HAWASSA UNIVERSIY

COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCES,

DEPARTMENT OF PSYCHOLOGY

MA THESIS

THE PREVALANCE AND ASSOCIATED CAUSAL FACTORS OF DEPRESSION AMONG UNIVERSITY STUDENTS THE CASE OF HAWASSA UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE STUDENTS

BY: MESERET LULSEGED

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HAWASSA ETHIOPIA

THE PREVALANCE AND ASSOCIATED CAUSAL FACTORS OF DEPRESSION AMONG UNIVERSITY STUDENTS THE CASE OF HAWASSA UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE OF STUDENTS

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A thesis Submitted to the College of Education and Behavioral Science, Department of psychology, Hawassa University in Partial fulfillments of the requirements for the Degree of Master of Arts in Counseling Psychology

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Hawassa, Ethiopia

Declaration

I hereby declare that this MA Thesis is my original work and had not been submitted and presented before for any other degree in any other university. I would like to assure you that all sources of material used for this thesis have been duly acknowledged.

Name: _____

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Advisor's Approval Sheet

SCHOOL OF GRADUATE STUDIES

HAWASSA UNIVERSITY ADVISOR'S APPROVAL SHEET

This is to certify that the thesis entitled "**The prevalence and associated causal factors of depression among university students the case of Hawassa University College of medicine and health science students".** Submitted in partial fulfilment of the requirements for the degree of Master of Arts (MA) with specialization in Counseling Psychology, the graduate program of the department of Psychology, and has been carried out by Messeret Lulseged ID No 0010/15 under my supervision. Therefore I recommend that fulfilled the requirement and hence hereby can submit the thesis to the department for defense.

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We, the undersigned, members of the Board of Examiners of the final open defense by Meseret Lulseged have read and evaluated his/her thesis/dissertation entitled "**The prevalence and associated causal factors of depression among university students the case of Hawassa University College of medicine and health science students** " , and examined the candidate. This is, therefore, to certify that the thesis/dissertation has been accepted in partial fulfillment of the requirements for the Master of Arts in counseling psychology.

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List of Abrriviation and Acronyms

AOR	Adjusted Odds Ratio
BDI-II	Beck Depressive Inventory
CBT	Cognitive behavioral therapy
CES	Center for Epidemiological studies
COR	Crude Odds Ratio
FMOH	Federal Ministry of Health
HUCMHS	Hawassa University Health College of Medicine and Heath Science
MDD	Major Depression Disorder
PHQ-9	Patient Health questionnaire
PSS	Perceived Stress Scale
QOL	Quality of Life
SPSS	Statistical Package for Social Sciences
USA	United States of America
WHO	World Health Organization

Abstract

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviors, feelings and sense of well-being over two weeks .The Aim of this study was to assess the prevalence of depression and its associated factors among Hawassa University College of Medicine and Health Sciences students. Cross-sectional study design was used. The sample size was 342 calculated using single population proportion formulla. Samples were selected by using stratified sampling techniques, to determine the number of students from the single department of each batch proportional allocation to the total students was used. Finally, simple random sampling technique was used to select the determined number of students from each batch. Socio economic data were collected by questionnaire. Beck's depression inventory tools was used to determine the depression level of the students. Data were entered, cleaned, and analyzed by SPSS 25. Mean and frequency was used to describe the prevalence and other descriptive variables. While bivariate and multivariate logistic regression was used to assess the association between dependent and independent variables. A significance level was set at $p<0.01$. The result revealed the prevalence of depression among students was 28%. Presence of medical history, drug use, drink alcohol, self-esteem, self-confidence, and social support were predictors to students' depression. Hence the college higher officials should design and implement strategies to enhance counseling services and promote prevention strategies for depression by reducing substance use strengthening social support and boosting the self-esteem and confidence strategies.

Key words: Depression, prevalence, Beck's depression Inventory

CHAPTER ONE

1. INTRODUCTION

1.1.Back ground of the study

The term depression describes a wide range of emotional lows, from mere sadness to a pathological suicidal state (Lu & Egnus, 2022). Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviors, feelings and sense of well-being over two weeks (Birhanu & Hassein, 2019). It is typically characterized by sadness, hopelessness, loss of interest, nervous or anxious feelings, and even suicidal ideation, are among the most common health problems of the world (Ibrahim et al., 2013; Yang et al., 2023).

University years are a critical period of development and the onset of most lifelong mental disorders occurs (Wickramasinghe et al., 2023)**.** Depression is one of the most common health problems for university students which has a massive impact on the student's quality of life (Mahros et al., 2021; Yang et al., 2023)**.** On the personal level, it causes college dropout, impaired ability to work efficiently, deterioration in relationships, substance abuse, attrition from the profession and increased suicidal tendency (Mahros et al., 2021).

Moreover, undergraduates are susceptible to depressive symptoms (Ahmed et al., 2020). It is due to their special developmental stage in life, the nature of adjustment to the new environment, and pressure from academic work and/or campus life (Ghanim et al., 2022; Ibrahim et al., 2013; Mamun et al., 2022). The problem of university students' depression has received relatively little attention, despite evidence of a steady rise in the number of depressed university students (Ibrahim et al., 2013)**.** Depressive symptoms could worsen other mental health problems, such as substance abuse, violent behaviors or suicide, resulting in a crippling effect

not only on daily life, studying, friendship, and family of undergraduates but also on future employment and work productivity (Yang et al., 2023). It is a treatable disorder and if is left untreated in the early age of occurrence, it can lead to different problems like school failure, conduct disorder and delinquency, eating disorders, school phobia, panic attacks, substance abuse, or even suicide (Agumasie, 2021). Clinical depression is the second leading cause of years lost due to disability and disability-adjusted life years in young people aged 20–24 years compared with the general population or non-college students (Ibrahim et al., 2013).

In Ethiopia, depression among university students varied from place to place. A systematic review and meta-analysis on the Prevalence of depression and associated factors among students at Ethiopian universities showed that the pooled prevalence of depression was 28%. In the sub-group analysis, the average prevalence was higher in studies having a lower sample size (28%) than studies with a higher sample; 27% (Anbesaw et al., 2023). The other researchers indicated different prevalent such as in Jimma University 32% (Moges, 2004), in Debre Birhan University 17% (Agumasie, 2021), in University of Gondar 34% (Dagnew et al., 2020), and in Hawassa 30% (Melese et al., 2016).

Hawassa University College of medicine and Health Sciences students have different departments and the educational burden varies from department to department and leads the students getting depression at different level. This is observed from my experience, as I am a counselor in the college I faced a lot of depression cases. Hence it initiate me to investigate the prevalence and the associated causal factors for depression among them.

1.2.Statement of the problem

Depression is a common disorder that affects around 280 million people globally and is a leading cause of disability. World Health Organization projected that by 2030, the major depression to be the primary cause for non-fatal burden of disease worldwide (Wickramasinghe et al., 2023).

Globally, 4.4% of the population is living with depression and it is the single largest contributor to global disability and among the leading causes of years lived with disability, with more than 80% of the disease burden occurred in low- and middle-income countries (Nkporbu., 2022). It is considered as a multi-problematic disorder that leads to impairment in inter-personal, social, and occupational functioning (Ibrahim et al., 2013). Studies have reported wide variations in the proportion of students identified as depressed, from relatively low rates around 10% to high rates of between 40% and 84%. This wide variation appears to be influenced by many factors including methods of assessment, geographical location and demographic factors such as socioeconomic status (Yang et al., 2023), Psychological factors, and negative experience factors were associated with depressive symptoms (Mahros et al., 2021)**.**

Depression in young adults, including university students is one of the most common disorders observed in these groups and is a serious public health concern (Ahmed et al., 2020; Wickramasinghe et al., 2023). It is considered as a multi-problematic disorder that leads to impairment in inter-personal, social, and occupational functioning (Anyayo et al., 2022; de la Rie et al., 2021; Linde et al., 2015). Studies showed that people who attend university have more severe mental health problems and a correspondingly higher prevalence of psychological

disorders, particularly depression, anxiety, and stress, than those of the same age who do not attend university (Yu et al., 2022).

Depression among medical students has increasingly become a concern for medical educators globally. A Systematic Review and Meta-Analysis on the prevalence of depression, depressive symptoms, and suicidal ideation among medical students indicated that the pooled prevalence of depression was 27%. Summary prevalence estimates ranged across assessment modalities from 9.3% to 55.9% (Rotenstein et al., 2016). Studies have documented a higher prevalence of depression among medical students than in the general population and age matched peers (Yang et al., 2023). In 2013, a systemic review reported that the prevalence rates of depression among medical students ranged from 10% to 85% with a weighted mean prevalence of 30.6% (Nkporbu., 2022).

The prevention and early treatment of mental health problems amongst university students is an important public health priority because of its effect on students' lives, public health, society's investment in university students, and the importance of university students to society's future capital. Psychological disorders could pose a serious threat to students' academic achievement and affect their future career course of events at the same time (Ghanim et al., 2022; Moges, 2004; Othieno et al., 2014).

In Ethiopia, mental health has been one of the most underserved health programs in terms of facilities and trained personnel; however, encouraging efforts have been made in the last decade to expand service throughout the country (Birhanu & Hassein 2016). Though many studies on the prevalence of depression and its predictors have been conducted, majority of them have focused on Ethiopia's various general population groups and subgroups. A few studies were

conducted on Jimma (Ahmed et al., 2020), Ambo (Birhanu & Hassein, 2016), Gondar (Dagnew et al., 2020), and Debre Birhan (Agumasie, 2021) universities students' with the prevalence rate of depression of 28%, 32%, 34%, and17% respectively they indicated that there are different factors which predispose students for depression among them sex, parental educational status, year of students, faculty and department of the students, having monthly pocket money, and others. Most of them are out dated and do not address most of the contemporary issues in depression (Agumasie, 2021; Ahmed et al., 2020; Birhanu & Hassein, 2016; Dagnew et al., 2020; Moges, 2004). Beside to this, a research done on Hawassa University before ten years only focuses on Medical students and it is not comprehensive. Moreover it was on mental distress rather than depression (Melese et al., 2016).

Based on my personal experience working in the counseling office of the college, it's abundantly clear that a significant number of students seek help for depression. Through my observations, one plausible explanation for this prevalent issue could be attributed to the constraints of our campus size. The limited space offers inadequate opportunities for student recreation, sports, and other leisure activities, which are crucial for maintaining mental well-being among student. Furthermore, the proliferation of kiosks selling alcoholic beverages and drugs, such as chat and others, in close proximity to the campus exacerbates the situation. These substances can easily become accessible temptations for students, leading to detrimental effects on their mental health.

This research incorporate students from wider department and focuses on depression. So more research is needed on this troubling issue. As a result, this study has been carried out with the aim of determining the prevalence of depression and its associated factors at Hawassa University College of Medicine and Health Sciences.

1.3.Rationale for current study

Depression is one of the main health problems of University students and it is a cause for suicide, increase of attrition rate, for university students. In order to take action on depression, the prevalence of depression and its causal factors need to be researched. A Recent study on university students at Jimma and Gander revealed that different factors like place of residence, night sleep disturbance, department, having monthly pocket money, academic performance, presence of history of depression in a family member were the factors that expose students for depression (Ahmed et al., 2020; Dagnew et al., 2020). The research done in the above universities provides an excellent foundation for similar work to be done among Hawassa University, College of Medicine and Health Sciences

So, the researcher strongly believed that this study would be highly valuable, timely and important in various aspects: it helps to raise awareness of the existing problem; and promote research resources; and help clinical practitioners to design appropriate treatment intervention program in a strengthened manner. This study is also important for intervention program, and finally it helps university community to support depressed students by providing different supports facilitate counseling service, and it helps to design new strategies by ministry of health and education to reduce the prevalence of depression

1.4.Research question

1. What is the prevalence of depression among Hawassa University College of medicine and health science student?
2. Is there any relationship between social related variable and student depression?
3. Is there any relationship between psychological related variable and student depression?

4. Are there any relationships between Educational related variable and student depression?

1.5.Objectives of the Study

General objective

• To assess the prevalence of depression and associated factors among Hawassa University College of Medicine and Health Science students.

Specific Objectives

The specific objectives of the study were:

- To assess the prevalence of depression among Hawassa University College of Medicine and Health Science students
- To examine the association between social related variable and student depression.
- To assess the association between educational related variables and student depression.
- To show the association between psychological related variables and student depression.

1.6.Significance of the Study

The findings of this study will provide information about the prevalence of depression and its associated factors among the college students. The study also provides input to the university higher officials in particular those who are working on student affairs university counselor to understand the extent of the problem and to use the finding for evidence based practice. Besides, based on the outcome, different prevention and rehabilitative strategies could be sought/designed. Moreover, it can serve as a reference for other researchers who wish to conduct on similar issue in the future.

1.7. Delimitation of the study

This study focused on the issue of depression and was limited in terms of location and demography. The research was conducted specifically at Hawassa University, in the Medicine and Health Science Campus. The data may not represent the whole season. Besides, it is not possiblr to show temporal relation ship between the factors and the outcome variables. situation due to crossectional study design nature. More over since the data collection tool was questionnaire, there might be social desirability bias that means students may not give the real information. The study included only undergraduate students from second year to seventh year and beyond, of both genders, from the Medicine and Health Science Campus of Hawassa University.

1.8. Operational Definitions of Terms

Depression: a mental disorder marked by persistent sadness, discouragement, loss of self-worth and loss of interest in usual activities. According to this study the existence and prevalence of depression is determined by.

Beck Depression Inventory- II (BDI II) scale and scale ranges from 0-13 normal, 14-19 mildly depressed, 20-28 moderately depressed and, 29-63 severely depressed.

Prevalence; in this study prevalence is the proportion percentage of 313 students who are more likely to be depressed on the study period

Social factors refer to the influence of various social elements and experiences on an individual's mental health, specifically their likelihood of experiencing depression.

Psychological factors refer to the various mental and emotional elements that contribute to the development, severity, and persistence of depressive symptoms.

Educational factors refer to aspects related to the educational environment or experiences that may contribute to or be associated with the development or exacerbation of depression in individuals.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

This chapter of the study includes important information that deals about the concept of depression, signs and symptoms of depression and the main causal factors of depression. In addition to this, it tries to describe the consequence of depression and the conceptual frame work of depression.

2.1.Concept of depression

Depression is a mental disorder characterized by depressed mood, loss of interest or pleasure, feeling of worthlessness or inappropriate guilt, disturbed sleep and appetite, feeling of tiredness, and poor concentration loss of interest in normally enjoyable activities, low energy, decrease or increase in appetite, insomnia for a minimum of two weeks (Ibrahim et al., 2013; Nkporbu., 2022). It is a common and severe mental disorder caused by the combinations of genetic, social, psychological and environmental factors (Ahmed et al., 2020).

Moreover, mental health problems are the first cause of disability and a major public health issue worldwide due to disease progression, difficulties in therapeutic management and increasing prevalence (Ramón-Arbués et al., 2020). Depression in young adults, including university students is the most common disorders observed in these groups and is a serious public health concern (Naushad et al., 2014). In addition, research indicates that depression onset is occurring earlier in life today than in past decades and the reasons for this could be the result of rapid urbanization and life style changes. Evidence suggests that early intervention for depression in children can improve long term outcomes (Naushad et al., 2014; Ramón-Arbués et al., 2020).

Depression among students refers to a mental health condition characterized by persistent feelings of sadness, hopelessness, and loss of interest or pleasure in activities that were once enjoyable. It often manifests alongside symptoms such as changes in sleep patterns, appetite disturbances, fatigue, difficulty concentrating, and thoughts of worthlessness or guilt. Depression among students can significantly impair academic performance, social relationships, and overall quality of life if left untreated. It may result from a combination of genetic, environmental, social, and psychological factors, and its prevalence among university and college students has become a growing concern globally (Stachowicz & Sowa-Kućma, 2022).

Mental illness has substantial social and individual repercussions. Given the pervasiveness of mental illness, how disorders are defined, diagnosed, and reimbursed has significant ramifications. The DSM-V mainly focuses on mental health conditions. However, because mental health and brain function are inseparable, the DSM-V also covers conditions and concerns related to how the brain works (Tolentino & Schmidt, 2018).

The diagnostic and statistical Manual Mental Disorders often known as the "DSM," is a reference book on mental health and brain-related conditions and disorders which is published by the American Psychiatric Association (APA) is responsible for the writing, editing, reviewing and publishing. The number "V" attached to the name of the DSM refers to the fifth and most recent edition. The DSM provides criteria required to diagnose an individual with a mental illness (Halpin, 2016; Tolentino & Schmidt, 2018).

The first step in treating any health condition physical or mental is accurately diagnosing the condition. That's where the DSM-V comes in. It provides clear, highly detailed definitions of mental health and brain-related conditions. It also provides details and examples of the signs and symptoms of those conditions. In addition to defining and explaining conditions, the DSM-V

organizes those conditions into groups. That makes it easier for healthcare providers to accurately diagnose conditions and tell them apart from conditions with similar signs and symptoms (Hasin et al., 2018).

In 2013, DSM-IV was replaced with the fifth edition of the DSM-V by incorporating some changes in the criteria used to define MDD. The DSM-IV and DSM-V include a severity specifier (mild, moderate, or severe) not previously examined in national data. Furthermore, DSM-5 removed the DSM-IV MDD exclusion criterion for bereavement. While DSM-V does not include bereavement as a new MDD specifier, exploring the potential influence of this change on national rates of DSM-V MDD by identifying the proportion of MDD cases that would have been excluded as bereavement under DSM-IV rules is of considerable interest (Bromet et al., 2011; Hasin et al., 2018).

2.2.Prevalence of depression

Mental health problems are significant causes of overall disease burden globally as it accounts for 21.2% lived with disability worldwide (Worku et al., 2020). It account for approximately one sixth of the global burden of disease in adolescents and approximately 10–20% of adolescents in the world have had mental health problems (Yu et al., 2022). The prevalence of depression varies widely across cultures with developed countries recording higher rates than those of developing countries (Othieno et al., 2014). This wide variation appears to be influenced by many factors including methods of assessment, geographical location and demographic factors such as socioeconomic status (Ibrahim et al., 2013).

Report from the World Mental Health Survey conducted in 17 countries showed that on average 1 in 20 people has episodes of depression symptoms like a depressed mood, loss of

interest and enjoyment, and increased fatigability in the previous year where a depressive episode is categorized as mild, moderate, or severe based on the number and severity of symptoms (Reddy, 2012).

A global systematic review of the prevalence of depression among university students found prevalence rates between 10 −85%, with a weighted mean of 30.6% (Ibrahim et al., 2013). A systematic review of studies of depression prevalence in university students Reported prevalence rates ranged from 10% to 85% with a weighted mean prevalence of 30.6% (Ibrahim et al., 2013).A systematic review and meta-analysis study used to estimate the prevalence of depression and to identify the relationship between depression and quality of life (QOL) among high school and university students indicate that the prevalence of depressive symptoms was 27% (95% CI 0.21– 0.33) among students, being high school and university students was 25% (95% CI 0.14–0.37) and 27% (95% CI 0.20–0.34), respectively, and most studies have shown that depression was associated with low QOL (Fernandes et al., 2023). A nationwide cross-sectional study conducted to assess mental health of 6,032 China university students indicated that 37.8% had complain of depression (Yu et al., 2022).

A cross-sectional study used to investigate the Prevalence and Associated Factors of Depression in Medical Students in a Northern Thailand University using the nine-item Patient Health Questionnaire, indicated that the prevalence of depression was 21% (Phomprasith et al., 2022). In Chile, scientific reports in recent decades indicate that depression and anxiety are the disorders with the highest incidence among Chilean university students, with values higher than those found in the general population, both young and adult (Martínez-Líbano et al., 2023).

Depression among medical students has increasingly become a concern for medical educators globally. In a recent systematic review and meta-analysis, up to 27.2% of medical

students had depression globally (Olum et al., 2020). Study done in Pondicherry shows that the overall prevalence of depression among medical students was found to be 71 %. Among those with depression, 54% of the depressed were females and 46% were males (Birhanu & Hassein, 2016).

A cross-sectional study design used to determine the prevalence and variables influencing depression, anxiety, and stress in Chilean university students in post pandemic indicated that the prevalence of mental health problems in this population was high, with depressive symptoms in 63.1% of the sample (Martínez-Líbano et al., 2023).

Another cross sectional survey used to assess the Prevalence of depression among students at a Sri Lankan University using the Patient Health Questionnaire-9 (PHQ-9) during the COVID-19 pandemic indicated that 70% of the students claimed to have experienced some form of depression ranging from mild to severe (Wickramasinghe et al., 2023). A cross-sectional study conducted to assess the prevalence of anxiety and depression among Palestinian university students during COVID-19 pandemic using The Generalized Anxiety Disor- der Scale (GAD-7) and the Center for Epidemiological Studies Depression (CES-D) scale indicated that the prevalence of depression among them was 55.8%, 26.4%, and 9.8% for severe, moderate, and mild depression, respectively (Ghanim et al., 2022).

Besides to this, studies from sub-Saharan Africa have also documented a high prevalence of depression among medical students (Othieno et al., 2014). Among Egyptian university students a survey using a self-report Arabic language version of Hamilton Rating Scale found that 71% of the students exceeded the cut-off point for mild depression and 37.6 had moderate depression (Ibrahim et al., 2013).

A study of undergraduate students at Makerere University in Uganda using the Beck Depression Inventory showed that newly enrolled students joining the medicine course were less likely to have depressive symptoms compared to those students joining other general courses – 4% compared to 16.2% respectively (Ovuga et al., 2006). A cross-sectional study was conducted among students pursuing a Bachelor of Medicine and Surgery at Makerere University College of Health Sciences used to determine the prevalence of depression using the self-reported Patient Health Questionnaire 9 (PHQ9) the prevalence of depression was 21.5% (n=71) of which 64.1% had moderate depression (n=50) (Othieno et al., 2014).

A cross sectional study conducted on randomly sample of 923 University of Nairobi students used to assess the depression status using Depressive symptoms were measured using Centre for Epidemiological Studies Short Depression Scale (CES – D 10) Using a cut-off point of 10, indicated that the overall prevalence of moderate depressive symptoms was 35.7% (33.5% males and 39.0% females) and severe depression was 5.6% (5.3% males and 5.1% female) (Othieno et al., 2014).

In addition, a cross-sectional study design to determine the prevalence and factors associated with depressive symptoms among Haramaya University students, Ethiopia which was conducted among 1040 students using the Beck Depression Inventory (BDI) scale indicated that the prevalence was 26.8% (95% CI: 24.84, 28.76) (Hambisa et al., 2020). A cross-sectional study design used to determine the Prevalence and Associated Factors of Depressive Symptoms among Mizan-Tepi University Students during the COVID-19 Pandemic indicated that the prevalence of depressive symptoms among university students was 39.5% (Lelisho & Tareke, 2023).

Furthermore A cross-sectional study used to determine the Prevalence and associated factors of depression among Jimma University students using Beck Depression Inventory (BDI-II)

indicated that he prevalence of depression among the students was 28.2% (Ahmed et al., 2020). A cross-sectional study used to determine the Perceived Stress, Depression, and Associated Factors among Undergraduate Health Science Students at Arsi University using the perceived stress scale (PSS-14) item and Beck depression inventory 21 items results revealed the current prevalence of perceived stress among study subjects was 63.5% while the prevalence of depression among students was 4.4% (Worku et al., 2020). A cross-sectional study conducted in Jimma University showed, 32% of students were depressed (Birhanu & Hassein, 2016).

In conclusion, mental health problems, particularly depression, represent a significant global burden, affecting individuals across various demographics, including adolescents and university students. The prevalence of depression varies widely, influenced by cultural, social, and economic factors. Research indicates alarmingly high rates of depression among university students, with figures ranging from 10% to 85%.

2.3. Causal factor for depression

Depression is regarded as a multi-problematic disorder that impairs interpersonal, social, and professional activities. A variety of factors may increase students' susceptibility to depression. Different studies states different factors which leads the university students in to depression, anxiety, and different mental health problems, (Ibrahim et al., 2013) but according to this research factors can be categorized in to educational , psychological and social related factors which leads to the presence of depression among the students.

Educational related factors for depression

Medical students are recognized as a vulnerable demographic due to the unique stressors inherent to their educational path alongside typical life stressors. The stress of medical education

stems from academic pressures, including frequent exams, research demands, time constraints, and overwhelming syllabi. Additionally, the competitive nature of medical education exacerbates psychological strain, especially for high-achieving students. These stressors are compounded by the stigma of poor academic performance (Nkporbu., 2022).

Depression rates among university students are influenced by various educational factors. First-year students, married individuals, economically disadvantaged students, and those living off-campus exhibit higher rates of depressive illness. Moreover, factors such as academic performance, religion, and the specific college attended contribute significantly to depression levels (Othieno et al., 2014). Similarly, studies conducted in Uganda and Northern Thailand link depression in students to concerns about academic performance, lecture burdens, and satisfaction with grades (Olum et al., 2020; Phomprasith et al., 2022).

Research conducted in Ethiopian universities highlights the impact of academic progression on depression. Students in earlier years of study are at increased risk compared to their senior counterparts, suggesting a vulnerability during the transition to university life. As students acclimate to their environment over time, depressive symptoms tend to decrease (Hambisa et al., 2020). A research conducted to assess Prevalence of and institutional factors associated with depression among undergraduate students at Gulu University, Uganda showed that year of study, CGPA, satisfaction with academic performance, being happy with the course, and having chosen the university had been a predictors to depression (Anyayo et al., 2022). Similarly. A research conducted to assess Depressive Symptoms among Haramaya University Students in Ethiopia showed that in the present study being first, second, and third-year students are more likely at risk of depression when compared to fifth-year and above students. This may show the significant role of transition associated with starting university; it suggests that the first

year of university may be a particularly vulnerable period of adjustment for students because the students are separated from their families and local environments and they start a new lifestyle in the new environment. Therefore, as the students' year of study increased, the students will tolerate the university environment more and more and they will have a stable mood (Hambisa et al., 2020)

Besides, Wickramasinghe et al., (2023) mentioned that the contributing factors mentioned for the occurrence of depression were; difficulty gaining entrance to universities, increased expectations from parents to graduate from universities, being under pressure to perform well, maintaining family honor, as well as dealing with exam stress, financial difficulties, overcrowding in universities, and insecurities related to employment opportunities. Moreover, a research conducted to assess depression and its determinant factors among University of Gondar Medical and Health Science Students, Northwest Ethiopia showed that students who were studying Health sciences were more likely to develop depression than those who were studying Medicine.

A research conducted to assess the Prevalence of Depression and Associated Factors Among Under Graduate Students of Second Generation Ethiopian University revealed that lower study year was associated with higher depression (Muhammed & Haymanot, 2020) and depression symptoms were significantly variable based on students' field and year of study, (Ghanim et al., 2022). The result of the research conducted on depression screening using a PHQ-9 questionnaire, among university students of all ethnicities in a university in the Northern province of Sri Lanka, during the COVID-19 pandemic revealed that depression is more prevalent in the first year students than that of the senior ones (Wickramasinghe et al., 2023).

Similarly, studies from Ethiopia highlight the association between depression and academic performance, with students facing academic challenges and being first year student more susceptible to depressive symptoms (Ahmed et al., 2020; Raru et al., 2022; Worku et al., 2020).

In summary, educational factors such as academic demands, year of study, field of study, and academic performance significantly influence depression among university students. Understanding these factors is crucial for implementing effective interventions to support student mental health.

Psychological/behavioral related factors and depression

Depression among university students is not only a mental health concern but also a multifaceted issue intertwined with various psychological and behavioral factors. These factors not only impact students' immediate well-being but also have far-reaching consequences on their academic performance, relationships, and future prospects.

The co-occurrence of depressive symptoms with other mental health issues, such as substance abuse, violent behavior, and suicidal tendencies, underscores the severity of the condition and its detrimental effects on students' lives (Li et al., 2023). For many undergraduates, the university years represent a critical developmental stage marked by newfound independence and autonomy. However, this transition can also serve as a breeding ground for psychological distress, particularly for those lacking adequate coping mechanisms (Yu et al., 2022)

One significant aspect influencing depressive symptoms among students is their engagement in risky behaviors. Studies have shown a correlation between substance use, including tobacco and alcohol consumption, and higher rates of depression (Othieno et al., 2014). Similarly, the misuse of substances like khat and illicit drugs has been linked to increased depressive symptoms among university populations (Hambisa et al., 2020). Moreover,

behavioral patterns such as binge drinking and tobacco use have been identified as risk factors for depression (Phomprasith et al., 2022)

The prevalence of substance use among university students underscores the need for targeted interventions addressing both mental health and behavioral concerns. However, the relationship between substance use and depression is complex, influenced by various factors including age and socio-economic status (Hambisa et al., 2020). Additionally, lifestyle factors such as social media usage, sleep patterns, and levels of hope have been implicated in exacerbating or alleviating depressive symptoms among students (Lelisho & Tareke, 2023).

Furthermore, the university environment itself can contribute to students' susceptibility to depression. Factors such as academic pressure, social stressors, and the challenges of transitioning to independent living can exacerbate existing mental health issues (Mamun et al., 2022). Therefore, it is crucial to consider not only individual-level factors but also the broader context in which students navigate their academic and personal lives.

Several studies conducted in Ethiopian universities, including Haramaya University, Debrebirhan University, and Mizan Tepi University, shed light on the relationship between various behaviors and depressive symptoms among students. The findings suggest a significant association between substance use, including khat, alcohol, and illicit substances, and heightened levels of depression (Hambisa et al., 2020). Similarly, smoking has been identified as a risk factor for depression among university students, as evidenced by research conducted at Debrebirhan University (Agumasie, 2021). Interestingly, while factors such as income and field of study did not show statistical significance in relation to depression, behaviors like alcohol consumption, smoking, social media usage, sleep problems, and levels of hope emerged as significant predictors of depressive symptoms in the context of Mizan Tepi University (Lelisho

& Tareke, 2023). These findings underscore the importance of addressing behavioral patterns and psychological factors in understanding and mitigating depression among university students in Ethiopia.

In conclusion, understanding the psychological and behavioral factors associated with depression among university students is essential for developing effective prevention and intervention strategies. By addressing these factors holistically, universities can create supportive environments that promote students' mental well-being and academic success.

Social related factors for depression

The exploration of depressive symptoms among university students unveils a complex interplay of various individual, social, and environmental factors. Studies conducted at Mizan Tepi University in Ethiopia and Ambo University in West Ethiopia highlighted gender as a significant determinant, with female students showing a higher propensity for depression compared to male counterparts (Lelisho & Tareke, 2023; Birhanu & Hassein, 2019). However, contrasting findings emerged from research in Sri Lanka and other studies, indicating no significant gender differences in depression rates (Othieno et al., 2014; Wickramasinghe et al., 2023). Moreover, familial factors, such as a history of mental illness, were associated with heightened depression risk among students (Muhammed & Haymanot, 2020).

Social support emerges as a crucial protective factor against depressive symptoms, with higher levels of support correlating with reduced rates of depression (Birhanu & Hassein, 2016; Lelisho & Tareke, 2023). Conversely, financial constraints were identified as a significant risk factor for depression, particularly among medical students facing academic pressures and financial difficulties (Nkporbu., 2022; Phomprasith et al., 2022). This underscores the broader impact of socioeconomic factors on mental health outcomes among students. Similarly, studies conducted

at Arsi University in Ethiopia emphasized the association between financial constraints and heightened stress levels, further underlining the intricate link between financial stability and mental well-being (Worku et al., 2020).

The relationship between monthly income and depression appears to vary across studies, with some suggesting no significant association while others indicate a correlation between lower pocket money and reduced depression rates (Ahmed et al., 2020; Worku et al., 2020). Additionally, external stressors such as partner-initiated breakups, sexual assault, harassment, and bullying victimization contribute to students' vulnerability to depressive symptoms (Yang et al., 2023).

Consequences of depression

Mental illness among university students will have numerous impacts on the individual, family, and community as undiagnosed or untreated mentally ill students are at high risk of dropouts from the academic program, losing their interest in studies, and depression, raising the unemployment rate that leads to extra burden on the families, society, and community as a whole (Worku et al., 2020). Another researchers also indicated that as a result of depression, students missed greater number of classes, assignments, exams and even forced to drop out from the University (Ahmed et al., 2020). In addition, these problems have become the main reasons for the subsequent development of psychological barriers, such as those leading to risk-taking behavior and autotomy, and even the occurrence of suicide. This case causes irreparable damage to families, the country, and society (Yu et al., 2022). Moreover, people with depression have a 40–60% chance of dying prematurely compared to the general population. There is also evidence that depression can predispose people to various diseases such as diabetes, myocardial infarction, HIV infection and death from suicide (Othieno et al., 2014).

In summary, depression is a prevalent and severe mental disorder, manifests through symptoms like depressed mood, loss of interest, disturbed sleep and appetite, and poor concentration, persisting for at least two weeks. Its etiology involves genetic, social, psychological, and environmental factors, contributing to its rising prevalence globally, particularly among young adults and university students. Studies indicate a wide variation in depression rates across cultures, with developed countries reporting higher incidences. Research highlights numerous risk factors including lifestyle changes, financial stressors, academic pressure, and familial dynamics. Depression's consequences extend beyond individuals, affecting families, communities, and society at large, leading to academic struggles, increased dropout rates, unemployment, and even suicide. The condition also correlates with higher mortality rates and increased susceptibility to other diseases. Effective interventions targeting both prevention and treatment are crucial to mitigate its impact and promote mental well-being

2.4.Theoretical Explanation on Associated Factors of Depression

Psychological factors hypothesized to account for relapse of Major Depressive Disorder (MDD) roughly originate from different theories: Cognitive Behavioral Therapy (CBT) is a psychotherapy method aimed at alleviating symptoms of various mental health conditions, notably depression and anxiety disorders. It targets cognitive distortions and associated behaviors to enhance emotional regulation and foster effective coping strategies. Originally devised for depression, its applications now extend to diverse issues like anxiety, substance abuse, marital conflicts, and eating disorders (Birhanu et al., 2014).

Cognitive behavioral theory

CBT encompasses multiple evidence-based psychotherapies designed to tackle specific psychopathologies. It blends principles from behavioral and cognitive psychology, deviating from traditional psychoanalytic approaches by focusing on problem-solving and action-oriented strategies tailored to diagnosed mental disorders. Therapists aid clients in identifying and implementing effective coping mechanisms to achieve treatment goals (Agras & Bohon, 2021).

Research indicates CBT's efficacy in treating various psychological disorders, often comparable to medication, particularly for milder forms of depression, anxiety, substance abuse, and eating disorders. It's frequently combined with medication for severe conditions like major depressive disorder, while recommended as the primary treatment for children and adolescents' psychological issues. Although other therapies show similar effectiveness in adults, CBT, along with Interpersonal Psychotherapy (IPT), stands out in treatment guidelines as a preferred psychosocial intervention (Dowd, 2004).

The cognitive model of depression focuses on how mental processes, including cognition, thoughts, and beliefs, profoundly affect behavior and emotions. Aron Beck is a prominent figure in this theory, emphasizing that depression stems from three main principles. Firstly, the cognitive triad suggests that individuals become depressed when they harbor negative views about themselves, others, the world, and the future. Secondly, the schema principle asserts that maladaptive thoughts and beliefs contribute to depression. Lastly, cognitive errors, characterized by faulty thinking and negative perceptions of reality, are also implicated in depression. These theories emphasize that a person's attribution of events, perceived control, self-efficacy, and

beliefs about themselves and the world shape their behavior. When these factors lean towards negativity, individuals are more prone to depression (Agras & Bohon, 2021).

Social Rank theory

The Social Rank Theory of Depression, developed by Steven and Prince, posits that depression serves as an adaptive response to a perceived loss of social status. According to this theory, depression aids in accepting one's lower rank in the social hierarchy and the associated loss of resources. It functions to prevent further harm to the individual and maintain stability within the group by promoting acceptance of subordinate roles. In situations of defeat and subordination, an internal inhibitory process triggers symptoms typical of depression, including decreased energy, depressed mood, sleep disturbances, appetite changes, slowed movements, and loss of confidence. This involuntary process aims to reduce competition and aspiration levels (Tse et al., 2011).

Behavioral theories

Behavioral theories of depression propose that dysfunctional behaviors, including depression, are learned and thus can be unlearned. Peter Lewinsohn, in the mid-1970s, argued that depression arises from a combination of environmental stressors and a lack of coping skills. Specifically, when individuals experience a decrease in positive reinforcement due to stressors, they may struggle to adapt, leading to depression. For instance, a child moving to a new home may lose touch with friends and lack the social skills to make new ones, potentially leading to depression. Similarly, losing a job without finding a replacement can trigger depression. Additionally, some individuals receive positive reinforcement for exhibiting depressive behaviors, as they may receive special support and attention from family and social networks

when perceived as "sick." For example, a spouse might take over household chores for a depressed partner. Consequently, remaining depressed becomes rewarding as it avoids unpleasant tasks (Carvalho & Hopko, 2011).

Psychodaynamic theories

Psychodynamic theories attribute depression to internalized anger. In this view, inconsistent or neglectful parents create a hostile environment for a child, leading to feelings of loneliness, confusion, and helplessness, alongside underlying anger. However, as the child relies on these parents for survival, they repress their anger, directing it inward. This internalized anger manifests as self-directed hostility. The theory suggests that fear, love, and guilt compel the child to turn anger toward themselves (Fu et al., 2005).

2.5.Summary

literature review extensively examines depression, a prevalent mental disorder characterized by symptoms such as depressed mood, loss of interest, disturbed sleep and appetite, and poor concentration, persisting for at least two weeks. Its etiology involves genetic, social, psychological, and environmental factors, contributing to its rising prevalence globally, particularly among young adults and university students. Studies indicate a wide variation in depression rates across cultures, with developed countries reporting higher incidences. Various risk factors such as lifestyle changes, financial stressors, academic pressure, and familial dynamics increase susceptibility to depression. Its consequences extend beyond individuals, affecting families, communities, and society at large, leading to academic struggles, increased dropout rates, unemployment, and even suicide. Depression also correlates with higher mortality

rates and increased susceptibility to other diseases. Effective interventions targeting prevention and treatment are crucial to mitigate its impact and promote mental well-being.

Regarding the conceptual frame work, the single arrow indicates the association between independent variables with dependent variables. While the bidirectional arrows indicate the association between the independent variables.

2.6.Conceptual frame work

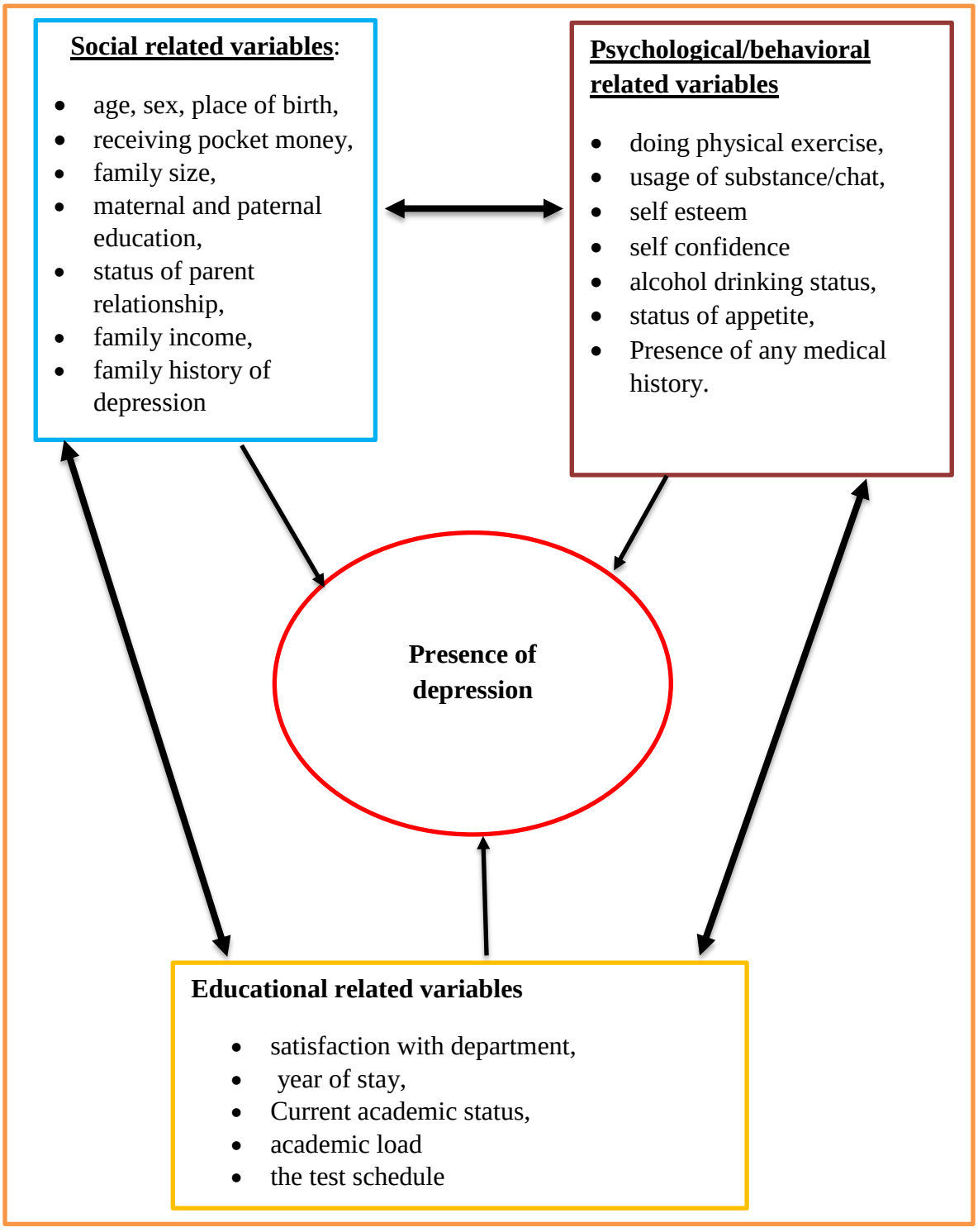


Figure 1 Conceptual frame work of the study

CHAPTER THREE

3. RESEARCH METHODS

3.1.Introduction

This section provides an overview about research methods. The following specific issues are addressed: study design, study area, study population, sample size and sampling technique, research variables, data collection instrument, pilot study, ethical consideration, procures of data collection, and method of data analysis.

3.2.Study design

This study employed a quantitative cross-sectional study design. Cross sectional study design was preferred because it is suitable for generating hypotheses and may provide information about the prevalence of outcomes and exposures. Moreover, it is fast and inexpensive to conduct (X. Wang & Cheng, 2020).

3.3.Description of the study area

Hawassa City is located on 270 km away from Addis Ababa. It is the capital city of the Sidama regional state. The genesis of HU was laid in 1976 with the foundation of Awassa College of Agriculture. HU has now become one of the most preferred first generation universities in Ethiopia with more than 25,000 students enrolled in 8 Colleges & 3 institutes at 7 campuses. College of Medicine and Health Science is one of the eight colleges found under the Hawassa University. According to the information obtained from the registrar office, it is the home to a Comprehensive Specialized Hospital at HU serving a large number of people found in the different regions of the country. It, was initially established in 1997 as a Faculty of Health

under the then Dilla College of Teachers Education and Health Sciences. In 2002, the Faculty of Health was relocated into Hawassa and expanded its programs and services to become what is now the Health/Referral Campus offering a large number of academic program under the two faculties, Medicine & Health Sciences at undergraduate, graduate, specialty and PhD level. The total student population in 2023/24 E.C is 6953 with number of male being 4442 and 2511 female students. Literature showed that Mental distree is common in Hawassa University College of Medicine and Health Science and its prevalence was 30% (Melese et al., 2016).

Based on my personal experience working in the counseling office of the college, it's abundantly clear that a significant number of students seek help for depression. Through my observations, one plausible explanation for this prevalent issue could be attributed to the constraints of our campus size. The limited space offers inadequate opportunities for student recreation, sports, and other leisure activities, which are crucial for maintaining mental well-being among student. Furthermore, the proliferation of kiosks selling alcoholic beverages and drugs, such as chat and others, in close proximity to the campus exacerbates the situation. These substances can easily become accessible temptations for students, leading to detrimental effects on their mental health.

3.4.Study population

Source of population were all 1810 students who were registered as a regular under graduate class in Hawassa University College of Medicine and Health Sciences in 2023/24 G.C and the study population were students who fulfill inclusion criteria.

3.5.Inclusion and exclusion criteria

Inclusion Criteria all B.Sc. degree students of Hawassa University's College of Medicine and Health Science

Exclusion Criteria students who were sick to the extent of study design and unable to read and write during data collection: summer, extension, distance education, and postgraduate students were excluded since they may not reflect the real students who reside in the campus and they are confronted with different life styles than the regular students who lived in the campus.

3.6.Research variables

Dependent variable

- Presence or absence of depression

Independent variables

The independent variables were categorized in to three inter-related categories. The classification was based on the relatedness of each variables selected under the study.

- **Social related variables**: family size, maternal and paternal education, status of parent relationship, family income, family history of depression,
- **Psychological/ behavioral related variables** age, sex, place of birth, doing physical exercise, receiving pocket money, usage of any kinds of drugs, status of alcohol drinking , status of appetite, presence of any medical history.
- **Educational related variables** satisfaction with department, year of stay, Current academic status, academic loaded, the test schedule

3.7. Sample and sampling technique

Sample size

Sample size was determined by using single population proportion formula. Charan and Biswas recommended this formula for a cross-sectional study design (Charan & Biswas, 2013) and the formula was checked its applicability by different researchers who conducted their research in different Ethiopian Universities (Ahmed et al., 2020; Dagnew et al., 2020) by taking the prevalence of depression at Jimma University **(2**8.2 %) (Ahmed et al., 2020). Sample size was calculated by the following formula:

$$n = (z\alpha / 2)\ 2\ *P\ (1 - p)/d^2$$

Where: n = sample size

P = prevalence of health and health related problems

q = 1-p

d = desired degree of precision= 5%

Z= is the standard normal value at the level of confidence desired; at 95%

= 3.8416*0.282(1-0.282)/0.0025

=3.84*0.282(0.718)/0.0025

3.84*8o.99= **311**

by adding 10 % non-response rate the final sample size will be **342.**

Sampling technique

Hawassa University college of medicine and health sciences has two faculties namely health sciences and medicine. Stratified sampling technique was used by taking the department as a strata to select the department from the two faculties. There are six departments and/or schools under each faculty. Under the faculty of health sciences, there are six department namely: school of nursing, school of public health, department of midwifery, department of environmental health, department of psychiatry nursing, and department of health informatics. Among them three were selected using simple random sampling and they were school of public health, school of nursing and department of environmental health.

Under Medical faculty, there are six departments and these are school of medicine, school of pharmacy, department of optometry, department of radiology, department of anesthesiology, and department of medical laboratory. Among them three were selected using simple random sampling techniques and school of medicine, school of pharmacy, and department of optometry were selected

Under each department there are a range from two to six year students (batches). To determine the number of the study participants from each batch of the departments or schools, proportional allocation to the number of students was used. Finally, the required number of students were selected randomly to fill the questionnaire.

Table 3:1: General information of the study population

S.N	Entry Year (E.C)	Department/School	Male	Female	Total
1	2012	Anesthesia	16	7	23
	2013		25	12	37
	2014		16	5	21
	2015		20	7	27
2	2012	Medical Laboratory Science	18	5	23
	2013		18	12	30
	2014		18	10	28
3	2012	Optometry	13	8	21
	2013		16	12	28
	2014		14	12	26
4	2012	Radiology Technology	19	10	29
	2013		25	12	37
	2014		7	31	38
5	2011	Pharmacy	13	13	26
	2012		19	12	31
	2013		19	8	27
	2014		22	9	31
	2015		30	11	41
6	2009	Medicine	128	56	184
	2010		106	68	174
	2011		68	51	119
	2012		33	50	83
	2013		48	41	89
	2014		44	31	75
	2015		44	27	71
7	2012	Environmental health	10	6	16
	2013		17	11	28
	2014		17	13	30
8	2012	Midwifery	6	17	23
	2013		14	16	30
	2014		13	13	26
	2015		14	12	26
9	2013	Health informatics	17	9	26
	2014		18	8	26
10	2012	Nursing	17	8	25
	2013		22	10	32
	2014		23	18	41
11	2012	Psychiatry Nursing	7	14	21
	2013		22	6	28
	2014		17	14	31
12	2012	Health Officer	13	7	20
	2013		21	12	33
	2014		17	12	29
				TOTAL	1810

Source HUCMS registrar office, Sep.20, 2023

Proportion allocation of the number of students in each department was calculated by the formula which was recommended by (Stephen & Lanre, 2019)

$$S = \frac{ni}{N} n$$

Where; S is the number of sampled students from each batch of the department

ni is the number of students in i^{th} batch of the department

n is total sample size

N is the total number of students in each department

First to know the number of students taken from each department, we calculated as follows

$$S = \frac{ni}{N} n$$

Let us see by taking Optometry department

S= Number of sample students from each of six department students

ni= number of students of each department = 75

N- total number of the six department students= 1283

n= the calculated sample size= 342

based on this, to select how many students were taken to each department/school, let us say from Optometry students?

$$S = \frac{75}{1283} 342 = 20 \text{ students}$$

To know how many students were included in the samples from each batch of the Optometry department, it was calculated as follows

$$S = \frac{ni}{N} n$$

Where; S is the number of sampled students from each batch of optometry department

ni is the number of students in i^{th} batch of optometry department 21, 28, 26 students of 1^{st} ,2^{nd}, and 3^{rd} year students

n is total sample size of the optometry department= 20 students

N is the total number of students in optometry department= 75 students

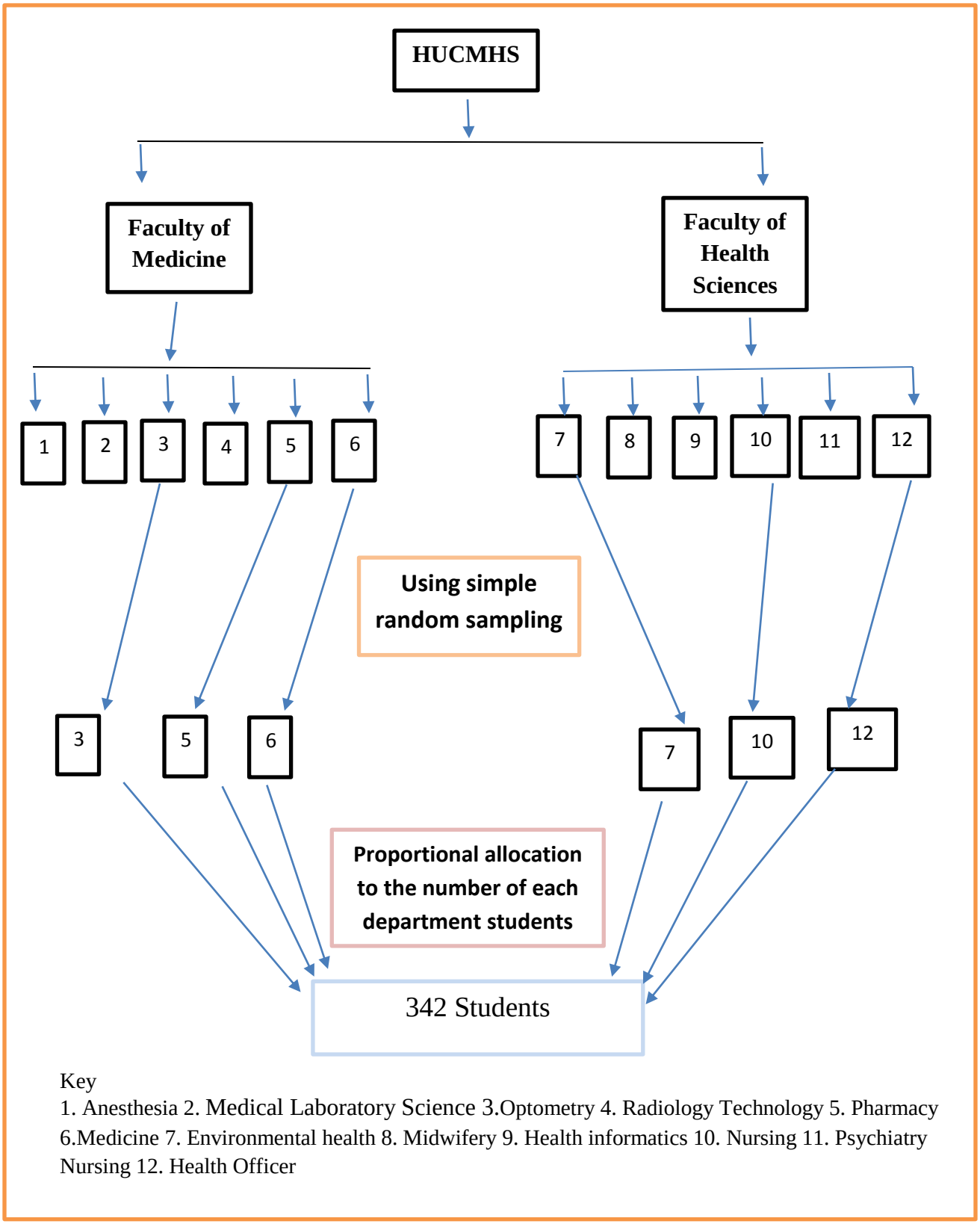
$$S = \frac{21}{75} 20 = 5 \text{ students from the second year}$$

$$S = \frac{28}{75} 20 = 7 \text{ students from the third year batch}$$

$$S = \frac{26}{75} 20 = 7 \text{ students will be taken from fourth year batch}$$

Table 3:2: Sample size of each batch of department/ school

Department/school	Batch	Total no. of students	No. of sample students	Department	Batch	Total no. of students	No. of sample students
Optometry	1st	21	5	Environmental	1st	16	4
	2nd	28	8		2nd	28	7
	3rd	26	7		3rd	30	8
Pharmacy	1st	26	6	Nurse	1st	25	7
	2nd	31	8		2nd	32	8
	3rd	27	7		3rd	41	10
	4th	34	8	Health officer	1st	20	5
	5th	41	10		2nd	33	8
Medicine	1st	184	47		3rd	29	8
	2nd	174	44				
	3rd	119	30				
	4th	83	21				
	5th	89	23				
	6th	75	19				
	7th	71	17				
Total 6 department	1283						



Key
1. Anesthesia 2. Medical Laboratory Science 3.Optometry 4. Radiology Technology 5. Pharmacy 6.Medicine 7. Environmental health 8. Midwifery 9. Health informatics 10. Nursing 11. Psychiatry Nursing 12. Health Officer

Figure 2 schematic presentation of sampling technique

3.8.Data collection tool

A self-administered structured questionnaire was used to collect the data. The tool was prepared and developed by considering demographic, social, educational, and psychological/behavioral factors after an extensive review of the literature on the topic area. Beck Depression Inventory Scale (BDI) was used for screening of depression among study population which has been tested and validated by different researchers (Barrera & Garrison-Jones, 1988; Kumar et al., 2012). This is a subjective scale and used for screening purpose, which has to be further evaluated to confirm the diagnosis. The researcher used this scale to screen for depression based on self-report. The 21-item scored on a scale of 0–3 in a list of four statements arranged in increasing severity about a particular symptom of depression (Basker et al., 2007). It can be administered to assess normal adults, adolescents, and individuals with psychiatric disorders. It is designed to document a variety of depressive symptoms the individual experienced over the preceding week. The total score ranges from 0 to 63. Cut score guidelines for the BDI-II were given with the recommendation that thresholds be adjusted based on the characteristics of the sample, and the purpose for use of the BDI-II. Total score of 0–13 is considered minimal range, 14–19 is mild, 20–28 is moderate, and 29–63 is severe (Bennet et al., 1997). The tool was developed in English version since it is expected that students can read and understand the questions by own and it took 30 minutes to fill out.

Self-confidence was determined by San Bernardino career center, California State University scale. There are fourteen self-confidence questions, and the response were categorized in to three less than 32 categorized as low self-confidence, 33-51 moderate self-confidence and 52-70 excellent self-confidence

Self-esteem was determined by Rosenberg self-esteem scale developed by University of Maryland department of sociology, it consists of 10 statements related to overall feelings of self-worth or self-acceptance. The items are answered on a four-point scale ranging from “strongly agree” to “strongly disagree”. The interpretation of the scores is categorized in to three 0-15: Low Self-Esteem, 15-25: Normal range, 25-30: High Self-Esteem (Barnardino, 2000).

Social support was measured and determined by Rosenberg social support scale there are three questions. The sum score ranges from 3 to 14, with high values representing strong levels and low values representing poor levels of social support. The OSSS-3 sum score can be operationalized into three broad categories of social support those score from 3–8: poor social support, 9–11: moderate social support, 12–14: strong social support (Barnardino, 2000).

Four data collectors were recruited from second year Master of Counseling Psychology Students who have an idea on the issue, one supervisor with previous experience in research and supervision was recruited to check the data quality and to oversee the overall procedure of data collection on daily basis and the principal investigator was also followed the overall procedure of data collection closely. The data were obtained from the students at their class room. The data were collected from February to March 2024.

3.9.Pilot Study

A pilot test entails a full run-through of a study, serving as a rehearsal to assess the effectiveness of research design. Primarily, it aims to gauge the reliability and validity of data-gathering questions. Pilot tests thus contribute to a deeper comprehension of the questions posed, enhancing overall research quality (Vanora, 2002). By involving a small group of participants, researchers can refine their approach before the main study. This preemptive approach is

valuable for avoiding costly and time-consuming errors in the comprehensive investigation.(Hassan, Abu, Schattner, 2006).

Pilot test carried out in 10% of sample size one week prior to the actual data collection time at Hawassa University college of Agriculture on the randomly selected students. The questionnaire was checked for its clarity, understandability, uniformity, reliability and validity of the questions and important amendments were be done based on the pilot test result all the necessary improvements had been made part of the final data collection instruments, like changing ambiguous words and phrase, the logical flow of the questions in the instrument was properly considered before the final distribution. Besides, the pilot test helped also the researcher to consider vital issues before distributing the instruments like cost, production, organization, schedule and permission that issues were not part of the planning because of the pilot test these received important consideration and in the process contributed importantly in producing worthwhile outcomes.

Table 3:3: Statistical result of pilot study,2024

Scale	Item	n	Mean	SD	α
BDI-II	21	30	11.6	9.5	0.87
OSSS	3	30	8.8	4.3	0.79
Rosenberg self esteem	10	30	1.65	1.3	0.73
San Bernardino career center self confidence	14	30	3.7	2.5	0.85

Pilot study was conducted on 30 (20 male and 10 female) students. Cronbach`s alpha coefficient was used to measure reliability of the BDI-II question. The computation yielded reliability

coefficient for Beck Depression Inventory scale was 0.87. This result was slightly lower than the previous studies which was 0.9 and 0.93 (Tolentino & Schmidt, 2018; Y. P. Wang & Gorenstein, 2013). The questionnaire was also evaluated for reliability for Self-confidence, self-esteem and social support and the value of Cronbach's alpha was 0.85, 0.73, and 0.79 respectively.

3.10. Data analysis

Data were coded and entered in to SPSS version 25 for cleaning and analysis. Descriptive analysis was performed for the dependent and independent. The demographic characteristics of participants were computed by using simple descriptive statistics (mean, percentage, frequencies, and standard deviation). Frequency and percentage measures were presented by using tables and graphs. Multivariate logistic regression was undertaken to see association between the educational, social, and psychological (independent variables) with the depression (dependent variable) and it was presented by using Crude Odds Ratio (COR) and P-value. Variables having a p-value of <0.01 were a candidate variables for multivariate logistic regression model. Variables having a P-value of <0.01 was considered statistically significant and Adjusted Odds Ratio (AOR) with 99% confidence interval was presented to show the magnitude of association.

3.11. Ethical considerations

Ethical approval to start the study was obtained from Institutional Review Board of Hawassa University College of medicine and health sciences with reference number of IRB077/16 dated15/02/2024**.** In addition, permission letter was secured from Hawassa University College of medicine and health sciences. A written consent was prepared and had been given to students to read and show their agreeableness by ticking on the box. The confidentiality issue was assured

for study participant and their response has been kept private. The participants were informed as having full right to stop or not to respond to any question that is uncomfortable to them any time.

3.12. Result dissemination plan

The finding of study will be presented, as partial fulfillment of the requirements for the Degree of Masters of Arts in counseling psychology. In addition to this the copy of the study findings will be provided to the HUCMHS where data were collected & the manuscript will be sent to journals for publication.

CHAPTER FOUR

4. RESULTS

4.1.Introduction

In this chapter, the result and discussion of the analyzed data are presented in two sections. In the first part, both descriptive and analytical results are presented and in the second part the discussion is written and the result data are given meaningful sentence by comparing and contrasting this research findings with other researchers' finding.

4.2.Socio demographic characteristics of the respondents

The total numbers of the distributed questionnaires were 342 and out of these 313 were filled properly, and the rest were discarded which makes a response rate of 91.5 %. The analysis were made for 313 students. Among the total respondents who filled the questionnaire 191(61%) were males and the rest were females. The minimum and maximum ages of respondents were 19 and 30 respectively with a mean of 22.7 and a standard deviation of ± 2.1. The socio-demographic data of respondents are presented on table 4.1.

Table 4.1. socio-demographic characteristics of the respondents,

Variable n=313	Response	Number	Percent
Sex	Male	191	61
	Female	122	39
Residence	urban	244	78
	Rural	69	22
Maternal education	Illiterate	43	13.7
	1_8 grade	66	21.1
	9_12	58	18.5
	College/university	146	46.6
Paternal education	Illiterate	24	7.7
	1_8 grade	55	17.6
	9_12	56	17.9
	Collage/university	178	56.9
Family size	≤ 3 families	14	5
	4-5 families	91	29
	≥ 6 families	208	66
Parent relationship	Good	262	83.7
	Moderate	41	13.1
	Poor	10	3.2

As it is shown from the above table, 244 (78%) of the respondents came from the urban setting while the remaining 69 (22%) were from the rural part. When we see the maternal and paternal education of the respondents, majority of them were in the category of College or University educational level. Concerning the parental relationship, majority 262 (84%) of the respondents rated as it was good. Most of the respondents 208 (66%) had a family size of greater or equal to six family members.

4.3.Prevalence of depression

The prevalence of depression among students refers to the proportion of students in Hawassa University, College of medicine and health science students who are affected by depression during data collection period. It is typically expressed as a percentage and reflects the extent to which depression is present within the college students. This measure helps to understand the

magnitude and scope of depression within student populations, informing interventions and support strategies. The formulated question was, *what is the prevalence of depression among Hawassa University College of medicine and health science student?*

The prevalence of depression among the respondents was 28% and among from those who were depressed, 29 (9%) of students have experienced mild form of depression, 24 (8%) moderate level of depression and 33 (11%) have severe form of depression respectively.

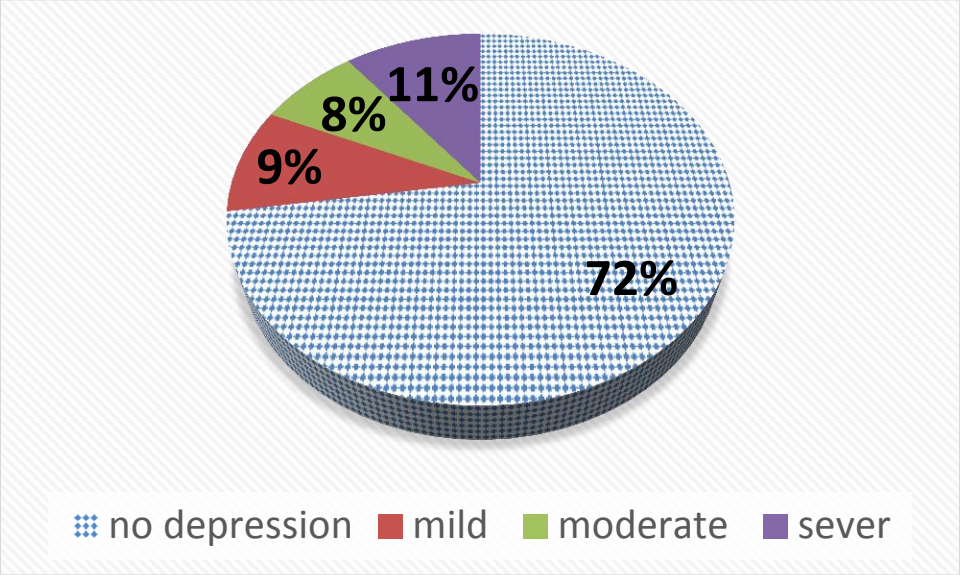


Figure 3 Depression level of the respondents

Educational related characteristics of the respondents

The total number of students included in the study were 313 out of them, the majority 197 (62.9%) were in the department of medicine while the least were in the department of Environmental Health which were 17 (5.4%) as it is shown in table 4.2.

Table 4.2. Educational related characteristics of the respondents,

Variables n=313	Response	Number	Percent
Satisfaction with the	Yes	93	29.7
department	No	220	70.3
	Medicine	197	62.9
	Pharmacy	38	12.1
	Optometry	18	5.8
Department	heath officer	18	5.8
	Environmental	17	5,4
	Nursing	25	8
Academic loaded	Yes	251	80.2
	No	62	19.6
Over burden Test	Yes	106	33.9
schedule	No	207	66.1
Categorized	Medicine	197	62.9
department	Other health sciences	116	37.1

Majority of the respondents 220 (70%) were not satisfied with their department selection, and 251 (80%) of the respondents were responded that there is an academic load. However, the majority of the respondents 207 (66%) responded that they were not overburdened with the test schedule.

Psychological/ behavioral related variables

This category includes, student self-esteem, student confidence, use of substance, and alcohol drinking behavior as it is shown in table 4.3

Table 4.3. psychological/behavioral related variables of the respondents,

Variable n=313	Response	Number	Percent
Doing Physical exercise	Yes	165	52.7
	No	148	47.3
Substance used	Yes	39	12.5
	No	274	87.5
Drinking alcohol	Yes	36	11.5
	No	277	88.5
Status of appetite	Excessive	41	13.1
	Good	214	68.4
	Moderate	45	14.4
	Poor	13	4.2
Medical and physical history	No	274	87.5
	yes	39	12.5
Self esteem	Low	55	17.6
	Moderate	208	65.8
	High	52	16.6
Self-confidence	Low	13	4.2
	Good	247	78.9
	Excellent	53	16.9

From the total of 313 students filled the questionnaire, 39 (12.55) of the students were used drug while 274 (87.5%) were not used. Student who had low, medium, and high self-esteem were 55 (17.6%), 208 (65.8%), and 52 (16.6%) respectively. Regarding to the self confidence, majority 247 (79%) were categorized in the good self confidence while 13 (4%) had low self confidence.

4.4.Factors Affecting Depression

Statistical analysis was done for the educational social and psychological factors to see their association with the depression (outcome variable). Bivariate analysis was run to see the

association between individual independent variable with dependent variable (depression). Those variable whose p<0.01 is considered as has their association is statistical significant and then by selecting those variables who has association were collectively run to do multivariate analysis and those variables whose p<0.01 also considered as their association is statistically significant and discussion was made for them with adjusted odds ratio. Based on this analysis the result was seen on table 4.4

Association of education related factors and depression

Table 4.4 Association of education related factors & depression of the respondents,

Explanatory Variables	**Response**	**Presence of depression**		**COR (99%CI)**	**AOR (99% CI)**
		No	**Yes**		
Academic load	No	50	12	1	
	Yes	194	57	1.4 (0.72, 2.65)	
Test schedule load	No	86	20	1	
	Yes	158	49	0.9 (0.56, 1.58)	
Satisfaction with department	No	62	31	1	
	Yes	165	55	0.6 (0.39, 1.13)	
Year of stay	2-3 years	103	40	1	
	4-5 years	53	21	1.0 (0.55, 1.90)	
	> 6 years	20	10	1.3 (0.565, 2.99)	

As it is shown from the table six the bivariate analysis showed that none of the independent variable has a statistical significant with the dependent variable. Due to this, there is no multivariate analysis were done. Multivariate analysis will be done if variables had statistical association in bivariate analysis i.e p<0.01

Association of Psychological related factors and depression

Table 4.5 Association of Psychological related factors & depression of the respondents,

Explanatory Variables	Response	Presence of depression No	Yes	COR (99%CI)	AOR (99% CI)
Substance use	No	227	59	1	1
	Yes	17	10	7.1 (3.45, 14.72)*	4.3 (1.37, 13.43)*
Drink alcohol	No	229	58	1	1
	Yes	15	11	8.0 (3.75, 17.28)*	3.5 (1.07,11.46)*
Medical history	No	207	67	1	1
	Yes	20	19	3.7 (1.86, 7.54)*	2.3 (1.01, 5.24)*
Self esteem	low	26	29	1	1
	Moderate	143	53	0.31 (0.17, 0.57)*	0.4 (0.19, 0.82)*
	High	58	4	0.08 (0.02, 0.24)*	0.13(0.04, 0.48)*
Confidence	Medium	6	7	1	1
	Good	145	72	0.35(0.12. 1.09)*	0.42 (1.12, 1.45)*
	Excellent	76	7	0.13(0.03, 0.50)*	0.19 (0.38, 0.86)*

Note: * indicate p<0.01

As it is shown from the above table, all of psychological factors had an association with the depression. The association of substance use and drinking alcohol with the presence of depression was very strong than that of the other psychological variables, and those student who have high self-esteem and excellent confidence and having strong social support were reducing factors for the presence of depression.

Association of Social Related Factors and Depression

Table 4.6. Association of Social related factors and depression of the respondents,

Explanatory Variables	Response	Presence of depression		COR (99%CI)	AOR (99% CI)
		No	Yes		
Sex	Male	154	37	1	
	Female	90	32	1.3 (0.81, 2.23)	
Residence	Urban	192	52	1	
	Rural	52	17	1.1 (0.61, 1.99)	
Family size	<4	12	2	1	
	4-5	1761	30	2.9 (0.62, 14.03)	
	>6	154	54	2.1 (0.46, 9.01)	
Presence of health problem in family	No	222	56	1	1
	Yes	22	13	2.9 (1.39, 5.86)*	2.9 (1.39, 5.86)*
Status of parent relationship	Good	201	61	1	
	Moderate	22	19	2.8 (1.45, 5.60)*	
	Poor	4	6	4.9 (1.35, 18.1)*	
Paternal education level	Illiterate	18	8	1	
	Grade 1-8	38	17	0.9 (0.32, 2.49)	
	Grade 9-12	42	14	0.7 (0.24, 1.89)	
	College/university	131	47	0.7 (0.28, 1.79)	
Maternal education level	Illiterate	30	13	1	
	Grade 1-8	51	15	0.7 (0.28, 1.62)	
	Grade 9-12	41	17	0.9 (0.40, 2.26)	
	College/university	105	41	0.9 (0.43, 1.89)	
Receive monthly pocket money	No	37	9	1	
	Yes	190	77	1.7 (0.76, 3.62)	
Having boy/girl friend	No	157	69	1	
	Yes	70	17	0.6 (0.30, 1.01)	
Social support	Poor	37	39	1	1
	Moderate	132	33	0.24(0.13, 0.43)*	0.26 (0.13, 0.52)*
	Strong	58	14	0.17(0.11, 0.48)*	0.27 (0.11, 0.64)*

Note: * indicate p<0.01

From the above table, which describe the association of social factors with depression, we can see that presence of health problem in the family had statistical association. While the

other variables though they show an association but their association were not statistical since their p value was greater than 0.01. With regard to the parent relationship, the bivariate analysis result indicated that there is statistically significant that means those students whose parents had poor relation were 5 times more likely to develop depression compared to those respondents who had good parental relation. This association is in bivariate analysis when multivariate analysis had been analyzed, there had no statistically significant. Therefore, parent relationship was not predictor to depression.

CHAPTER FIVE

5. DISCUSSION

In this part, the researcher attempt to discuss the results with respect to the research questions described in chapter one. This section of the research also provides possible explanation for the result of the study presented in section four.

5.1.Prevalence of depression

The present research utilizes Beck's Depression Index to assess the occurrence of depression among students in Medicine and other Health science disciplines. While not originally intended for diagnostic use, numerous studies have assessed its epidemiological value, consistently finding it to be a reliable tool for identifying depressive conditions in non-clinical contexts. Additionally, multiple studies have affirmed the BDI's efficacy in gauging and forecasting depression among adolescent populations (Kumar et al., 2012).

The results of this study indicated that the prevalence of depression among regular undergraduate students at Hawassa University College of Medicine and Health Sciences was 28%. Among those who had depression 9% of students have experienced mild form of depression, 8% moderate level of depression and 11% have severe form of depression respectively. The prevalence rate of this study is similar compared to prevalence rates documented in various studies within similar student populations across Ethiopia. For instance, in Addis Ababa 27.7% (Gashaw, 2015), and in Jimma University 28.2%, (Ahmed et al., 2020). Whereas it was lower than studies conducted at Hawassa University students 30% (Melese et al., 2016), Mizan-Tepi University students 39.5% (Lelisho & Tareke, 2023), in Ambo University 32.2% (Birhanu & Hassein, 2016), in University of Gondar 34.73% (Dagnew et al., 2020), and in

Wollo university 35.3% (Muhammed & Haymanot, 2020). But the current study finding was higher than previous studies conducted in Debre Birhan University 17.1%, (Agumasie, 2021), and in Adama University 21.6% (Dessie et al., 2013). This difference in prevalence could be because of variations in the instrument used to measure depression that is we used BDI while the others used self-reporting questionnaire (SRQ-20) and Patient Health questionnaire (PHQ-9).

The prevalence of depression of this study when it was compared with different developing countries, it was lower than in Ghana (39.2%) (Oppong Asante & Andoh-Arthur, 2015), 40% in kenya (Othieno et al., 2014) , India 79.2% (Naushad et al., 2014), in Nepal (29.78%) this could be due to the presence of student counselor, but the prevalence was higher than a study conducted in Makerere University. 21.5%., Manipal, Nepal(20%) (Basnet et al., 2012), in northern Thailand 21.1% (Phomprasith et al., 2022)**.** This might be due to the countries may have almost similar sociodemographic, educational and cultural background**.**

When the prevalence of depression of this study was compared with different developed countries, it was lower than in China (34.5%) (Yu et al., 2022), France 43.0% (Aziz Essadek, 2020), and Greek university students 51.2% (Sazakli et al., 2021) this might be due to the different impacts of the pandemic on different countries and region and most of them were conducted during and after CoVID 19 pandemic, but higher than Australian university students (7.9%)(Farrer et al., 2016), and Sweden (12.9%) (Dahlin et al., 2005). This could be explained by these countries have relatively stable economy and availability of advanced treatment for the observed cases. Besides, this discrepancy between studies may be due to differences in the sample, culture, education systems (Lelisho & Tareke, 2023), In addition to this, the difference is probably due to the nature of participants. In our study, participants were only undergraduate students. However, the above studies were conducted in both undergraduate and postgraduate

students. Logically, postgraduate students are at a low risk to develop depression symptoms as they are more experienced with university environment. This, in turn, can decrease the prevalence of depression symptoms. The other reason for the differences may be attributed to the different curricula used in different countries, teaching methods, mental wellness programs, and diagnostic tools used to diagnose depression (Olum et al., 2020)**.**

5.2.Factors affecting depression

5.2.1. Educational related variables and depression:

The study result indicated that from the educational related variables, that is, academic load, burden of test schedule, satisfaction with the department, and year of stay, all of them were not a predictors to depression. Study conducted by Ahmed et al., (2020) highlights that there is a strong association between academic load and depression. Interestingly, it found that students who have high academic load were more susceptible to developing depression compared to those who have low academic load. This suggests that the pressure and stress related to maintaining or achieving high academic load might contribute to increased depression rates among students.

This study also found no association between the year of study and depression, which contrasts with the findings of Othieno et al., (2014), where depression was significantly more common among first-year students. Additionally, Anyayo et al., (2022) identified several predictors of depression among undergraduate students, including the faculty, year of study, subjective satisfaction with academic performance, and satisfaction with academic quality. Similarly, Hambisa et al., (2020) described that first, second, and third-year students are at a higher risk of depression compared to students in their fifth year or beyond.

5.2.2. Social related variables and depression

The investigation of this study also revealed a gender disparity concerning depression, with female students exhibiting a slightly higher prevalence compared to males. However, this contrast did not reach statistical significance (p=0.24). We observed no notable distinction in depression prevalence between males and females. This aligns with findings from a comprehensive global systematic review and meta-analysis (Rotenstein et al., 2016), as well as previous studies conducted on students at Makerere University (Olum et al., 2020). Similar patterns were observed in a study among medical college students in Karnatalka, India, where a higher prevalence of depression was found among females compared to males (Kumar et al., 2012). Likewise, research from a Pakistani medical school indicated that female students reported more depressive symptoms than their male counterparts (Shaikh et al., 2004). This trend aligns with findings from various studies, including those conducted in Spain (Ramón-Arbués et al., 2020) and at Debre Brihan University, Ethiopia (Agumasie, 2021). Additionally, another systematic review and meta-analysis study have been identified that female undergraduates as a particularly vulnerable group to depression (Yang et al., 2023). This discrepancy may stem from the predominance of female participants in their study. Moreover, the heightened risk of depression among females in low and middle-income countries may be attributed to gender and social inequalities experienced throughout their lives (Melese et al., 2016).

However, this contrasts with the findings of different researchers where females exhibited a lower likelihood of experiencing depressive symptoms compared to males (Lelisho & Tareke, 2023). Similarly, Ul Haq et, al., (2018) found that male students demonstrated higher levels of depression. Naushad et al., 2014 also reported that in Mangalore city, India male were predominantly affected by depression than female medical students. This pattern extends to

males in Sri Lanka, who, unlike females, have been observed to engage more frequently in alcohol and substance use within university settings, potentially contributing to a higher incidence of depressive symptoms among them (Wickramasinghe et al., 2023). Moreover, because males are frequently associated with reduced rates of disclosure and seeking healthcare, they may be inclined to seek comfort in substances like alcohol and marijuana. This behavior, in turn, can contribute to the long-term development of depression (Olum et al., 2020)**.**

The study finding on monthly pocket money indicated that, despite lacking statistical significance, it suggests a trend where students receiving monthly allowances are more prone to developing depression compared to their counterparts. This contrasts with findings from a study among Jimma University students in Ethiopia, where those with higher monthly allowances tended to come from urban areas with a higher prevalence of substance use compared to their rural counterparts (Ahmed et al., 2020). One possible explanation could be that students receiving larger allowances may receive less academic support and may be more inclined to indulge in spending their money, potentially leading to academic underperformance, stress, substance abuse, and ultimately, an increased risk of depression.

The relationship between perceived social support and depression among students is a complex one. The findings of the current study underscore the significant relationship between social support and depressive symptoms among individual students. The finding indicate that students who had strong social support were 27% less likely to be depressed. Specifically, the results suggest that a higher level of social support correlates with a lower prevalence of depressive symptoms. This observation aligns with previous research, reinforcing the notion that social support serves as a crucial positive psychological resource closely intertwined with an individual's overall health and well-being (Lelisho & Tareke, 2023). This discovery corroborates

the findings of a longitudinal study conducted in Finland, which highlighted that lower perceived social support may serve as a risk factor for depression (Väänänen et al., 2014). Additionally, a study involving 348 adolescents attending secondary government schools in Pokhara Metropolitan found that perceived social support indirectly influences psychological well-being by impacting students' self-esteem levels (Poudel et al., 2020). Our study indirectly revealing that those who reported lower levels of support from significant others and peers tended to experience higher levels of depression compared to their counterparts with higher perceived support. Similarly, students who refrained from sharing their problems with family and friends were more likely to experience depression than those who did seek support. These findings align with a longitudinal study from Finland, which concluded that lower perceived social support poses a risk for depression (Väänänen et al., 2014). Families play a pivotal role in providing emotional care and encouragement, which are essential components in helping individuals navigate through challenging times and mitigate negative psychological states. By fostering a supportive familial environment, students are better equipped to confront and overcome adverse psychological experiences, thus reducing the likelihood of developing psychological problems such as depression (Lelisho & Tareke, 2023).

The result revealed that student residence, paternal and maternal educational status, parental relationship, family size, and presence of girl/boyfriend were not statistically significant to the outcome variable, depression.

5.2.3. Psychological/Behavioral Related Factors and Depression

The results of this study showed that having a family history of mental illness is a significant predictor of depression. Those students who had a family history of were 2.2 times more risk in

getting depression than their counter part. This finding is a mirrors from a study at Arsi University where students were depressed who have a family history was observed (Dessie et al., 2013). Moreover, the presence of chronic medical illnesses, correlated with a depression, aligns with existing literature reviews in Ethiopia highlighting the link between chronic medical conditions and depression (Muhammed & Haymanot, 2020). A systematic review and meta-analysis research conducted in Ethiopia indicated that, students with a family history of mental illness were found to be 2.2 times more likely to experience depression compared to those without such a history. This correlation may be multifactorial, potentially influenced by genetic predispositions, the burden of societal stigma, and the myriad financial constraints faced by families. Additionally, the responsibilities of caregiving for both the patient and any dependent children can contribute to increased stress and concern about the health of the affected family member, thereby heightening the likelihood of experiencing depression (Anbesaw et al., 2023). The cumulative impact of these factors underscores the complexity of the relationship between family history, chronic illness, and depression among students. Another possible explanation is rooted in the genetic basis of mental illness, as well as the stigma often associated with such conditions. Additionally, families may face significant financial burdens and caregiving responsibilities, which can lead to stress and anxiety among family members. Moreover, children of affected individuals may experience heightened concerns about their parents' health, potentially increasing their risk of developing depression (Ahmed et al., 2020). Tis is in line with the study done in India medical students which showed an individual from family members with mental illness are more prone to develop depression (Yadav et al., 2016).

The finding of this research confirmed that there is an association between substance use and depression. Specifically, students who had used illicit substances at least once in the past

month were 4.3 more likely to experience depression. This finding aligns with prior investigations conducted at Debre Brihan University, Ethiopia, which found that among individuals with depression, 68.25% were current smokers. Notably, in the mentioned study, being a smoker was strongly associated with depression, with an adjusted odds ratio (AOR) of 26.3 [9.33-74.1 (Agumasie, 2021) this outcome may stem from depressed students turning to substance use as a means of coping with their mood or from maladaptive substance use exacerbating depressive symptoms.

The current findings indicate there is an association between alcohol intake and symptoms of depression among students. Those who drink alcohol were 3.5 more likely to experience depressive symptoms. This result is supported by other researchers (Agumasie, 2021; Lelisho & Tareke, 2023; Othieno et al., 2014) who suggest that alcohol consumption is a predisposing factor for depression. Furthermore, studies like (Ghanim et al., 2022) have highlighted the robust behavioral and neurological interactions between alcohol and psychological distress. The social component of alcohol consumption, particularly prevalent among youth and adolescents, may contribute to its widespread use. Additionally, a systematic review and meta-analysis on the Prevalence of depression among students at Ethiopian universities and associated factors indicated that the pooled odds ratio for alcohol usage was 3.12. Although causality is not explicitly evident in our study, this outcome may stem from depressed students seeking relief through substance use or from maladaptive drug use altering their mood to the point of depression. Participants who use drugs or alcohol may experience feelings of isolation, despair, and hopelessness commonly associated with depression (Anbesaw et al., 2023).

Research on the relationship between self-esteem and depression among university students has garnered considerable attention due to its implications for mental health interventions and academic success (Li et al., 2023). The finding of this study showed that students who have high self-esteem were protected being depressed by 13%. The finding is corroborated with several studies that have indicated a significant inverse correlation between self-esteem and depression levels among this demographic. Higher levels of self-esteem are often associated with lower levels of depressive symptoms, while lower self-esteem tends to correlate with higher levels of depression. This relationship suggests that individuals with higher self-esteem may possess better coping mechanisms, resilience, and a more positive outlook, thereby reducing their susceptibility to depression. Conversely, individuals with lower self-esteem may be more vulnerable to negative thoughts and feelings of inadequacy, which can exacerbate depressive symptoms (Choi et al., 2019; Li et al., 2023; Masselink et al., 2018; Mu et al., 2019).

These findings underscore the importance of promoting self-esteem enhancement programs within university settings as a preventive measure against depression. However, while the inverse relationship between self-esteem and depression is well-established, the direction of causality remains a topic of debate (Masselink et al., 2018; Nguyen et al., 2019). Some researchers argue that low self-esteem predisposes individuals to depression, suggesting a causal pathway from self-esteem to depression (Negovan & Bagana, 2011). The vulnerability model assumes that low self-esteem leads individuals to be more vulnerable to depression (Bouyssi-Kobar et al., 2019). Conversely, others propose that depression may lead to decreased self-esteem, indicating a reverse causal relationship. Additionally, bidirectional models suggest a reciprocal interaction between self-esteem and depression, wherein each factor influences and

reinforces the other over time. Untangling the directionality of this relationship is crucial for designing effective intervention strategies. Longitudinal studies and experimental designs are needed to elucidate the temporal sequence and causal mechanisms underlying the dynamic interplay between self-esteem and depression among university students (Bouyssi-Kobar et al., 2019; Masselink et al., 2018).

Self-confidence and depression share a complex relationship among chronic illness patients', often intertwining that impacts mental well-being (Ludman et al., 2013). Self-confidence acts as a shield against the onslaught of negative thoughts and emotions, providing a buffer against the onset of depression (Negovan & Bagana, 2011). This study findings also indicated that those students who had excellent confidence were 19% protected from being depressed. When students possess a healthy level of self-confidence, they are more resilient in the face of challenges, better equipped to navigate the demands of academia, and more adept at coping with setbacks. This sense of self-assurance fosters a positive outlook, nurturing a belief in one's abilities and worth, which in turn acts as a protective factor against the development of depressive symptoms (Bouyssi-Kobar et al., 2019; Fu et al., 2005; Negovan & Bagana, 2011).

CHAPTER SIX

6. SUMMARY, CONCLUSION AND RECOMMENDATION

6.1.Summary

The study was aimed to assess the prevalence of depression and to investigate the association factors of depression among Hawassa University College of Medicine and Health sciences regular undergraduate students of, 313 participants (males= 181 and female= 122) were randomly selected from the two faculties. Socio- demographic data were collected by self-administered questionnaire.

Analysis was made by using SPSS statistical software. To assess the prevalence of depression only frequency and percentage was considered. While to investigate the association factors, bivariate analysis was used and those variables who were statistically significant, whose p value was< 0.01 was entered in to run multivariate analysis and finally in the multivariate analysis whose p value <0.01 was selected as a predictors to depression

Based on the analysis, the findings of this study revealed that the prevalence of depression was 28. Out of these, 9 % had mild depressive symptoms, 8% had moderate depressive symptoms and the remaining 11 % had severe depressive symptoms. Multivariate logistic regression test showed that gender, residence, study year, paternal and maternal educational level, monthly pocket money, department, were not predictors to depression. While substance use, drinking alcohol, presence of medical history in the family, self-esteem, self-confidence, and social support were the predictors to the presence of depression among Hawassa University College of Medicine and Health Sciences students.

6.2.Conclusion

In conclusion, this study sheds light on the prevalence of depression and associated factors among regular undergraduate students of Hawassa University College of Medicine and Health Sciences. Based on the finding, the prevalence rate of depression among students was 28%.

Concerning factors, among educational related factors, none of the variable has to be found association with depression. Among Psychological factors, substance use, drinking alcohol, presence of medical history, low self-esteem level, and low confidence level were found to be a predictors to depression, and from social related factors, only Presence of health problem in the family and low social support were found as significant associate factors with depression.

These findings underscore the multifaceted nature of depression and highlight the importance of targeted interventions to support students' mental health and well-being within academic settings. Efforts to enhance social support networks, promote positive self-esteem and confidence, and address risk factors such as substance use and family history are essential in fostering a supportive environment conducive to students' mental health.

6.3.Recommendations

Based on the conclusion in the study, several recommendations has been made to address depression prevalence among undergraduate students at Hawassa University College of Medicine and Health Sciences.

- The college student service affairs directorate together with Hawassa University comprehensive specialized Hospital should implement comprehensive mental health support services within the university, including counseling, therapy, and psychiatric

services, to address the identified risk factors such as family history of mental illness and substance use. These services should be easily accessible, confidential, and culturally sensitive to encourage students to seek help when needed

- The college student service affairs directorate together with the concerned directorates should develop targeted substance abuse prevention programs tailored to the needs of undergraduate students. These programs should focus on raising awareness about the risks associated with substance use, providing education on healthy coping mechanisms, and offering support for students struggling with addiction. This may be conducted with the different NGOs found in the country.
- The college higher officials and student counselor office together with women, and youth directorate should foster a supportive campus community by promoting peer support programs, mentorship initiatives, and group activities that encourage positive social interactions among students. Additionally, provide training for faculty and staff to recognize signs of distress and offer appropriate support and referrals to students in need.
- The student service affairs directorate should host workshops, seminars, and support groups to boost students' self-esteem and confidence. Guest speakers can share strategies for resilience, coping skills, and cultivating a positive self-image, vital for preventing depression.
- The hospital psychiatry clinic and student service affairs directorate should conduct regular mental health screenings for undergraduates to detect depression risks early and offer support.
- Ministry of Education should design and develop new policy and strategies to decrease the prevalence of depression

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6.4.Annex: Questionnaire

A) Informed Consent Form

Title of the Research Project: Prevalence and associated factors of depression among Hawassa University College of Medicine and Health Science (HUCMHS) students

Name of Investigator: Meseret Lulseged

Introduction:

This information sheet and consent form is prepared to explain the study you are being asked to join. Please listen carefully and ask any questions about the study before you agree to join. You may ask questions at any time after joining the study.

Purpose of Research Project

The purpose of this research is to assess the prevalence and associated factors of depression among students of HUCMHS in Hawassa city, Sidama Region, Ethiopia. The study will be helpful in determining the prevalence and associated factors of depression among students and contributes much to design appropriate prevention and intervention strategies. It also will serve as baseline information for subsequent studies in the country.

Procedure

To assess the prevalence and associated factors of depression among students of HUCMHS we invite you to take part in this project randomly. If you are willing to participate in this project, you need to understand and sign the agreement form. You do not need to tell your name to the investigator or write on the questionnaire and all your responses and the results obtained will be kept confidentially by using coding system whereby no one will have access to your response.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting your time about 30 minutes. We hope you will participate in the study for the sake of the benefit of the research result. There has no any risk to you for participating in this research project.

Benefits

If you participate in this research project, there may not be direct benefit to you but your participation is likely to help us in assessing the prevalence and associated factors of depression

among students in Hawassa city. Ultimately, this will help us to work on prevention and intervention strategies.

Incentives/Payments for Participating

You will not provide any incentives or payment to take part in this project.

Confidentiality

The information collected from this research project will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but, a code number assigned to it and it will not be disclosed to anyone except the principal investigator and will be kept locked with key.

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.

Person to contact:

This research project will be reviewed and approved by the ethical clearance committee of Hawassa University College of Social science and Humanities Review board. If you have any question you can contact any of the following individuals (Investigator and Advisors) and you may ask at any time you want.

Participants agree: 1. Yes 2. No

Signature: _____ Date_____

Principal Investigator:

Full name: Meseret Lulseged

Cell phone: +251911 96 24 07

I. DEMOGRAPHIC DATA

Instruction: circle for your choice of answer

1. Age _____ Sex A. Male B. Female

2. Place of residence before joining the University A. Urban B. Rural

3. Are you satisfied with your department? A. Yes B. No

4. Write your department _____

5. Your batch A. 2nd B.3rd C. 4th d. 5th E. 6th F. 7th

6. Current academic status A. >1.75 B. 1.76_2.5 C. 2.6_3.4 D. 3.5_ 4

7. Are you loaded in academic works? A. Yes B .No

8. Are you burdened with the test schedule? A. Yes B .No

9. What is your family No? _____

10. Maternal education level

A. illiterate . B. 1-8 grade C. 9-12 D. Collage/university

11. Paternal education level

A. illiterate B. 1-8 grade C. 9-12 D. Collage/university

12. Status of your parents' relationship A. good B. moderate C. poor

13. Is there any person who has mental health problem in your family? A. Yes B. No

14 Would you do any type of physical exercise at least once in a week? A. Yes B. No

15. Do you have a boy / girl friend? A. Yes B. No

If yes how is your relationship? A. Good B .Moderate C. Poor

16. Do you receive monthly pocket money from your family or others? A. Yes B. No

17. If yes how much Birr per month?

A. < 500 B. 500-1000 C.1001-3000 D. 3001-5000 E. >5000

18. Do you used any kind of substance e.g (chat cigarate alcohol) within this month?

A. Yes B. No

19. Do you drink alcohol within this two weeks? A. Yes B. No

20. Status of your appetite? A. Excessive B. Good C. Moderate D. Poor

21. Do you have any medical and physical history? A. Yes B. No

If yes what is?

A. Hypertension B. Diabetic mellitus C. Trauma D. Asthma E. Sexual abuse F. other

PART II. Beck's Depression Inventory

Instructions: On this questionnaire there are groups of statements. Please read all the statements in a given group. Then pick out at least one statement in each group which describes you best in **terms of this past week.** Circle the number beside the statement you have chosen. If several statements in the group seem to apply equally well, circle each one

1	0	I do not feel sad
	1	I feel sad
	2	I am sad all the time and I can't snap out of it
	3	I am so sad and unhappy that I can't stand it
2	0	I am not particularly discouraged about the future
	1	I feel discouraged about the future
	2	I feel I have nothing to look forward to
	3	I feel the future is hopeless and that things cannot improve
3	0	I do not feel like a failure
	1	I feel I have failed more than the average person
	2	As I look back on my life, all I can see is a lot of failures
	3	I feel I am a complete failure as a person
4	0	I get as much satisfaction out of things as I used to
	1	I don't enjoy things the way I used to
	2	I don't get real satisfaction out of anything anymore
	3	I am dissatisfied or bored with everything
5	0	I don't feel particularly guilty
	1	I feel guilty a good part of the time
	2	I feel quite guilty most of the time
	3	I feel guilty all of the time
6	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
7	0	I don't feel disappointed in myself
	1	I am disappointed in myself

	2	I am disgusted with myself
	3	I hate myself
8	0	I don't feel I am any worse than anybody else
	1	I am critical of myself for my weaknesses or mistakes
	2	I blame myself all the time for my faults
	3	I blame myself for everything bad that happens
9	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
10	0	I don't cry any more than usual
	1	I cry more now than I used to
	2	I cry all the time now
	3	I used to be able to cry, but now I can't cry even though I want to
11	0	I am no more irritated by things than I ever was
	1	I am slightly more irritated now than usual
	2	I am quite annoyed or irritated a good deal of the time
	3	I feel irritated all the time
12	0	I have not lost interest in other people
	1	I am less interested in other people than I used to be
	2	I have lost most of my interest in other people
	3	I have lost all of my interest in other people
13	0	I make decisions about as well as I ever could
	1	I put off making decisions more than I used to
	2	I have greater difficulty in making decisions more than I used to
	3	I can't make decisions at all anymore
14	0	. I don't feel that I look any worse than I used to
	1	I am worried that I am looking old or unattractive
	2	I feel there are permanent changes in my appearance that make me look unattractive
	3	I believe that I look ugly

15	0	I can work about as well as before
	1	It takes an extra effort to get started at doing something
	2	I have to push myself very hard to do anything
	3	I can't do any work at all
16	0	I can sleep as well as usual
	1	I don't sleep as well as I used to
	2	wake up 1-2 hours earlier than usual and find it hard to get back to sleep
	3	I am several hours earlier than I used to and cannot get back to sleep.ke up
17	0	I don't get more tired than usual
	1	I get tired more easily than I used to
	2	I get tired from doing almost anything
	3	I am too tired to do anything
18	0	My appetite is no worse than usual
	1	My appetite is not as good as it used to be
	2	My appetite is much worse now
	3	I have no appetite at all any more
19	0	I haven't lost much weight, if any, lately
	1	I have lost more than five pounds
	2	I have lost more than ten pounds
	3	I have lost more than fifteen pounds
20	0	I am no more worried about my health than usual
	1	I am worried about physical problems like aches, pains, upset stomach, or Constipation
	2	I have lost more than ten pounds
	3	I am so worried about my physical problems that I cannot think of anything else
21	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 have almost no interest in sex
	3	I have lost interest in sex completely

Part III Self Esteem Items

Instructions

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement. (put X mark in one of the column)

S.N	Statement	Strongly agree	Agree	Dis agree	Strongly dis agree
1	On the whole, I am satisfied with myself				
2	At times I think I am no good at all.				
3	I feel that I have a number of good qualities				
4	I am able to do things as well as most other people.				
5	I feel I do not have much to be proud of.				
6	I certainly feel useless at times				
7	I feel that I'm a person of worth, at least on an equal plane with others				
8	I wish I could have more respect for myself				
9	All in all, I am inclined to feel that I am a failure				
10	I take a positive attitude toward myself				

Part 4. Social support scale

Instructions

The OSSS-3 Consists of Three Items Assessing The Level of Social Support You Received

Rate Your Level of Support You Received in the Last Month

1: How many people are so close to you that you can count on them if you have great personal problems?

1. 'None' 2. '1–2' 3. '3–5' 4. '5+'

2: How much interest and concern do people show in what you do?

1. 'None' 2. 'Little' 3. 'Uncertain' 4. 'Some' 5. 'A lot'

3: How easy is it to get practical help from friends if you should need it?

1. 'Very difficult' 2. 'Difficult' 3. 'Possible' 4. 'Easy' 5. 'Very easy'

Part .5 . Self-confidence scale instrument

Instructions

Question used to determine the self -confidence scale (to respond put X mark)

S. N	Statements	Not at all	Rarely	Some times	Often	Very often
1	I do what I think is expected of me, rather than what I believe to be '' right					
2	I handle new situations with relative comfort and ease.					
3	I feel positive and energized about life					
4	If something looks difficult, I avoid doing it					
5	I keep trying, even after others have given up.					
6	If I work hard to solve a problem ,I II find the					
7	I achieve the goals set for myself					
8	when I face difficulty, I feel hopeless and negative					
9	I relate to people who work very hard, and still don't accomplish their goals.					
10	People give me positive feedback on my work and achievements.					
11	I need to experience success early in a Process, or I won't continue.					
12	When I overcome an obstacle, I think about the lessons I've learned					
13	I believe that if work hard, I'II achieve my goals.					
14	I have contact with people of similar skills and experience who I consider successful					

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ሳይኮሎጂ ት/ክፍል

Hawassa University
College of Education and Behavioral Sciences
Department of Psychology

ቁጥር
Ref No ገ/ሳ/ስ/302/16
ቀን
Date 2/05/16

ለሚመለከተው ሁሉ

ጉዳዩ፡-የድጋፍ ደብዳቤ ስለመስጠት ይሆናል

በዩኒቨርሲቲያችን የሳይኮሎጂ ት/ክፍል የድህረ ምረቃ ፕሮግራም ተማሪ የሆነው/ችው [illegible] በአሁኑ ሰዓት የመመረቂያ ጥናት በማከናወን ላይ ይገኛል/ ትገኛለች፡፡

ተማሪውም/ዋም ጥናቱን የሚያካሂደው/ የምታካሂደው "The Prevalance and associated causal factors of depresssion Among university students in H.U [CMHSC]" በሚል ርዕስ ላይ ሲሆን ለጥናቱ የሚያስፈልጉ መረጃዎችን በመስጠት በአናንት በኩል አስፈላጊው ትብብር ይደረግለት /ይደረግላት ዘንድ በአክብሮት እንጠይቃለን፡፡

ከሰላምታ ጋር

ዶ/ር ... ወርቅነህ አዳሙ
የሳይኮሎጂ ት/ክፍል ኃላፊ

ሀዋሳ ዩኒቨርሲቲ
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HAWASSA UNIVERSITY
COLLEGE OF MEDICINE AND HEALTH SCIENCES
Institutional Review Board

Ref. No: IRB/077/16
Date: 15/02/2024

Name of Researcher(s): **Meseret Lulseged, Adane Wako (Asst. Prof.)**

Topic of Proposal: ***The prevalence and associated casual factors of depression among university students: The case of Hawassa University college of medicine and health sciences college students***

Dear researcher(s),
The Institutional Review Board (IRB) at the College of Medicine and Health Sciences of Hawassa University has reviewed the aforementioned research protocol with special emphasis on the following points:

1. Are all principles considered?
   - 1.1. Respect for persons: Yes ☑ No ☐
   - 1.2. Beneficence: Yes ☑ No ☐
   - 1.3. Justice: Yes ☑ No ☐
2. Are the objectives of the study ethically achievable? Yes ☑ No ☐
3. Are the proposed research methods ethically sound? Yes ☑ No ☐

Based on the aforementioned ethical assessment, the IRB has:

A. Approved the proposal for implementation — ☑ Approval period -**15 FEB. 2024** to **14 FEB. 2025**
B. Conditionally Approved — ☐ Element Approved: **Protocol Version No. 1**
C. Not Approved — ☐ Follow up report expected in 6 **months**

Obligation of the PI:

1. Should comply with the standard international and national scientific and ethical guidelines
2. All amendment and changes made in protocol and consent form needs IRB approval
3. The PI should report SAE within 3 days of the event
4. End of study, including manuscript should be reported to the IRB

Yours faithfully,

Embialle Mengistie Beyene
(PhD, Asso.Professor)
Institutional Review Board Chairperson

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Institutional Review Board
Hawassa University
College of Medicine & Health Sciences

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