned ward	Surgical	49	72	.27(.16, .43)	.000
	Gynecology	33	29	.44(.25, .81)	.007
	Medical	133	52	1	
Cigarette smoking	Yes	38	13	2.31(1.19,4 .51)	.014
	No	177	140	1	
Psychoactive drug use	No	14 0	172	1	
	Yes	13	43	.37 (.19, .72)	.003
Social support	Strong social support	6	6	.47(.15,1.54)	.213
	Intermediate social support	95	93	.48(.31,.75)	.00
	Poor social support	114	54	1	

Table5:-Multivariate logistic regression analysis result among adult inpatients in Mizan-Tepi University teaching hospital, Southern Ethiopia in 2019 (N=368).

Independent variable		Depressed		Univariate	P value	Multivariate	P value
		Yes	No	COR (95%CI)		AOR (95% CI)	
Previous Hospitalization	Yes	80	19	4.18(2.40, 7.28)	.000	3.18(1.69,5.97)***	.000
	No	135	134	1	1	1	
Presence of chronic disease	Yes	115	41	3.11(2.00, 4.91)	.000	2.07 (1.19,3.61)**	.010
	No	100	112	1	1	1	
Assigned ward	Surgical	49	72	.27(.16, .43)	.000	1.18 (.59,2.33)	.638
	Gynecology	33	29	.44(.25, .81)	.007	.44 (.22,.87)**	.019
	Medical	133	52	1		1	
Smoking	Yes	38	13	2.31(1.19,4 .51)	.014	2.16 (1.02,4.61)*	.046
	No	177	140	1	1	1	
Social support	Strong social support	6	6	.47(.15,1.54)	.213	.28 (.07,1.07)	.602
	Intermediate social support	95	93	.48(.31,.75)	.001	.40 (.24,.65)***	.000
	Poor social support	114	54	1		1	

***P = 0.000, **P <0.02,*p < 0.05, P < 0.05 statistically significant.

CHAPTER SIX

DISCUSSION

This study revealed that the prevalence of depression was 58.4% (95% CI=53.2%, 63.5%), of which 195(53.0%) had mild depression and it is mainly affected by having previous hospital admission, having chronic disease, ward type, cigarette smoking and social support. Similar findings were reported in many studies. This study finding was higher than the studies done in Pakistan (36.6%), Jamaica (36.8%)and lower than studies done in Tehran (77.9%) [11, 29, 30]. This difference of findings across these studies might be due to method used, different sample size, reporting bias, difference in baseline characteristic of study participants.

The prevalence of present finding is higher than studies done in outpatient in Black Lion specialized hospital (36.1%), Hawassa Adare Hospital (24.5%), Dessie referral hospital (39.1%) and Bahardar Felege Hiwot referral hospital (40.4%) [19,8,3,39]. This difference of findings might be due to type of diagnosis, setting area the above studies was done among out patients, severity of their illness because relatively the severity of the admitted patients is high , method used, different sample size, lengthy of hospital stay, difference in baseline characteristic of study participants.

Study done among inpatients in Mekelle hospital (54.6%) and Hawassa Adare general hospital (38%) was lower than this finding [27,33]. This difference of findings across this studies might be due to method used, different sample size, difference in baseline characteristic of study participants, different setting. In addition Mizan-Tepi university teaching hospital was became teaching hospital one year ago before it was general hospital which has shortage of resources besides high flow of patients.

On the other hand, this finding is almost similar with study done in Gonder university hospital (58.6%) and Harar public hospital (59.7%). This similarity among this findings might be due to similar setting since both studies done among patients admitted to hospital and both studies was done recently [31, 32].

When compared to the general population the finding of this study was higher than study done in the community. The study conducted on prevalence and risk factors of depression in Ethiopia; and prevalence of depression in Ethiopia was (11%) and (9.1%) respectively. This discrepancy might be due their health status of admitted patients since they are less healthy than people in the general population as well as the hospital environment by itself is stressful for the admitted patients[21,28].

Among the type of depression severe depression (1.1%) was higher in this study than the study done in Gonder university hospital (0.8%) and Nigeria (0.8%) and lower than study done in Mekelle hospital (17%) and Harar public hospital (22.9%) [32, 9, 27,31].

In this study, having previous hospital admission was 3 times more likely to experience depression compared with patients were not had history of hospital admission before. Study conducted in Gonder university hospital indicated that depression has association with having previous hospital admission [32]. This may be explained by if patients admitted to hospital frequently their health status assumed to be debilitated and may be due to side effect of medication they used, but need further studies.

This study shows that depression has significant association with assigned ward. Patients who were admitted to gynecology ward were less likely to have depressive symptoms compared to those who were admitted to medical ward. Study conducted in Harar and Mekelle indicated that depression has association with ward [27, 31]. However, patients who were admitted to gynecology ward were less likely to have depressive symptoms compared to those who were admitted to medical ward unlike of Harar study those admitted to surgical ward were less likely to develop depression. This association may be due to admission to hospital itself is stressful; reason of admission; hospital environment; patients worry because of separation from her/his family, community as well from the occupation. Length of hospital may be the possible reason why patients admitted to gynecologic ward were less likely to have depression since those patients admitted to gynecology ward stay in the hospital for short duration.

Depression was two times more likely common among patients with chronic disease based on present study. Study conducted in Harar public hospital, Jimma University Specialized Hospital and Jimma Health Center and WHO 2012 report is consistent with this study finding. This might be explained by due to disease process, drug side effect and chronic diseases can present with physical limitation of self care and activity daily of life which inhibit patients to involve into different assets of social life [31,38, 34].

The result of present study indicated that one of the important behavioral factor was user of cigarette smoker was associated with depression. This result demonstrate that smoker have to be depressed two times greater than nonsmokers. This finding is in agreement with study conducted among substance use in Jimma town and Harar public hospital [20,31]. Usually cigarette has numerous chemicals which act on central nervous system and produce exciter effect. However, those patients who smoke cigarette discontinue smoking during admission be able to result in depress the patients.

Furthermore, this study showed that social support was significantly associated with depression. Those study participants who had intermediate social support less likely to be depressed when compared to who had poor social support. This finding is in line with the study done in Black Lion Specialized Hospital and Saint Paulo's Hospital Millennium Medical College [13]. This might be due to exacerbation of patient negative feeling further contributing for the development of depression because of separation from the family and the society, since positive social support increase patients ability to cope with negative events.

There were no statistically significant differences found between depression and the sociodemographic characteristic of age, educational status, employment status and marital status in this study. This finding is in line with other studies found out[12,30].

CHAPTER SEVEN

STRENGTHS AND LIMITATIONS OF THE STUDY

Strengths

- ✓ Standardized tools which were tested for their validity according to Ethiopian context were employed to diagnose depression.
- ✓ Those patients who had moderately severe and severe depression were linked with psychiatric clinic to got needed support from professional.
- ✓ Having high response rate.

Limitations

- ✓ Because of cross sectional study design establishing a tentative relationship between depression significant associated factors like substance use and chronic illness is impossible.
- ✓ Substance use was not assessed by using standard tool.
- ✓ It is institutional based study so that impossible to infer the result for a population.

CHAPTER EIGHT

CONCLUSION AND RECOMMENDATION

Conclusion

Prevalence of depression among adult inpatients at Mizan Tepi University Teaching Hospital was high. Smokers, suffering from a chronic illness, social support, ward type and previous history of hospital admission were more likely to be depressed. This requires an effective screening in admitted patient for depression.

Recommendation

Health care professionals working with admitted patients need to be taking additional training on screening for depression.

Mizan-Tepi university teaching hospital need to create the way through which the admitted patients who have severe depression to got linkage with psychiatric unit and try to solve those problems related to infrastructure.

Moreover, another studies need to be carried out in the area considering the existed limitation.

REFERENCE

[1]   A. Birhanu and K. Hassein, "Prevalence and Factors Associated to Depression Among Ambo University Students, Ambo, West Ethiopia," *Int. Peer-reviewed J.*, vol. 25, no. 21, pp. 26–34, 2016.

[2]   F. Feyera, G. Mihretie, A. Bedaso, D. Gedle, and G. Kumera, "Prevalence of depression and associated factors among Somali refugee at melkadida camp, southeast Ethiopia: A cross-sectional study," *BMC Psychiatry*, vol. 15, no. 1, pp. 1–7, 2015.

[3]   M. Estifanos, "Prevalence of Depression and Associated Factors Among medical and Surgical out Patients in Dessie Referal Hospital, North Eastern Amahara, Ethiopia, 2017," *Google Sch.*, 2017.

[4]   N. Chaudhry, F. Jafri, K. Medical, and B. Tomenson, "Prevalence and risk factors for psychological distress and functional disability in urban Pakistan," *WHO South-East Asia J. Public Heal. 3*, no. September, 2014.

[5]   B. K. Al-dabal, M. R. Koura, and L. S. Al-sowielem, "Magnitude of depression problem among primary care consumers in Saudi Arabia," *Int. J. Med. Sci. Public Heal.*, vol. 4, no. 2, pp. 205–210, 2015.

[6]   B. M. A. Hyder Hammo, "Prevalence of Depression among Patients admitted to Baquba Teaching Hospital," *Iran J Psychiatry 5251-54*, 2017.

[7]   W. J. Katon, "Epidemiology and treatment of depression in patients with chronic medical illness," *Dialogues Clin. Neurosci. - Vol 13 . No. 1 .*, pp. 7–23, 2011.

[8]   asres B. T. Gezahegn and M. et Al, "Prevalence of unrecognized depression and associated factors among patients attending medical outpatient department in Adare Hospital ," *Neuropsychiatr. Dis. Treat.*, pp. 2723–2729, 2016.

[9]   R. O. Shittu, L. O. Odeigah, B. A. Issa, and G. T. Olanrewaju, "Association between Depression and Social Demographic Factors in a Nigerian Family Practice Setting," *Open J. Depress.*, vol. 3, no. 1, pp. 18–23, 2014.

[10]   A. Shakoor, S. Z. I. A. Taimuri, M. Anas, and B. I. N. Akhtar, "Prevalence of Depression and Associated Risk Factors in patients belonging to low Socio-Economic Status," *P J M H S Vol. 9, NO. 4*, vol. 9, no. 4, pp. 1197–1201, 2015.

[11]   Ahmad Ali Noorbala, M. Arbabi, and A. R. Shalbafan, "Psychological Dimensions in Patients admitted in Imam Khomeini General Hospital in Tehran," *Iran J Psychiatry; 5251-54*, pp. 51–54, 2010.

[12]   D. K. Worku, Y. M. Yifru, D. G. Postels, and F. E. Gashe, "Prevalence of depression in Parkinson ' s disease patients in Ethiopia," *J. Clin. Mov. Disord.*, pp. 1–12, 2014.

[13]   B. Assefa, B. Duko, G. Ayano, and G. Mihretie, "Prevalence and Factors Associated with Depressive Symptoms among Patient with Chronic Kidney Disease (CKD) in Black Lion Specialized Hospital and Saint Paulo ' s Hospital Millennium Medical College , Addis Ababa , Ethiopia : Cross Sectional Study," *open access J.*, vol. 9, no. 6, 2016.

[14]   T. D. H. et Al, "A Cross Sectional Study on Associated Factors of Depression among Type 2 Diabetic Outpatients in Black Lion General Specialized Hospital, Addis Ababa, Ethiopia," *open access J.*, vol. 3, no. 4, 2014.

[15]   M. M. Bezatu Mengistie, "Prevalence of Depression and Associated Factors among HIV Patients Seeking Treatments in ART Clinics at Harar Town, Eastern Ethiopia," *J. AIDS Clin. Res.*, vol. 06, no. 06, 2015.

[16]   A. Khalil *et al.*, "Prevalence of Depression and Anxiety amongst Cancer Patients in a Hospital Setting : A Cross-Sectional Study," *Psychiatry J.*, vol. 2016, 2016.

[17]   F. Ambaw, R. Mayston, C. Hanlon, and A. Alem, "Depression among patients with tuberculosis: Determinants, course and impact on pathways to care and treatment outcomes in a primary care setting in southern Ethiopia - A study protocol," *BMJ Open*, vol. 5, no. 7, pp. 1–10, 2015.

[18]   S. Soni, M. Shukla, and M. Kumar, "Prevalence of depression and associated risk factors among the elderly in rural field practice areas of a tertiary care institution in Katihar, Bihar," *Int. J. Adv. Med.*, vol. 3, no. 4, pp. 1016–1019, 2016.

[19]   M. F. et Al. and 1., "Targeting people with mental health conditions as a vulnerable group," .

[20]   B. G.-D. et al Glenn J. Wagner, "Depression and its Relationship to Work Status and Income Among HIV Clients in Uganda," *World J AIDS*, vol. 1, no. 3, pp. 233–245, 2012.

[21]   J. Sareen, T. O. Afifi, K. A. Mcmillan, and G. J. G. Asmundson, "Relationship Between Household Income and Mental Disorders Findings From a Population-Based Longitudinal Study," *BMJ Open*, no. November 2016, 2011.

[22]   B. K. Hailu A, Mandush A, "Assessment Of Depression Prevalence And Its Determinants Among Adult Patients Admitted In Governmental Hospitals, Mekelle, Tigray, Ethiopia, 2012.," *Int. J. Pharm. Sci. Res.*, vol. 4, no. 5, pp. 1882–1892, 2013.

[23]   M. M. Ghoneim and M. W. O. Hara, "Depression and postoperative complications : an overview," *BMC Surg.*, pp. 1–10, 2016.

[24]   M. Srahbzu, N. Yigizaw, T. Fanta, D. Assefa, and E. Tirfeneh, "Prevalence of Depression and Anxiety and Associated Factors among Patients Visiting Orthopedic Outpatient Clinic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017," *J. Psychiatry*, vol. 21, no. 4, 2018.

[25]   A. Mossie, D. Kindu, and A. Negash, "Prevalence and Severity of Depression and Its Association with Substance Use in Jimma Town , Southwest Ethiopia," *Depress. Res. Treat.*, vol. 2016, 2016.

[26]   M. S. Abbasi, M. Tahir, M. A. Ranjha, N. Javed, and M. A. Khan, "Proportion Of Unrecognized Depression Among Patients Attending Medical Outpatient Department, Federal General Hospital, Islamabad," *Pakistan J. Public Heal. Vol. 7, No. 2*, no. 11.

[27]   S. Hailemariam, F. Tessema, M. Asefa, H. Tadesse, and G. Tenkolu, "The prevalence of depression and associated factors in Ethiopia: findings from the National Health Survey," *Int. J. Ment. Health Syst.*, vol. 6, pp. 1–11, 2012.

[28]   T. Bitew, "Prevalence and Risk Factors Of Depression In Ethiopia," *Ethiop J Heal. Sci. Vol. 24, No. 2*, no. 7, 2020.

[29]   A. Sabeen and A. Muhammad, "Prevalence of Recognized and Unrecognized Depression Among Medical And Surgical Patients In A Tertiary Care Hospital, Karachi, Pakistan," *jpma J. pakistan Med. Assoc.*, p. 59.

[30]   A. N. Morgan, A. Coore, L. Simms, W. D. Abel, and D. T. Gilbert, "The Prevalence of Depression among Medical Inpatients at the University Hospital of the West Indies , Jamaica," *WIMJ Open*, vol. 2, no. 1, pp. 33–35, 2015.

[31]   H. Tilahun, N. Awoke, B. Geda, and F. Mesfin, "Depression and Associated Factors among Adult Inpatients at Public Hospitals of Harari Regional State, Eastern Ethiopia," *Psychiatry J.*, vol. 2018, pp. 1–6, 2018.

[32] W. G. Alemu, Y. D. Malefiya, and B. B. Bifftu, "Mental Distress among Patients Admitted in Gondar University Hospital : A Cross Sectional Institution Based Study," *Heal. Sci. J.*, vol. 10, pp. 1–7, 2016.

[33] B. Duko, M. Erdado, and J. Ebrahim, "Prevalence and factors associated with depression among hospital admitted patients in South Ethiopia : cross sectional study," *BMC Res. Notes*, pp. 10–13, 2019.

[34] M. T. Y. et al Marina Marcus, "A Global Public Health Concern Developed," *Google Sch.*, pp. 6–8, 2012.

[35] S. Sisay, M. Endris, Y. Genet, and M. Mohammed, "Assessment of Magnitude and Factors Contributing to Obstructed Labor among Mothers Delivered in Mizan-Tepi University Teaching Hospital , Bench-Maji," *Glob. J. Reprod. Med. Hist.*, vol. 2, no. 4, 2017.

[36] C. Guidelines, "CONSOLIDATED GUIDELINES on," no. June, 2013.

[37] "PATIENT HEALTH QUESTIONNAIRE (PHQ-9) NAME : Over the last 2 weeks , how often have you been DATE : Several More than Nearly half the every day," pp. 9–10, 2005.

[38] A. Adem, M. Tesfaye, M. Adem, and M. Sciences, "The Prevalence and Pattern of Depression in Patients with Tuberculosis on Follow-up at Jimma University Specialized Hospital and Jimma Health Center," vol. 3, no. 1, pp. 955–968, 2014.

ANNEXES: INFORMED CONSENT AND QUESTIONNAIRE

I.   Participant's information sheet

Greeting: Good morning/afternoon

Hello my name is---------------------------------------I am working on behalf of research conducted by Mirresa Guteta. I would like to ask few questions which take few minutes. Your genuine responses that you are going to give are very important to identify problems related to Depression and associated factor.

Title of the study: The prevalence of depression and associated factors among adult inpatients at Mizan-Tepi University Teaching Hospital, Mizan-Aman, Ethiopia 2019.

Objective of the study: To assess prevalence of depression and associated factors among adult inpatients at Mizan-Tepi University Teaching Hospital, Mizan-Aman, Ethiopia 2019.

Benefit of the study: The participants will not gain any direct benefit, yet the result can be used as a reference for further studies and identify problems associated to Depression in Mizan-Tepi University Teaching Hospital.

Risk of the study: The study has no any risk for the participants and interview will be private to make safe participants from any fear.

Rights of participants: Participating and not participation is the full right participants and they can stop participating in the study at any time. They can also skip any question which they want to respond. They can ask any question which is not clear for them.

Confidentiality: Any information forwarded will be kept private and her ∕ his name will not be specified.

II. Informed consent

I have read this form or it has been read to me in the language I comprehend and understand all conditions stated above. Are you willing to participate in this study? Yes _____ No _____

If yes thank you, continue with the questions.

Contact me by: Phone +251932153880

         Email: - mirresag143@gmail.com

Part I Socio demographic characteristics of respondents			
S.No	**Question**	**Option**	**Skip/remark**
1	Age	Enter_____	
2	Sex	A. Male B. Female	
3	Religion	A. Orthodox B. Muslim C. Protestant D. Other_____	
4	Ethnicity	A. Bench B. Oromo C. Amhara D. Tigre E. Kaffa F. Other _____	
5	Marital status	A. Single B. Married C. Widow D. Widower E. Divorced	
6	Educational level	A. Unable to write and read B. Able to write and read C. Attended primary school(1-8) D. Attended secondary school(9-12) E. College and above	
7	Residence	A. Urban B. Rural	
8	Occupation	A. Farmer B. House wife C. Merchant D. Governmental employee E. Nongovernmental employee F. Daily laborer G. Other specify_____	
9	Monthly income	Enter_____ birr per month	
10	Living alone	A. Yes B. No	

Part II History of hospitalization and type of diagnosis

S.No	Question	Option	Skip/remark
1	Period of stay in hospital	A. <1 week B. 1-2 weeks C.≥ 3 weeks	
2	Previous history of mental illness	A. Yes B. No	
3	Family history of mental illness	A. Yes B. No	
4	Previous hospitalization	A. Yes B. No	
5	Diagnosis with chronic disease	A. Yes B. No	
6	Reason of admission	A. Diabetes B. Hypertension C. COPD D. Heart failure E. Tuberculosis F. Other _____	

Part III History of Substance uses

S.No	Question	Option	Skip/remark
1	Alcohol use	A. Yes B. No	
2	Period of alcohol use	A. ≤5 years B. 6-10 years C.≥ 11years	
3	Cigarette smoking	A. Yes B. No	
4	Period of cigarette smoking	A. < 5 years B. 6-10 years C. > 11years	
5	Psychoactive drug use	A. Yes B. No	
6	Type of psychoactive drug use	A. Khat B. Shisha C. Other_____	

PHQ-9 DEPRESSION SCALE

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1	Little interest or pleasure in doing things?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
2	Feeling down, depressed, or hopeless?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
3	Trouble falling or staying asleep, or sleeping too much?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
4	Feeling tired or having little energy?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
5	Poor appetite or overeating?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3

6	Feeling bad about yourself — or that you are a failure or have let yourself or your family down?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
7	Trouble concentrating on things, such as reading the newspaper or watching television?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
8	Moving or speaking so slowly that other people could have noticed? Or so fidgety or restless that you have been moving a lot more than usual?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3
9	Thoughts that you would be better off dead, or thoughts of hurting yourself in some way?	Not at all = 0
		Several days=1
		More than half the days = 2
		Nearly every days = 3

Interpretation of Total Score

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

OSLO SOCIAL SUPPORT SCALE

S.NO	Question	Option
1	How easy can you get help from neighbours if you should need it?	Very easy........5
		Easy...............4
		Possible...........3
		Difficult...........2
		Very difficult.....1
2	How many people are so close to you that you can count on them if you have serious problems?	None ………….1
		1-2…………….2
		3-5…………….3
		5+…………………….4
3	How much concern do people show in what you are doing?	No concern and interest……..1
		Little concern and interest…….2
		Uncertain………………………3
		Some concern and interest……4
		A lot of concern and interest….5

Oslo score interpretation

A sum index may also be made by summarizing the raw scores, the sum ranging from 3 – 14.

A score of **3-8 is poor social support**,

A score of **9-11 is moderate social support** and

A score of **12-14 is strong social support.**

In Ethiopia, Cronbach's alpha for OLSO found to be 0.88