# WOLKITE UNIVERSITY

# COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCE DEPARTMENT OF PSYCHOLOGY

THE PSYCHOLOGICAL IMPACT OF COVID-19 PANDEMIC ON GRADUATE CLASS STUDENTS AT WOLKITE UNIVERSITY PARTICULARLY COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCE.

A SENIOR ESSAY SUBMITTED TO THE DEPARTMENT OF PSYCHOLOGY IN PARTIAL FULFILMENTS FOR THE REQUIREMENT OF BACHELOR OF ARTS DEGREE IN PSYCHOLOGY

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# ABSTRACT

A poorly known contagious disease outbreak, like COVID-19, leads to unavoidable stress, fear, and anxiety. During the pandemic, University students suffer from adverse mental health outcomes resulted from the continuous spread of the disease, sensational media reporting, and implementation of social lockdown. Graduating class students are more affected due to cancellation and postponing of anticipated events such as exchange studies and graduation ceremonies. This study aimed to assess the prevalence and associated factors of anxiety, depression, and stress among graduating class students.

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# ABBREVIATIONS

| | |
|---|---|
| AOR CI | Adjusted Odds Ratio Confidence Interval |
| COVID-19 | Coronavirus Disease 2019 |
| DASS | Depression, Anxiety, and Stress Scale |
| IRB | Institutional Review Board |
| MERS | Middle East Respiratory Syndrome |
| OR | Odds Ratio |
| SARS-CoV | Severe Acute Respiratory Syndrome Corona Virus |
| SPSS | Statistical Package for Social Sciences |
| UNESCO | United Nation's Educational, Scientific, and Cultural Organization |
| W HO | World Health Organization |

## CHAPTER-ONE

# INTRODUCTION

## 1.1. Background

Coronavirus Disease 2019 (COVID-19) is a disease caused by a novel coronavirus (SARS-CoV-2) that emerged in a seafood and poultry market in the Chinese city of Wuhan in 2019. The World Health Organization (WHO) characterized the outbreak as a pandemic on March 11, 2020, as cases have been detected in most countries worldwide. Zu ZY, Jiang MD, Xu PP, et al (2020) As of October 30, 2020, there have been 45,608,024 laboratory-confirmed coronavirus cases, including 1,189,139 deaths worldwide according to Johns Hopkins University.

The pandemic has interrupted the learning of more than one billion students in 129 countries around the world according to the United Nations Educational, Scientific, and Cultural Organization (UNESCO) . John Joseph S, Singh Bhandari S, Ranjitkar S, Dutta S. (2020) The first case of COVID-19 was confirmed in Ethiopia on 13 March 2020 which was the first one to be reported since the beginning of the outbreak in China in December 2019. WHO (2020) On 8 April 2020, the Council of Ministers declared a five-month-long state of emergency in response to the growing number of coronavirus cases, and schools, sporting events, and public gatherings were closed. Arkebe Oqubay, (2020) According to the ministry of health, Ethiopia there were 95,789 COVID-19 reported cases and 1464 (1.53%) deaths in Ethiopia until October 30, 2020.

The COVID-19 pandemic affects mental health and well-being in addition to physical health. Brooks SK, Webster RK, Smith LE, et al.(2020) & Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M, Benedek DM. (2020) University graduating class students are more affected psychologically by the pandemic due to cancellation and postponing of anticipated events such as exchange studies and graduation ceremonies. Lee J. (2020) A poorly known contagious disease outbreak, like COVID-19, leads to unavoidable stress, fear, and anxiety. Wu P, Fang Y, Guan Z, et al (2009) The mental well-being of university students can be negatively affected by shifting face-to-face classes to online, suspension of the semester-end final examinations, and unavailability of books, computers, and high-speed internet connection at home. Sahu P. (2020)

During the pandemic, University students are at significant risk of adverse mental health outcomes resulted from the continuous spread of the disease, conspiracy theories, myths, and blame games, sensational media reporting of COVID-19, frustration and boredom, implementation of social lockdown with classmates, friends, and teachers, lack of personal space at home, and family financial loss due to lockdown. Salman M, Asif N, Mustafa ZU, et al.(2020) The careers of this years' university graduates may be seriously impacted due to the pandemic since they experience major interruptions in teaching and assessment in the final part of their studies, and late graduation. Sahu P (2020)

The pandemic has potentially affected students physically, academically, financially, and psychologically. In a short period, students' lives have dramatically changed as they have been asked to leave campus, adjust to new living circumstances, and adapt to online learning platforms. College, student tests positive.( 2020) Different studies showed that the prevalence of depression, anxiety, and stress was high among university students. From studies conducted in Pakistan and Bangladesh, the prevalence was 34% and 82.4% for depression and 45% and 87.7% for anxiety respectively. Salman M, Asif N, Mustafa ZU, et al. & Islam MA, Barna SD, Raihan H, Khan MNA, Hossain MT. (2020) One study in Nigeria indicated that the prevalence of anxiety and depression was 31.9% and 41.4% respectively. Ojewale LY (2020) In Ethiopia, two studies reported that the prevalence of depression, anxiety, and stress was 21.2% and 77.2%, 27.7% and 71.8%, and 32.5% and 48.5% respectively. Aylie NS, Mekonen MA, Mekuria RM & Tadesse AW, Mihret S, Biset G, Muluneh A. (2020) Kinds of literature also indicated that age, sex, history of medical illness, living in a State/Region with a high incidence of COVID-19, family income, having family members infected with the disease, the practice of preventive measures, and residence were determinants of depression, anxiety, and stress.

## 1.2. Statement of problem

The continuous spread of novel coronavirus (COVID19), strict isolation measures, and delays in starting school, colleges and universities across the country is expected to influence the mental health of university students. Despite its mental health impacts, no detailed study on the psychological impacts of university students facing the epidemic has been conducted the ongoing spread of COVID- 19, strict isolation measures, delays in starting school, and

postponing graduation across the country influences the mental health of graduating class university students. The current knowledge on COVID-19 is a limited and the overwhelming news may lead to anxiety and fear in the public resulting in sense of paranoia and stress related to being COVID-19 positive and being isolated or admitted to hospital amongst the general population. The study has focused on exploring the risks for psychological stress associated with novel coronavirus outbreak, and its effective communication to build psychological resilience among those graduate class student.Therefore, this study aims to show the psychological impact of COVID-19 outbreak and its associated factors among university students. intended to assess the prevalence and associated factors of depression, anxiety, and stress and to generate evidence regarding the prevalence of psychological problems due to COVID-19 and its determinants among graduating class students at the wolkite universit.

**Research Questions**

This research is designed to answer the following questions;

1. What are the psychological impact of covid 19 pandemic on graduate class student's in Wolkite University?
2. What are the factor associated with stress, anxiety and depression of graduate class student to respond to covid 19 in WKU?
3. How the impacts differ along with male and female student in WKU?

## 1.3. Objective of the study

### 1.3.1. General Objective

The psychological impact of covid -19 pandemic on graduate class student at the university of wolkite particularly college of education and behavior all science.

### 1.3.2. Specific objectives

1. Explore the psychological impact of covid-19 pandemic on student.

2. Assess factor or associated with stress, anxiety and depression among student to respond to covid19.

3. To examine gender and age differences, among graduate class student to respond tocovid-19.

## 1.4. Significance of the study

The finding of this will help as baseline data for policy makers and programmers to develop mental health programs for individuals during the outbreak. . As a result, estimating the psychological impact of the COVID-19 pandemic on graduating class students is important for health authorities to develop preventive strategies and effective treatment modalities to alleviate its negative outcome.

The finding of this study can be significant for the mental health professionals, it will provide necessary information about the level of depression, anxiety and stress among Graduate class student, the finding of this study may also help to raise awareness about Psychological problems (depression, anxiety and stress) that students face. The study may also serve as a literature for future researchers who want to conduct a research in this area and other related issues.

## 1.5. Delimitation of the study

In terms of variables, the study was delimited to depression, anxiety and stress among graduate class student in wolkite. The research will delimit to study only in wolkite university due to time and financial constraints.

## 1.6. Operational Definitions

**Anxiety**

Participants who score below 8 on the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) were considered as having no anxiety and those who score 8 and above were considered as having anxiety. [Lovibond PF, Lovibond SH. 1995]

**Depression**

Participants who score below 10 on the Depression,Anxiety, and Stress Scale - 21 Items (DASS-21) will consider as have no depression and those who score 10 and above will consider as have depression. [Lovibond PF, Lovibond SH. 1995]

**Stress**

Participants who score below 15 on the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) were considered as having no stress and those who score 15 and above were considered as having stress. [Lovibond PF, Lovibond SH. 1995*]*

**Substance Use**

Use of chat, alcohol, cigarette smoking, or others at least once in the last three month

**Perform Physical Activity**

Exercising or doing any kind of sports activity including walking at least 20 min/day. [World Health Organization; 2011]

# CHAPTER TWO

# 2. LITERATURE REVIEW

## 2.1. Review of covid-19

According to Johns Hopkins University report, as of July 31, there are 17,600,740 cases and 679,600 deaths with 10,342,311 recoveries of COVID-19 globally ( Team Cd. COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. 2020) In the time of the outbreak, individuals are commonly stressed and worried4 and resulted in an economic crisis.5 Since COVID-19 is an emerging suddenly and highly infectious, it causes serious threats to peoples' physical health and lives. Besides, data from different countries highlighted that the COVID-19 outbreak and associated quarantine measures negatively affect mental health and triggered a wide variety of psychological problems and increase symptoms of psychological distress such as anxiety, depression, suicidal attempts and post-traumatic stress among the general population (Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet. 2020;395(10227):912–920. doi:10.1016/S0140-6736(20) 304608 &Liu N, Zhang F, Wei C, et al. Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: gender differences matter. Psychiatry Res. 2020;287:112921. doi:10.1016/j. psychres.2020.112921)

The stressful conditions of COVID-19 pandemic also lead to psychological distress and clinical worsening of affective symptoms in individuals with mental disorders (Nicola D. Serum 25-hydroxyvitamin D levels and psychological distress symptoms in patients with affective disorders during the COVID-19 pandemic. Psychoneuroendocrinology. 2020 ) According to the recent meta-analysis, the prevalence of depression, anxiety and stress during COVID-19 pandemic was 33.7%, 31.9%, and 29.6%, respectively (Salari N, Hosseinian-Far A Jalali R,et al.

Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. Glob Health. 2020;16(1):57. doi:10.1186/s12992-020-00589-w)

A study done in China among the general population during the COVID-19 pandemic reported that 35.1% of the study participants had Generalized Anxiety Disorder (GAD-7), and 20.1% had depressive symptoms (Huang Y, Zhao N. Generalized Anxiety Disorder, Depressive Symptoms and Sleep Quality During COVID-19 Epidemic in China: A Web-Based Cross-Sectional Survey 2020) Another report in Spain during the early phase of the COVID-19 pandemic identified that 36% of the study participants had moderate to severe psychological problems; of which 25% had a mild to severe anxiety, 41% had depression and 41% had stress symptoms (Rodríguez-Rey R, Garrido-Hernansaiz H, Collado S. Psychological impact and associated factors during the initial stage of the coronavirus (COVID-19) pandemic among the general population in Spain Open Access. 2020)

A handful of studies attempted to examine the association between COVID-19 and mental health. For instance, Tian et al. (2020) investigated the psychological symptoms of 1,060 Chinese citizens during COVID-19 using a symptoms checklist of 90 via an online questionnaire. They found more than 70% of the total sample had a moderate and higher level of an obsessive compulsion disorder, interpersonal sensitivity, phobic anxiety, and psychoticism. Interestingly, people older than 50 years had relatively more symptoms than young people. Moreover, the symptoms were higher among people who had an education level of undergraduate and below, been divorced, or widowed.

Likewise, Cheng et al. (2020) in Chinese Jiangsu province, measured the impact of COVID-19 on the anxiety level amongst 534 pediatric medical staff. Using a self-rating anxiety scale based upon the Pittsburgh sleep quality index, they found that the prevalence of anxiety was 14.0% amongst the medical staff. They applied stepwise multiple linear regressions to examine the association between anxiety and other socio-economic factors. It was discovered that having a physical condition and concerns relating to the epidemic were positively associated with anxiety levels.

Whereas, positional title, better living style, and education were negatively associated with anxiety level. Similarly, another study conducted by Wang et al. (2020) found that there was significantly higher psychological distress amongst medical staff deployed to Hubei province compared to other medical personnel in China.

Most of the studies have only focused on the general public and medical staff (such [as Pieh et al. (2020), Ferrucci et al., (2020), and Huang and Zhao (2020) but ignored college and university students. However, a few studies have attempted to estimate the impact of COVID-19 on the mental health of students. Such as, in China, Cao et al. (2020) examined the psychological impact of the COVID-19 on college students. Using cluster sampling, they collected data from 7,143 students from Changzhi Medical College China. Using GAD-7, they found that 21.3% of respondents were experiencing mild, 2.7% moderate, and 0.9% severe anxiety. Furthermore, they applied the ordered logit model and explored that living in urban areas, living with parents, having a steady family income were protective factors against anxiety. Our study uses the same methods for measuring the anxiety factors associated with this mental health issue. However, our study covers around 16 universities, which produces more generalizable and comprehensive estimates, because of the heterogeneity amongst the sample

Moreover, Kaparounaki et al. (2020) examined the impact of COVID-19 on the mental health of university students in Greece. They collected the data from 1,000 university students and found that 42.5% of the total sample population had anxiety and 74.3% depression. Using similar data, Patsali et al., (2020) found that depression was present in 12.43% and severe distress was present in 13.46% of the sample population. Of concern, they noticed a 2.59% increase in suicidal thoughts. In Malaysia, we could only find one study by Sundarasen et al., (2020) that was conducted in a similar vein. Their study was the closest to us in terms of our research objectives. However, they used Zung's self-rating anxiety scale (SAS) to estimate the anxiety level. Quite surprisingly, they found only 8% of students were experiencing mild to moderate and moderate to severe anxiety, which is substantially different from the findings of other studies, hence this requires further investigation. The basic reason for an extremely low number could be using Zung's self-rating anxiety scale. The anxiety scale has been criticized by earlier studies for producing unreliable results. Thus, our study covers a more comprehensive base of 16

universities and applies advanced methods to estimates the anxiety amongst students. We further explored the factors which influence the anxiety level.

During the COVID-19 pandemic, younger age and being female were associated with the higher prevalence of psychological distress symptoms like depression and anxiety (Conversano C, Marchi L, Miniati M. Psychological distress among healthcare professionals involved in the COVID-19 emergency: vulnerability and resilience factors. Clin Neuropsychiatry. 2020b) Socioeconomic status, early childhood trauma, conducting leisure activities, sex, age, job status, and the perception of being in good health were factors associated with mental health outcomes..(Rodríguez-Rey R, Garrido-Hernansaiz H, Collado S. Psychological impact and associated factors during the initial stage of the coronavirus (COVID-19) pandemic among the general population in Spain. Open Access. 2020; &Wilkinson RG, Marmot MG. Social Determinants of Health: The Solid Facts. 2nd ed. Geneva: World Health Organization; 2003) Studies in Italy showed that the higher number of lockdown days, living alone during the lockdown, smoking habits, and long duration of illness during the acute phase of COVID-19 pandemic were associated with a higher prevalence of psychological distress and post-traumatic stress symptoms.(Wilkinson RG, Marmot MG. Social Determinants of Health:

The Solid Facts. 2nd ed. Geneva: World Health Organization; 2003.) Biological factors like low serum vitamin-D were also found to be associated with higher psychological distress in patients with mood disorders during the COVID-19 outbreak. (Nicola D. Serum 25-hydroxyvitamin D levels and psychological distress symptoms in patients with affective disorders during the COVID-19 pandemic. Psychoneuroendocrinology. 2020)

# CHAPTER THRE

# 3. METHODS

This chapter deals with the description of research design, study setting, population and participants, samples and sampling technique, data collection instruments, procedures of data collection, methods of data analysis, and ethical considerations.

## 3.1. Research Design

This study aimed to assess the prevalence of depression, anxiety and stress among graduating class students in Wolkite University. Therefore, the study employed a quantitative method particularly an institution based cross- sectional survey design. This design was preferred because the researcher used to collect information from respondents at a single time through questionnaire.

## 3.2. Study Setting

The study are focused on wolkite university that found in located In the South nation nationalities and people of regional state in Gurage zone of distance of 170km south west Addis abeba, which is among 10 newly founded universty in the year 2012 in ethiopia Currently university has atotal of 5500 students and there are 9 collages, 50 department and a total of 2250 graduating class students on the two campuses.

## 3.3. Data sources

The data sources of this study was primary data source of all graduate class students in Wolkite University particularly college of education and behavioural sconce.

## 3.4. Population

The study population consists of all graduating class students in college of education and behavioral science in Wolkite University who were included in the sample. The total population 106 and from the total population 53 male student and 53females student’s

## 3.5. Sample Size Determination and Sampling Process

$$n = N/ 1 + N(e)2$$

Where; *n=sample size*

*N =Totale population*

*e= Confidential interval*

The sample size was calculated using the single population proportion formula by taking the estimated proportion of depression, anxiety, and stress among graduating class students: 21.2%, 27.7%, and 32.5%, respectively from a study conducted in southwest Ethiopia, 14.95% confidence interval, and a 5% margin of error and the largest number was taken. The final sample size was 51 after using the correction formula and adding a 10% non-response rate.To study participants from the campuses was listed down with their total number of graduating students. The proportional allocation formula was used to allocate the number of student. Then the sampling frame was prepared for campus by having lists of students from the main registrar's office. Finally, the study subjects of each campus were selected using a simple random sampling technique.

## 3.6. Data Collection Instruments and procedure

Data will collect using a structured per-test self-administered questionnaire. The questionnaire contained 38 questions arranged into five sections; the first section contains six questions regarding the socio-demographic characteristics of the participants, the second section contains three questions regarding clinical related conditions of graduating students, the third section contains two behavioral related questions, the fourth section contains six personal related questions, and the fifth section con tains 21 questions regarding the depression, anxiety, and stress status of graduating students. Depression, anxiety, and stress was measured using the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21). The DASS-21 comprises 3 components: stress, anxiety, and depression, Each has 7 scales, and the final score of each part was obtained by summing the scores of the related questions, Each item scores from 0 (did not

apply to me at all) to 3 (applied to me very much). ‘26’ The reliability and validity of this questionnaire was investigated. Its test-retest re liabilities for depression, anxiety, and stress was reported as 0.80, 0.76, and 0.77, respectively. For examine the validity of this scale, the confirmatory factor analysis method and the main component technique was implemented. ‘27’ in the study, the scale’s face validity was examined by the psychology and research methods expert. A written guideline was given to the administrator of the questionnaire to assure that every graduate student receive the same directions and information was do ne data collection data collectors was followed the recommended precautions to prevent COVID-19

## 3.7. Data Processing and Analysis

Descriptive statistics like frequencies, percentages, mean and standard deviation, tables,and were used to present data. To assess the association between the different independent variables with the dependent variable, first, bi variable relationships between each independent variable and outcome variable was investigated using a binary logistic regression model. Those independent variables with a p-value < 0.2 at the bi variable level were included in multivariable analysis to control potential confounding factors. After adjusting their effect on the outcome variable, those variables with a p-value < 0.05 with a 95% confidence interval were regarded as factors significantly associated.

## 3.8. Data Quality Assurance

The pretest was also be used to estimate how much time it takes to administer the entire questionnaire. The tool was first developed in the English language and translated to the Amharic language with back translation to English for consistency.To ensure data quality, each data collector checked the questionnaire from each study participant for completeness daily. The supervisors and principal investigators review each questionnaire daily and checked for completeness.

## 3.9. Ethical Considerations

The current study was emphasized on depression, anxiety and stress among graduate class students, respondents were informed about the nature and purpose of the study and also the researcher has informed the participants that the findings of the present study will be confidential and used only for educational purpose.

# CHAPTER FOUR

# 4. RESULT

## 4.1. Socio-Demographic Characteristics of Graduating Class Students

A total of 51 graduate class students participated in this study, with a 96.6% response rate. More than half (56.9%) of the respondents were male. The mean age of the respondents was 24.70± 2.78 SD years and more than half (58.6%) of them fall in the age range of 20–24 years. Concerning their residence more than half (56.9%) of the respondents live in an urban area. relatively one fourth (29.4%) of the respondents were orthodox.

Table 1 Socio-Demographic Characteristics of Graduating Class Students in the of University wolkite, 2021

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Age | 20-24Years | 30 | 58.8% |
| | 25-29Years | 18 | 35.3% |
| | >29Years | 3 | 5.9% |
| Sex | Male | 29 | 56.9% |
| | Female | 22 | 43.1% |

| | | | |
|---|---|---|---|
| Residence | Rural | 22 | 43.1% |
| | Urban | 29 | 56.9% |
| Relgion | Ortodox | 15 | 29.4% |
| | Protestant | 12 | 23.6% |
| | Catholoic | 7 | 13.8% |
| | Muslium | 14 | 27.4% |
| | Others | 3 | 5.6% |

## 4.2. Behavioral and Clinical-Related Characteristics of Graduating Class Students

The majority (88.2%) and (90.1%) of the participants were not diagnosed with any chronic disease and had no family members/ relatives confirmed or suspected for COVID-19 respectively. Forty seven (92.1%) of the participants had no history of mental

disorders. More than three-fourths (80.3%) of the participants did not use a substance like chat, cigarette, and alcohol at least once in the last three months. More than two-thirds (68.7%) of the respondents perform any kind of sports activity including walking for at least 20 min per day.

Table 2 Behavioral and Clinical-Related Characteristics of Graduating Class Students in the University of WOLKITE 2021

| Variable | Catagory | Frequency | Percentage |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Are you diagnosed chronic disease | Yes<br>No | 6<br>45 | 11.8%<br>88.2% |
| Have you confirmed/suspected case in the family | Yes<br>No | 5<br>46 | 9.9%<br>90.1% |
| Did you have ahistory of mental disorders | Yes<br>No | 4<br>47 | 7.9%<br>92.1% |
| Are you substance user | Yes<br>No | 10<br>41 | 19.7%<br>80.3% |
| You perform physical exercise | Yes<br>No | 35<br>16 | 68.7%<br>31.3% |

## 4.3. Personal Characteristics of Graduating Class Students

Among the total 51 participants in the study, about 94.1% of the students had good knowledge about preventive measures of COVID-19. The majority of the participants (88.2%) in the study have apositive attitude towards the importance of the preventive measures of COVID-19. More than half (52.3%) of the participants in the study have practiced COVID-19 preventive measures. More than three-fifths (62.7%) of the participants worried about infecting family members. Forty three (84.3%) of the participants had no previous contact history with suspected or confirmed COVID-19 cases. Almost one-third (35.2%) of the participants had a family member aged greater than 60 years (Table 3 )

Table 3 Personal Characteristics of Graduating Class Student the University of wolkite, 2021

| Variable | Response | Frequency | Percentage |
|---|---|---|---|
| have you aknowledgy about covid-19 preventive measure | Yes<br>No | 48<br>3 | 94.1%<br>5.9% |
| Have you apostive attitude toward covid-19 preventive measures | Yes<br>No | 45<br>6 | 88.2%<br>11.8% |
| Are you practicing covid-19 preventive measures | Yes<br>No | 27<br>24 | 52.3%<br>47.7% |
| Are you fear of infecting family member | Yes<br>No | 32<br>19 | 62.7%<br>37.3% |
| Have you acontact history With Suspected | Yes<br>No | 8<br>43 | 15.7%<br>84.3% |
| Are you living with afamily aged > 60 years olde | Yes<br>No | 18<br>33 | 35.2%<br>64.8% |

## 4.4. Factors Associated with Stress

Factors Associated with Stress Variables like sex, residence, living with a family, the field of study, diagnosed with chronic disease, confirmed/suspected cases in the family, history of mental disorders, perform physical activity, attitude towards COVID-19 preventive measures, practicing COVID-19 preventive measures, fear of infecting family members, contact history with suspected or confirmed cases, and living with a person aged >60 years were found to be significantly associated with stress using bivariable logistic regression analysis. In multivariable logistic regression analysis, factors like residence, living with a family, perform physical exercise, practicing COVID-19 preventive measures, and contact history with suspected or confirmed cases were significantly associated with stress. Students who came from the rural residence were 56% times less likely to develop stress compared with students came from urban residence [AOR: 0.44; 95% CI (0.24, 0.80)]. Those study participants who lived alone were 75% times less likely to experience stress compared with students who lived with their family [AOR: 0.25; 95% CI (0.07, 0.85)]. Those students who did not perform physical activity were 2.2 times at a higher risk of developing stress compared with students who perform physical activity [AOR: 2.18; 95% CI (1.20, 3.96)]. Students who did not practice COVID-19 preventive measures appropriately were nearly two times at a higher risk of developing stress compared with their counterparts [AOR: 1.94; 95% CI (1.08, 3.50)]. Students who had a contact history with suspected or confirmed cases were nearly seven times at a higher risk of developing stress compared with those who had not a contact history [AOR: 6.55; 95% CI (3.18, 13.53)]

Table 4 Responses of Graduating Class Students to the Stress Scale at the University wolkite, 2021

| Statement | Response/frequency(percentage) | | | |
|---|---|---|---|---|
| | Did not apply to me at all | Applied to me tosome degree | Applied to me to aconsiderable degree | Applied tome very much |
| If found it hard to wind down | 9(17.6%) | 8(15.7%) | 16(31.3%) | 18(35.2%) |

| | | | | |
|---|---|---|---|---|
| I Itended to over react to situation | 10(19.6%) | 14(27.5% | 20(39.2%) | 7(13.7%) |
| I felt that I was using alot of nervous energy | 13(25.4%) | 16(31.3%) | 10(19.6%) | 12(23.5%) |
| I found my self getting agitated | 14(27.5%) | 9(17.6%) | 13(25.4%) | 15(29.4%) |
| I found it difficult to relax | 9(17.6%) | 11(21.6%) | 14(27.5%) | 17(33.3%) |
| I was intolerant of any thing that kept mefrom getting on with what Iwas doing | 18(35.2%) | 14(27.5%) | 11(25.6%) | 8(15.7%) |
| I felt that I was rather touch | 25(49%) | 14(27.5%) | 5(9.6%) | 7(13.7%) |

## 4.5. Factors Associated with Anxiety

Bivariable logistic regression analysis was carried out and the variables significantly associated with anxiety were; place of residence, the field of study, having a chronic disease, having a history of mental disorders, substance use, physical exercise, fear of infecting family members, confirmed/suspected cases in the family. Finally, multivariable logistic regression analysis was carried out to identify factors significantly associated with anxiety. The factors were the place of residence, substance use, physical exercise, and fear of infecting the family members. The odds of anxiety were 64% times less likely to occur among students who live in a rural area than in an urban area [AOR: 0.36; 95% CI (0.22, 0.61)]. Those students who did not use a substance like a cigarette, chat or alcohol were 73% times less likely to develop anxiety as compared to students who use substances in the last three months [AOR: 0.27; 95% CI (0.14– 0.54)]. Those students who did not perform physical exercise were two times more likely to develop anxiety as compared to their counterparts [AOR: 2.12; 95% CI (1.24–3.62)]. Students who did not worry about family members who could be infected were 49% times less likely to develop anxiety as compared to those who worried [AOR: 0.51; 95% CI (0.31–0.87)]

Table 5 Responses of Graduating Class Students to the Anxiety Scale at the University of wolkite, 202

| Statement | Response/frequency(percentage) | | | |
|---|---|---|---|---|
| | Did not apply to me at all | Applied to me to some degree | Applied to me to aconsiderable degree | Applied to me very much |
| I aware of the dryness of my mouth | 30(58.8%) | 10(19.6%) | 6(11.8%) | 5(9.8%) |
| I experienced breathing difficulty e.g breath lessness in the absence of physical exertion | 33(64.7%) | 9(17.6%) | 6(11.8%) | 3(5.9%) |
| I experienced trembling e.g in the hand | 32(62.8%) | 11(21.6%) | 5(9.8%) | 3(5.9%) |
| I was warried about situations in which I might panic and make afool of my self | 18(35.2%) | 15(29.4%) | 10(19.6%) | 8(15.7%) |
| I felt I was close to panic | 20(39.2%) | 11(21.6%) | 12(23.6%) | 7(13.7%) |
| I was aware of the action of my hert in the absence of physical exertion e.g sense of heart rate increase heart missing abeat | 23(45%) | 14(27.4%) | 9(17.6%) | 5(9.8%) |
| I felt scared without any good reason | 18(35.2%) | 11(21.6%) | 13(25.4%) | 9(17.6%) |

## 4.6. Factors Associated with Depression

In bivariable logistic regression analysis, the following variables were found to be significantly

associated with depression. Residence, living with family, the field of study, having a chronic disease, having suspected/ infected relatives with COVID-19, history of mental disorders, substance use, physical activity, and contact history. Residence, living with a family, the field of study, having suspected/infected relatives with COVID-19, and physical exercise were factors significantly associated with depression using multivariable logistic regression. Students who live in the rural area were 45% times less likely to develop depression compared with those living in urban areas [AOR: 0.55, 95% CI (0.33, 0.89)]. Those students staying with their families were nearly four times at a higher risk of developing depression compared with students staying alone [AOR: 4.06, 95% CI (1.54, 10.73)].

Graduating students who study in health science were 58% times less likely to develop depression compared to students who study non-health departments [AOR: 0.42, 95% CI (0.21, 0.84)]. Having suspected or infected cases in the family/relatives increase the risk of developing depression by nearly 3.5 times [AOR: 3.47, 95% CI (1.10, 10.95)]. Those students who did not perform physical exercise were nearly two times at higher risk of developing depression compared with those who perform physical exercise [AOR: 1.74; 95% CI (1.04, 2.93)] (Table 9).

Table 6 Responses of Graduating Class Students to the Depression Scale at the University of wolkite, 2021

| Statement | Response/frequency(percentage) | | | |
|---|---|---|---|---|
| | Did not apply to me at all | Applied to me to sime degree | Applied to me to aconsiderable degree | Applied to me very much |
| I could not seem to experience any postive feeling at all | 18(35.2%) | 15(29.4%) | 11(21.6%) | 7(13.7%) |
| I found it difficult to work up the initiative to do things | 14(27.4%) | 12(23.6%) | 14(27.4%) | 11(21.6%) |
| I fekt that I had no thing to look for | 16(31.3%) | 12(23.6%) | 10(19.6%) | 13(25.4%) |

| | | | | |
|---|---|---|---|---|
| ward to | | | | |
| I felt down hearted and blue | 18(35.2%) | 11(21.6%) | 11(21.6%) | 11(21.6%) |
| I was un able to become enthuseistic about any thing | 23(45%) | 13(25.4%) | 9(17.7%) | 6(11.8%) |
| I felt Iwas not worth much as aperson | 22(43.1%) | 13(25.4%) | 9(17.7%) | 7(13.7%) |
| I l felt that life was meaning | 22(43.1 | 10(19.6%) | 8(15.7%) | 11(21.6%) |

# CHAPTER FIFE

## 5.1. Discussion

After the first onset of the COVID-19 in china Wuhan city, it has had various effects on the Globe. The closure of universities due to the virus caused students to drop out of school. Especially it has a huge psychological impact on graduate class students. The current study revealed that 22.2%, 39.6%, and 40.2% of the respondents experienced stress, anxiety, and depression respectively in response to the COVID-19 pandemic. This result suggests that the coronavirus has a significant psychological impact on graduate class students who need mental health intervention.

The prevalence of stress among graduating class university students in the current study was 22.2%. This finding was lower than studies conducted in Bench-Sheko Zone, South-west

Ethiopia (32.5%), Dessie town, Ethiopia (48.5%), United States (71%), China (67.1%), Spain (28.1%), Canada (30%), and Malaysia (28.9%). The possible justification for the lower prevalence of stress in this study might be due to the difference in time of the study. Currently, students can get a variety of information regarding the virus than the information they obtained at the beginning of the pandemic.

Returning of the students to the university and start learning, the approval and administration of vaccines for COVID-19, and the increased number of patients who recovered from the disease than individuals who newly diagnosed and died might also contribute to the decrement of stress among students in the current study compared with the previous studies. The previous studies were conducted when students were at home and at the beginning of the pandemic which may result in a high prevalence of stress among students.

Table 7 biviriable and multiviriable logistic regression analysis of factors associated with stress among graduate class student in wolkite universty.

| Variable | | Stress | | Or with 95% cl | | P-value |
|---|---|---|---|---|---|---|
| | | Yes | No | Crude | Adjusted | |
| Sex | Femal<br>Male | 5<br>7 | 18<br>21 | 0.61(0.36,1.5) | 0.6(0.33,1.11) | 0.16 |
| Residence | Urban<br>Rural | 5<br>6 | 24<br>16 | 0.60(0.36,1.05) | 0.60(0.33,1.11) | 0.007 |
| Living with family | Yes | 11 | 33 | 3.18(1.10,9.21) | 0.25(0.07,0.85) | 0.026 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | No | 1 | 6 | | | |
| Chronic diseas | Yes<br>No | 2<br>9 | 3<br>37 | 2.83(1.41,5.69) | 1.79(0.79,4.06) | 0.162 |
| Confirmed case in family | Yes<br>No | 3<br>9 | 2<br>37 | 4.24(2.04,8.81) | 0.86(0.27,2.73) | 0.791 |
| History of mental disorder | Yes<br>No | 2<br>10 | 2<br>37 | 2.23(0.97,5.09) | 1.01(0.27,3.83) | 0.991 |
| Physical activity | Yes<br>No | 5<br>6 | 11<br>29 | 2.28(1.34,3.86) | .2.18(1.20,3.96) | .010 |
| Attitude | yes<br>No | 9<br>2 | 36<br>4 | 0.58(0.28,1.21) | 1.22(0.47,3.19) | 0.682 |
| Practice | Yes<br>No | 7<br>5 | 17<br>22 | 1.96(1.16,,3.31) | 1.94(1.08,3.50) | 0.027 |
| Fear of infecting family member | Yes<br>No | 8<br>3 | 24<br>16 | 1.48(.85,2.56) | 1.72(0.93,3.20) | 0.086 |
| Contact history | Yes<br>No | 4<br>7 | 4<br>36 | 5.36(2.81,10.02<br>) | 6.55(3.18,13.53)<br><0.001 | |
| Living with person>60 years | Yes<br>No | 6<br>5 | 12<br>28 | 2.35(1.39,3.97) | 1.64(0.91,2.98) | 0.102 |

The prevalence of anxiety in this study was 39.6%. This finding was higher than studies conducted in Bench-Sheko Zone, southwest Ethiopia; 27.7%, China 24.9%, Chinese university students; 15.43%, another study in China; 7.7%, and Spain; 21.34%. This discrepancy might be due to poor socioeconomic status in Ethiopia which determines the body defense mechanism of preventing coronavirus infection, in developing countries as compared to a developed country like China. Studies provide strong evidence that socioeconomic status impacts the development of mental illness directly, as well as indirectly through its association with adverse economic stressful conditions among lower-income groups. This might be also in China thehealth care system is well developed and advanced than Ethiopia so that anxiety due to fear of infection was higher in Ethiopia than in China. The prevalence of anxiety in this study was comparable with a study conducted in Italy; 34.4%, Canada; 35%, and 40.1% conducted in multicounty: Oman, Saudi Arabia, Jordan, Ira On the other hand, the prevalence of anxiety among graduating class students in this study was lower than studies conducted in Dessie town, Amhara region, Ethiopia; 71.8%, Addis Ababa Ethiopia; 51.6%, and Bangladesh 87.7%.

Table 8 biviriable and multy variable logistic regression analysis of factors associated with anxity among graduating class student in wolkite universty.

| Variable | | Anxity | | Or with 95% cl | | -Value |
|---|---|---|---|---|---|---|
| | | Yes | No | Crude | Adjusted | P-value |
| Sex | Femal<br>Male | 4<br>11 | 14<br>22 | 1.22(0.66-1.60) | 1.17(0.69-1.97) | 0.552 |
| residence | Urban<br>Rural | 9<br>11 | 20<br>11 | 0.44(0.27-0.68) | 0.36(0.22-0.61) | < 0.001 |
| living with family | Yes<br>No | 18<br>2 | 26<br>5 | 1.89(0.93-3.82) | 0.66(0.29-151) | 0.334 |
| Chronic diseas | Yes<br>No | 4<br>17 | 2<br>28 | 2.43(1.23-4.80) | 0.86(.35-2.50) | 0.753 |
| Confirmed cases | Yes | 3 | 2 | 3.63(1.71-7.73) | 1.59(0.52- | 0.921 |

| | | | | | | |
|---|---|---|---|---|---|---|
| in the family | No | 17 | 29 | | 4.88) | |
| history of mental disorder | Yes<br>No | 3<br>18 | 1<br>29 | 2.82(1.23-6.36) | .45(0.15-1.36) | 0.163 |
| substance use | Yes<br>No | 6<br>14 | 4<br>27 | 3.46(1.96-6.13) | 0.27(0.14-0.54) | < 0.001 |
| physical exercise | Yes<br>No | 8<br>12 | 8<br>23 | 1.77(1.11,2.82) | 2.12(1.24-3.62) | 0.006 |
| fear of infecting family member | Yes<br>No | 14<br>6 | 18<br>13 | 1.85(1.12-2.94) | 0.51(0.31-0.87) | 0.013 |
| contact history | Yes<br>No | 4<br>16 | 4<br>27 | 1.85(1.12-2.94) | 0.51(0.31-0.87) | 0.714 |
| living with person aged >60 Years | Yes<br>No | 8<br>12 | 10<br>21 | 1.40(0.89-2.21) | 0.79(0.47-1.33) | 0.382 |

The prevalence of depression in this study was 40.2%. This finding was higher than studies conducted in Italy; 27.8%, China, 12.2%, Spanish; 34.19%, and Canada 30%. This might be due to the difference in implementing preventive measures, getting access to preventive equipment, information technology, and health system.

According to the World Health Organization, developing countries like Africa could be severely affected by the virus, which leads to more frustration and depression in developing countries. However, this finding was lower than studies conducted in Bangladesh; 82.4%, China, 46.55%, and Dessie Ethiopia; 77.2%. The difference might be due to the difference in the study period. Even though the COVID-19 has been found active and lethal still, humans' fear has been declining over time. As soon as the COVID-19 virus detected there was a restriction in routine activities like lockdown and closing schools including universities and colleges and there was no hint about vaccines which leads humans to more frustration. On the other hand, the previous studies were done at a time when the students were out of school while this study is conducted after the students returned to the school.

Table 9 by variable and multy variable logistic regression analysis of factor associated with depression among graduate class student in wolkite universty.

| Variable | | Depression | | Or with 95% cl | | P-value |
|---|---|---|---|---|---|---|
| | | Yes | No | Crude | Adjusted | |
| Residance | Urban<br>Rural | 10<br>11 | 19<br>11 | 0.53(0.34,0.83) | 0.55(0.33,0.89) | 0.16 |
| Living with family | Yes<br>No | 19<br>1 | 25<br>6 | 4.53(1.78,9.57) | 4.06(1.54,1.73) | 0.005 |
| Chronic diseas | Yes<br>No | 4<br>17 | 2<br>28 | 2.67(1.35,5.31) | 1.04(0.43,2.54) | 0.928 |
| Suspected/infected relatives | Yes<br>No | 4<br>16 | 1<br>30 | 8.47(3.40,21.09) | 3.47(1.10,10.95) | .034 |
| History of mental disorder | Yes<br>No | 3<br>18 | 1<br>29 | 3.94(1.67,9.28) | 3.07(0.92,10.27) | 0.068 |
| Substance use | Yes<br>No | 5<br>16 | 5<br>25 | 1.51(0.85,2.61) | 0.99(0.50,1.96) | 0.978 |
| Physical exercise | Yes<br>No | 12<br>8 | 22<br>8 | 0.55(0.35,0.88) | 1.74((1.04,2.93) | 0.036 |
| Contact history | Yes<br>No | 5<br>16 | 3<br>7 | 2.55(1.39,4.66) | 1.59(0.69,3.68) | 0.280 |

Residence, living with a family, perform physical activity, practicing COVID-19 preventive measures, and contact history with suspected or confirmed cases were the factors significantly associated with stress. Students who came from rural residences were 56% times less likely to develop stress compared with students who came from the urban residence. This finding was supported by studies conducted in Dessie town Ethiopia and China. This might be due to the high prevalence of COVID-19 in urban residences than the rural. Students who live in an urban area may have a higher risk of developing stress than students who live in a rural part of the country as most positive cases were detected in the urban area. Moreover, repeated media exposure and obtaining daily information regarding the pandemic might also expose them to stress. Students who lived alone were 75% times less likely to experience stress compared with students who lived with their families. This finding was supported by a study conducted in the United States. This might be due to the pandemic increased the level of fear and worry about infecting their families. Students may be worried more if there are more vulnerable family members like older adults, with existing health problems, and pregnant mothers. They might also worry about their family members whose occupation increased their risk of exposure to the virus- like essential and health care workers which contribute to an increased level of stress.

Those students who did not perform physical exercise were 2.2 times at a higher risk of developing stress compared with students who perform physical exercise. This finding was supported by studies conducted in Turkey, the United Kingdom, and Brazil. This might be due to engaging in physical activity regularly is a healthy habit and a protective factor against diseases and harmful risk behaviors. Performing physical activity provides several benefits like improving self- esteem and body image, decreasing stress and nervous tension, improving motor balance, and favoring social relatedness.

Students who did not perform physical activity can not relate and socialize with their peers simply by belonging to a team or sports club which increases the risk of developing stress. Similarly, students who did not practice COVID-19 preventiv measures appropriately were nearly two times at a higher risk of developing stress compared with their counterparts. This finding was supported by a study conducted in Dessie town, Ethiopia. This might be due to preventive measures are key to reducing COVID-19 morbidity and mortality. As a result,

students who implement COVID-19 preventive measures like wearing a mask, hand washing, and physical distancing appropriately become more confident and less exposed to stress than students who did not implement it. Also, students who had a contact history with suspected or confirmed cases were nearly seven times at a higher risk of developing stress compared with those who had not a contact history. This finding was supported by a study conducted in Mexico. This might be due to fear of being infected with COVID-19 and what could happen can be overwhelming and cause strong emotions. Students who had contact with COVID-19 suspected and positive patients might worry about their health and develop stress.

Among the factors that affect the prevalence of anxiety in this study was the place of residence. Graduating students who came from the urban area had higher anxiety as compared to those students that came from the rural area. This finding was supported by studies conducted in Bangladesh and China. This smight be due to one of the transmissions of coronavirus from an infected person to an uninfected person is physical contact. So people living in the urban area are more condensed than the rural area and rural areas are more scattered than the urban area. Another factor significantly associated with the prevalence of anxiety in this study was performing physical exercise for at least 20 min per day. Those students who did not perform the physical exercise for at least 20 min per day were almost two times more likely to develop anxiety as compared to those who did perform physical exercise regularly. This finding was supported by a study conducted in Bangladesh. The possible reason might be due to regular exercise may help ease depression and anxiety by releasing feel-good endorphins, natural cannabis-like brain chemicals (endogenous cannabinoids), and other natural brain chemicals that can enhance the sense of well- being.

The graduating students who worried about family members who could be infected were more likely to develop anxiety in comparison with their counterparts. This finding was supported by studies conducted in Bench-Sheko Zone, South-west Ethiopia, and Guangzhou, China. This might be due to the greatest fear of students resulted from the possibility of infecting family members during the pandemic. Substance use like cigarettes, alcohol, or chat was one of the factors associated with anxiety in this study. The risk of developing anxiety was higher among substance users as compared to non-substance users. The possible reason might be due to some

substances may help to ease anxiety in the short-term, their effects are temporary, and the use of these substances can create a psychological or physiological dependence, which will cause or worsen other life problems and will ultimately exacerbate anxiety.

Residence, living with families, the field of study, suspected/infected relatives and physical exercise were factors significantly associated with depression. Students who came from rural areas were less likely to develop depression. This finding was supported by the study done in Bangladesh. This might be due to the difference in information and the implementation of preventive measures. As an example, in an urban area, there was a difficulty for implementing physical distancing due to the condensed population and get access to the daily reports of COVID-19 (death and new cases) which leads to the student's depression. Those students staying with family were four times at risk of developing depression compared with those students who stay alone. This finding was supported by a study conducted in Bangladesh. This might be due to the fear of infecting and losing their families. Students who engaged in health science-related studies had less risk of developing depression compared with students in other fields of studies. This might be due to the healthcare students could have been well- informed on what to expect as the pandemic progresses compared to the students of other fields of studies.

The odds of depression were nearly four times higher among students who have suspected or infected family members/relatives with COVID-19. This finding was supported by a study conducted in China. This might be due to the fear of losing the beloved one, family, and relatives by death due to COVID-19 or fear of getting an infection from the relatives and becoming ill. Those students who did not perform physical exercise were nearly two times at risk of developing depression compared with their counterparts. This finding was supported by the study conducted in Bangladesh. This might be due to the effect of physical exercise on psychological and physical health or spending time with physical exercise instead of only thinking about the severity and consequences of the outbreak.

The study did not include non-graduating class university students. The cross-sectional nature of the study makes it impossible to draw inferences about the direction of relations and it does not show cause and effect relationship among study variables. The study did not incorporate

objective measurements that may be prone to reporting bias since it was based on subjective responses.

## 5.2. Conclusion

More than one-fifth, more than one-third, and nearly two-fifths of graduating students had stress, anxiety, and depression in response to the COVID-19 pandemic respectively. Living in an urban area, living with a family, sedentary lifestyle, unable to practice COVID-19 preventive measures, and having a contact history with suspected/confirmed cases increases the risk of developing stress. Living in an urban area, substance use, sedentary lifestyle, and fear of infecting family members increase the risk of developing anxiety. Students who came from an urban area, live with a family, a study in non-health departments, had confirmed/suspected cases in the family, and did not perform physical exercise had a higher odds of developing depression. It is better to develop effective strategies and interventions, follow and order students, train students about self-protection, and establish a psychological crisis intervention team to minimize the psychological impact of the COVID-19 pandemic on graduating class students.

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# APPENDEX

WOLKITE UNIVERSITY

COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCE

DEPARTMENT OF PSYCHOLOGY

**Questionnaire to be filled by students**

The main purpose of this questionnaire is to ascertain the psychological impact of covid -19 pandemic on graduate class students at Wolkite University. All the information collected will be used only for academic or research purpose.it is only your kind cooperation and honesty that will make the study reliable and beneficial No need to write your name any were on the questionnaire. Since the success of this study depends on your response please read all the statement befor attempting to answer the Question and give only one answer to each item

**Part 1 background information**

1. General information Please use a tick mark (√) for your(s) personal Information.

1. Sex; Male ☐ Female ☐

2. Age; A. 20-24 ☐ B. 25-29 ☐ C. above 29 ☐

3. Residence A. Urban ☐ B.Rural ☐

6.RELIGION ; A.Ortodox ☐ B.Muslim ☐ C.Protestant ☐ D.Catholic ☐ E.Other ☐

Table 1 Behavioral and Clinical-Related Characteristics of Graduating Class Students in the University of wolkite 2021

| Variables | Category | |
|---|---|---|
| | Yes | No |
| Are You diagnosed with chronic disease | | |
| Have you confirmed/suspected case in the family | | |
| Did you have ahistory of mental disorder | | |
| Are you substance user | | |
| You Perform physical exercise | | |

Table 2 Personal Characteristics of Graduating Class Students at the University of wolkite, 2021

| Variable | Response | |
|---|---|---|
| have you knowledge about covid-19 preventive measur | Yes | |
| | No | |
| have you apostive attitude toward covid -19 preventive measurs | Yes | |
| | No | |
| Are you practicing covid-19 preventive measures | Yes | |
| | No | |
| Are you fear of infecting family members | Yes | |

| | | |
|---|---|---|
| | No | |
| Have you acontact history | Yes | |
| | No | |
| Are you living with afamily aged >60 years old | Yes | |
| | No | |

Please read all the statement and indicate how much you agree or disagree with the statement by putting atick in the approparate option and please use the flowing scale for table 4,table5$table 6,

| | |
|---|---|
| Did not apply to me at all | 0 |
| Applied to me to some degree | 1 |
| Applied to me to aconsiderable degree | 2 |
| Applied to me very much | 3 |

Table 4 Responses of Graduating Class Students to the Stress Scale at the University wolkite, 2021

| Statements | Response | | | |
|---|---|---|---|---|
| | 0 | 1 | 2 | 3 |
| I found it hard to wind down | | | | |
| I tended to over-react to situations | | | | |
| I felt that I was using a lot of nervous energy | | | | |
| I found myself getting agitated | | | | |
| I found it difficult to relax | | | | |
| I was intolerant of anything that kept me from getting on with what I was doing | | | | |
| I felt that I was rather touchy | | | | |

Table 5 Responses of Graduating Class Students to the Anxiety Scale at the University of wolkite, 2021

| Statements | Response | | | |
|---|---|---|---|---|
| | 0 | 1 | 2 | 3 |
| I was aware of the dryness of my mouth | | | | |
| I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion) | | | | |
| I experienced trembling (e.g. in the hands) | | | | |
| I was worried about situations in which I might panic and make a fool of myself | | | | |
| I felt I was close to panic | | | | |
| I was aware of the action of my heart in the absence of physical exertion (e.g.sense of heart rate increase, heart missing a beat) | | | | |
| I felt that life was meaningless | | | | |

Table 6 Responses of Graduating Class Students to the Depression Scale at the University of wolkite, 2021

| Statements | Response | | | |
|---|---|---|---|---|
| | 0 | 1 | 2 | 3 |
| I could not seem to experience any positive feeling at all | | | | |
| I found it difficult to work up the initiative to do things | | | | |
| I felt that I had nothing to look forward to | | | | |
| I felt down-hearted and blue | | | | |
| I was unable to become enthusiastic about anything | | | | |
| I felt I was not worth much as a person | | | | |
| I felt that life was meaningless | | | | |