

PREVALENCE OF ANXIETY, DEPRESSION, AND STRESS AMONG FINAL-YEAR STUDENTS ENROLLED IN MEDICAL PROFESSION AT GOMAL UNIVERSITY DERA ISMAIL KHAN

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Abstract

The present study explores the anxiety, depression and stress levels in final-year medical students of Gomal University, Dera Ismail Khan to have an understanding of the mental health issues affecting this category of students. The research design was a cross-sectional survey, whereby 272 students were used to gather data using Depression, Anxiety, and Stress Scale (DASS-21). The extent of psychological distress prevalence was evaluated with the help of descriptive statistics; the chi-square test was applied to investigate the relationship between mental health outcomes and demographic factors, including age, gender, and department. The results show that the most prevalent psychological problem was anxiety, which was reported by 39.0% of the students with moderate anxiety and 15.1% with severe anxiety. Thirty-one percent of the students reported depression, and most of them had mild symptoms. Stress was least recorded 82.7% students were recorded to be not stressed at all. The demographic variables did not have any significant relationships with the prevalence of anxiety, depression, or stress, indicating that the problems that medical students encounter are common among various groups of individuals. The findings can also indicate the need to use actionable mental health programs to address mental health issues among students in universities. This study reaffirms the significance of meeting the mental health requirements of medical students, specifically those in their fifth year, which are the most stressful because of the academic demands, clinical duties, and career-related challenges. The results a great source of information in establishing mental health programs/support systems that would effectively counter the effects of stress, anxiety, and depression to enhance the well-being of future medical practitioners.

INTRODUCTION

Mental illnesses (anxiety, depression, stress) are also becoming a major issue of concern in the world on the basis of public health. These are disorders that

influence the emotional and psychological health of people making them incapable of functioning in the normal lives. Students among others, especially those

in an intensive academic setup such as medical schools, are at a greater risk of developing mental health problems. This is of great concern to medical students especially since medical training comes with a lot of demands and pressures. The current research project focus on exploring the prevalence of anxiety, depression, and stress among final-year medical students at Gomal University, Dera Ismail Khan, and assess the effect of these symptoms of mental health on the academic achievements of the participants on their academic success and general well-being.

Mental illnesses are among the prevalent health problems around the globe. The World Health Organization (2022) states that depression, anxiety, and stress are considered to be some of the main causes of disability on the planet. These conditions do not only influence the quality of life of people but also have extended implications in as far as the productivity of society and stability of the economy. The effects of mental illnesses are especially severe in young adults whose future education and professional journey is at stake. Being under severe academic pressure, going through clinical training, and having to manage the personal life, medical students are especially susceptible to psychological distress.

Anxiety is an ordinary and, in many cases, disabling disorder that is defined by worrying, fearing, and nervousness. It is frequently associated with the physical symptoms of the higher heart rate, sweat, and breathlessness (Cackovic et al., 2024). Stress is a healthy response to anxiety that may turn into a problem when it disrupts the normal way of life. When applied to medical education, anxiety commonly occurs due to the demanding academic standards, clinical tasks, and professional ambiguity about the chance to advance in their career. Various studies have cited anxiety to be high in medical students across the world. The meta-analysis conducted by (Tian-Ci et al., 2019) has shown that the prevalence of symptoms related to anxiety is high in medical students (33.8 per cent). The anxiety levels of medical students are especially elevated as they enter the final years of their studies because at this point, they are expected to pass clinical rotations and get a specialty of their choice which enhances the stress levels among medical students.

Another typical mental health issue among medical students is depression, which is a state of constant sadness, the loss of enthusiasm about normal life activities, and the inability to focus (Otte et al., 2016). The workload and the expectations of the medical education makes it a substantial source of development of the depressive symptoms. Puthran et al. (2016) conducted a systematic review that showed that depression is present in large percentage of medical students (between 25 and 40 percent). Research has also reported high levels of depressive symptoms in Pakistan with 36.9 percent medical students in Pakistan indicating they had depression (Khan et al., 2021). Medical training combined with long hours of study and clinical work exerts a huge emotional and psychological burden on students making them susceptible to depression, which may affect their performance at school and their general health.

Stress is a mental and physical reaction to the external forces or pressures. This is a normal revelation in the life of medical students as a result of the toughness of their education and training. The shift between theory and practice, as well as the fact that a person now has to take direct care of patients, is frequently stressful (Dyrbye et al., 2019). Although stress is a common reaction to difficult circumstances, the cumulative or prolonged stress may cause burnout and other stress-related or mental health disorders e.g. anxiety and depression. In a meta-analysis, Rotenstein et al. (2016) established that medical students in the world are highly stressed and prevalence rates range between 28 and 78 percent. Moreover, stress may be aggravated by other issues like extended hours of study, the urge to perform, and not knowing the hope of finding a job. Mental health problems may be increased by stress experienced in the last year of medical school, full of clinical rotations and exams.

Academic and clinical climate of medical schools has a great impact on student mental health. Erschens et al. (2019) also note that medical education is stressful due to long durations of study, examination, and clinical placements, which leave medical students stressed, anxious, and depressed. Also, medical students encounter a competitive environment among peers, in which the academic pressure to achieve good grades and get a residency

position in a competitive specialty might cause burnout. Moreover, the process of becoming a physician instead of a student brings new difficulties, direct patient care tasks, research, and skill development, which can contribute to the psychological burden (Chang et al., 2020). It is further enhanced by the uncertain future particularly when students are nearing graduation.

Medical students are not an exception to this problem due to the COVID-19 pandemic, which has worsened mental health problems among students globally. Research carried out in the pandemic period has revealed that medical students were more anxious and depressed because of isolation, ambiguity of exams, and transition to online learning (Salah, 2024). The pandemic also has interrupted the normal learning conditions and given more pressure to students, who were already under the burden of both academic and clinical requirements. The absence of physical communication, health and safety concerns, and adaptation to virtual learning environments also led to an increase in the psychological distress (Liu et al., 2021). This research not directly focus on the effects of the pandemic, but it is essential to note that the psychological problems that medical students experienced have been brought to the fore during this time.

Social support has a significant role in alleviating stress, anxiety, and depression effects on medical students. It has been indicated that students who possess a robust social network (with supportive family and friends, as well as colleagues) are less likely to get psychologically distressed (Liu & Cao, 2022). Resilience, which is the capacity to adjust and recover after stress, is also a key determinant of coping with mental problems. Effective coping mechanisms and emotional support systems can be used to assist students to overcome the pressures of medical training and mitigate the adverse effects of stressors (Labrague, 2021). As such, medical schools need to create a conducive environment, which students are comfortable to seek help and access the available resources so that their mental health can be managed.

The current research would be used to evaluate the level of anxiety, depression, and stress in final-year medical students at Gomal University, Dera Ismail Khan. The research attempts to offer useful findings

on the certain stressor types that medical students are undergoing during their final year by analyzing their mental health struggles. The findings used to design specific mental health interventions and support programs that would be used to ensure students cope with psychological distress and foster well-being. To establish a more supportive and healthy academic experience among future healthcare professionals, the issue of the prevalence and effects of mental health problems in medical education has to be understood.

Literature review

It is well-known that medical students represent one of the most vulnerable groups of people who are affected by mental illnesses, including depression, anxiety, and stress. Medical education that is demanding with its highly academic program, long clinical training hours, and high standards also adds to the prevalence of these conditions. This part is a literature review on the occurrence of depression, anxiety and stress amongst medical students, and in this particular case, the studies that are going to be reviewed are based in South Asia and Pakistan.

Mental Health Disorder Prevalence in Medical Students.

Mental health disorders have been predominant among medical students and this has been widely researched globally. Mata et al. (2015) performed a meta-analysis and systematic review to uncover the rate of depression in resident physicians. In their research, they discovered that depression is universal in medical training and the rates are higher as compared to the general population. In the same way, Vidyasagan et al. (2023) revealed that mental illnesses are common in South Asia especially among university students. Their systematic review indicated that, the level of anxiety and depression among South Asian university students, and among the medical student sub-populations, is larger than the level of the same among other student populations. The situation is also worrying in Pakistan. A systematic review and meta-analysis study by Khan et al. (2021) emphasized that the presence of depressive symptoms is a major burden among university students, as 42.66% of students were found to be depressed. The prevalence among the medical

students was also rather low at 36.9% but still very high. These results coincide with the other studies in the area where it was identified that medical students were highly susceptible to mental health problems. The study by Azim and Baig (2019) was conducted in a private medical institute in Karachi, when 71 percent of participants (medical students) were found to be depressed, 72 percent were anxious, and 35 percent were stressed. Such elevated levels of mental distress are indicative of huge mental health pressure on medical students because of intensive academic and clinical load that they have to bear.

Contributing Factors to Mental Health Problems.

Various aspects explain why depression, stress, and anxiety are very common among medical students. The academic demands are one of the key factors, including the number of hours of study, the number of the exams, and the number of clinical rotations. These educational stress factors are usually accompanied with the fear of failure, and this again worsens the anxiety and depression. Competitiveness of medical education is also a contributive factor. Students are always checking their performance with their peers and this might make them feel inadequate and stressed. Asif et al. (2020) emphasized the significance of such factors and pointed to the idea that medical students usually have difficulties with working on academic tasks and personal life, which poses a serious mental health issue. Besides, there are other stressors associated with the transition process of the classroom into the clinical settings. Students need to adjust to patient care duties which is stressing emotionally and psychologically. Raza et al. (2023) established that Sargodha medical college medical and allied health science students experienced a high amount of anxiety and stress, which were caused, in part, by their clinical training and the expectations that both the faculty and patients imposed on them. These results coincide with other articles, which posit that clinical rotations are most stressful to medical students and led to increased rates of mental health issues (Chang et al., 2020).

Effects of COVID-19 Pandemic on Medical Students Mental Health.

Medical students have been severely affected by the COVID-19 pandemic on their mental health. The swift switch to online education, the ambiguity of exams, the social isolation of lockdowns has added to the anxiety and depression of students. Imran et al. (2021) carried out research concerning the mental health of medical students in Pakistan during COVID-19 and discovered that 48.6% of participants felt anxiety and 48.1% felt depressed. These results are indicative of the general tendency in the entire world, where the pandemic considerably contributed to the worsening of mental health problems among medical students. Clinical training was another source of significant stress among medical students and was also affected by the pandemic. The article by Ashraf et al. (2020) revealed that the transition to online learning in the middle of the pandemic caused a rise in isolation and confusion among medical students, which further worsened their mental health problems. The absence of face-to-face communication with peers and faculty, the difficulty of adapting to online learning systems added a new degree of stress to the students.

Anxiety, Depression and Stress among Pakistani Medical Students.

The performance of medical students in terms of anxiety, depression, and stress has always been high in Pakistan, according to studies conducted on the mental health of medical students in Pakistan. Jadoon et al. (2010) used cross-sectional research on cross-sectional medical students in Peshawar and discovered that anxiety and depression were quite common and 47 per cent medical students actually reported high anxiety levels and 52 per cent showed signs of depressions. Likewise, 42 percent of medical students in Karachi reported symptoms of depression and a significant number of medical students reported being anxious and stressed (Khan et al., 2023). These results demonstrate the epidemiology of mental health problems among Pakistani medical students. Several factors, which include the heavy academic workload, long hours of clinical training, and high degree of competition in medical schools, have been cited as some of the factors that have led to the high prevalence of mental health issues among

medical students in Pakistan. Also, these problems are aggravated by the insufficiency of the mental health supporting systems in medical schools. Marwat (2013) have discovered that medical students in Peshawar were highly affected by depression because of the stress to achieve academic performance and the insufficient access to psychological support resources. Mental health stigma in Pakistan is yet another common phenomenon that does not allow many students to seek help and thus it contributes to the prevalence of mental health problems.

Coping Systems and Support Systems.

Various researches have reiterated on the significance of social support and positive coping mechanisms to deal with stress, anxiety and depression in medical students. Labrague (2021) emphasized how good social networks and availability of emotional support in students contribute to reduced severe mental health problems. The support groups, counseling services, and faculty mentorship can be much more significant in assisting the students to cope with the difficulties of the medical training. It is also possible to reduce the negative impact of academic stress through the presence of proper coping strategies, including time management and relaxation skills (Liu & Cao, 2022). Pakistan, however, is not supported institutionally in the field of mental health and most students do not want to seek help because of the stigma. This further increases the importance of medical schools to incorporate mental health support systems, including counseling, stress management workshops and peer support groups. Raza et al. (2023) stressed that universities should include mental health assistance in their programs and offer students materials to resist the strain of the medical education.

Methodology

This research study seeks to determine the prevalence of anxiety, depression, and stress among final year medical students in Gomal University, Dera Ismail Khan. Cross sectional survey design is used to gather the data of 272 students who are undergoing the final year of their medical program. The sample size consists of final-year students of

Gomal University, Dera Ismail Khan. The number of participants is 272 with the valid response rate of 100. The sample consists of male (59.6) and the female (40.4) students of other departments related to medicine, such as Department of Allied Health (AT, DPT, DT, DVM, ECT, MIT, MLT, Pharmacy, and ST). The participants are aged between 20 and 38 years, and the mean age of the participants is 24.18 years (SD = 2.19). A structured questionnaire is used to collect data and the questionnaire has standardized measures of anxiety, depression and stress. The scale used in the survey is the Depression Anxiety and Stress Scale (DASS-21) which is an effective instrument in the measurement of psychological distress. The survey have 21 questions, which related to the three areas, namely, anxiety, depression, and stress. All items are rated on a 4-point Likert scale, where one end has not at all and the other extreme is extremely. The sample is chosen through simple random sampling and the collection of data is done during the academic year. The respondents are subjected to the questionnaire under supervision to prevent inconsistency in the responses.

All variables, such as frequencies, percentages, mean, and standard deviations, are performed as descriptive statistics. The frequency of anxiety, depression and stress determined by the score of the participants that respond to DASS-21. The chi-square test would be used to test the relationship between the prevalence of psychological distress and demographic variables (age, gender, department, and year of study). There is also the Pearson chi-square test which is to establish whether the prevalence of anxiety, depression and stress among various groups differs significantly. The level of statistical significance is $p < 0.05$. This research is ethical to guarantee the confidentiality of all students and their voluntary participation. Each participant is informed of and gives informed consent to the research and they are assured that their answers remain anonymous and not used in any other way. The relevant committee in Gomal University grants ethical approval on the study. The study has a limitation since it is a cross-sectional study that limits making a causation inference. Also, self-report data can be biased by the respondent. These limitations notwithstanding, the results offer great insights into

the mental health issues of final-year medical students in Gomal University and aid in the creation of specific mental health interventions in this group.

Data analysis

IBM SPSS Statistics version 26 is used to analyze the data obtained using final-year medical students of Gomal University. Descriptive statistics, frequency distributions and chi-square tests are used in the analysis to determine the frequency of anxiety, depression, and stress among the participants. The findings are discerned against the demographic variables (age, gender, department, and study year).

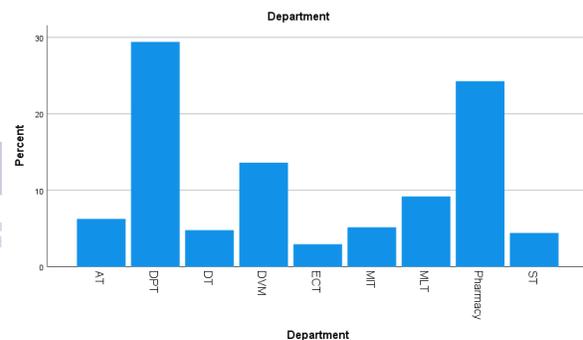
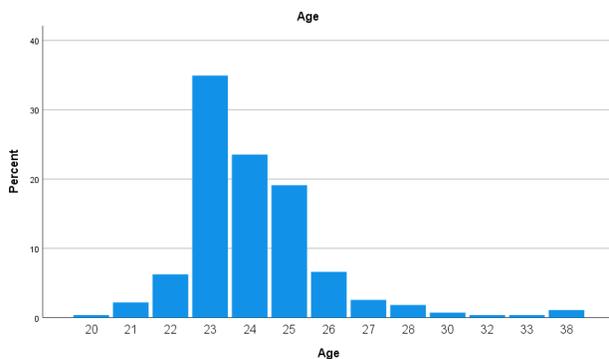
The statistical tests that were undertaken are broken down in detail below and the SPSS output tables and interpretation are provided.

1. Descriptive Statistics

Age and the total scores of the items of anxiety, depression, and stress of the participants are computed to get descriptive statistics. This encompasses the mean, standard deviation and the range which give an overview of the overall feature of the sample and the level of psychological distress.

Table 1: Descriptive Statistics Age.

N	Minimum	Maximum	Mean	Std. Deviation
272	20	38	24.18	2.187



The sample consists of 272 participants, and they are aged between 20 and 38 years. The sample size of the respondents is 24.18 years, with a standard deviation of 2.187, which shows that the majority of the students are aged between their early and mid-twenties. Such a distribution of the age is characteristic of final-year medical students.

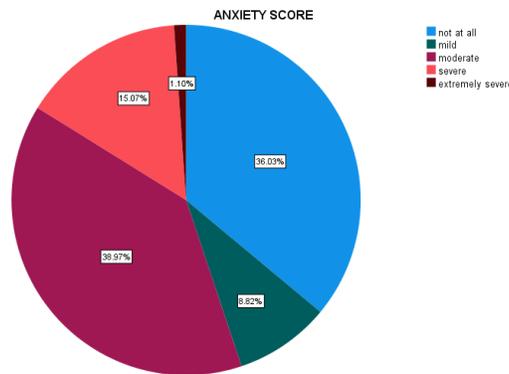
2. Anxiety, Depression and Stress Prevalence.

The stress, depression, and anxiety are measured by their respective scores of the Depression, Anxiety, and Stress Scale (DASS-21). The answers to each item are in five categories, namely, not at all, mild, moderate, severe and extremely severe. The prevalence rates of the anxiety, depression, and stress are calculated with the help of frequency distributions.

Table 2: Anxiety Scores Prevalence.

Anxiety Score	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	98	36.0%	36.0%	36.0%
Mild	24	8.8%	8.8%	44.9%
Moderate	106	39.0%	39.0%	83.8%
Severe	41	15.1%	15.1%	98.9%

Extremely Severe	3	1.1%	1.1%	100.0%
Total	272	100.0%	100.0%	

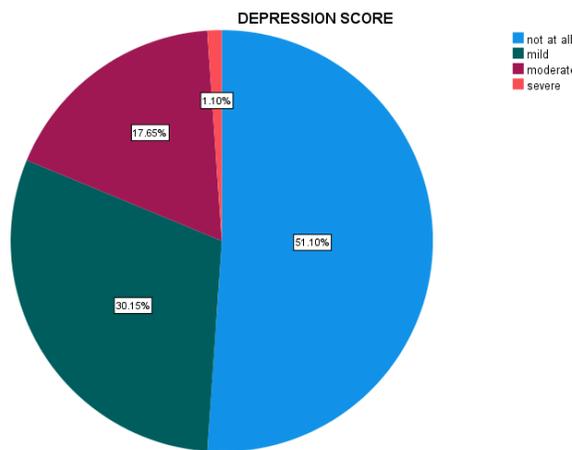


Most of the respondents (39.0% severe anxiety) have moderate anxiety (39.0%). A large percentage (36.0) of students indicate that they have no anxiety, and a low percentage (1.1) indicates extremely high anxiety.

The results of these findings indicate that anxiety is widespread to a non-excessive level among the final-year medical students.

Table 3: The prevalence of Depression Scores.

Depression Score	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	139	51.1%	51.1%	51.1%
Mild	82	30.1%	30.1%	81.3%
Moderate	48	17.6%	17.6%	98.9%
Severe	3	1.1%	1.1%	100.0%
Total	272	100.0%	100.0%	

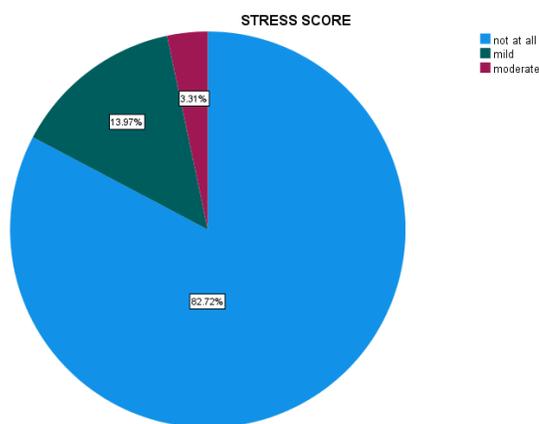


More than half (51.1%) of study participants do not report any depressive symptoms. The moderate and mild depression is reported by significant proportions (30.1 and 17.6 respectively). Major

depression is severe in only 1.1%. These findings indicate that the students have depression but are not severe with a majority of them being mild to moderate.

Table 4: Stress Scores Prevalence.

Stress Score	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	225	82.7%	82.7%	82.7%
Mild	38	14.0%	14.0%	96.7%
Moderate	9	3.3%	3.3%	100.0%
Total	272	100.0%	100.0%	



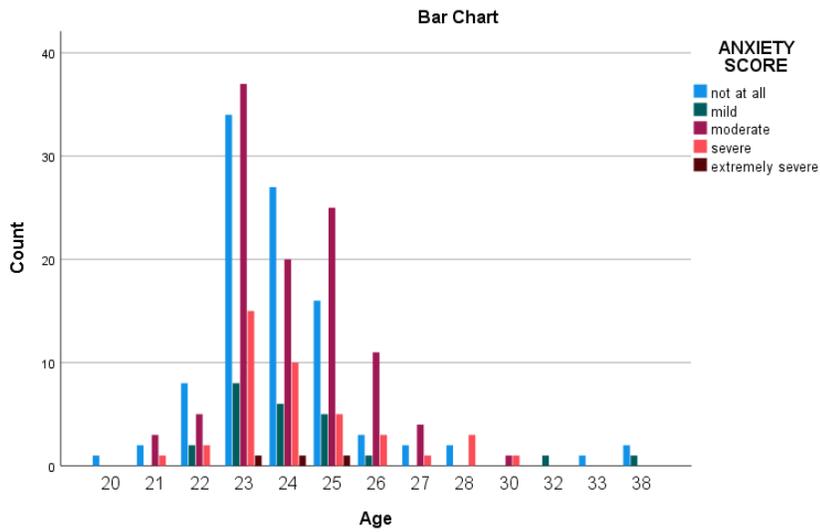
Many of the students (82.7) are stress free, others (14.0) have mild stress and only 3.3% have moderate stress. This means that the level of stress is present, but not extensive and serious as anxiety and depression among the students.

3. Chi-Square Tests

In order to identify the correlation between demographic factors (age, gender, department, study year) and psychological distress (anxiety, depression, and stress), chi-square tests are conducted.

Table 5: Chi-Square Test of Age in Anxiety Score.

Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	43.114	0.673
Likelihood Ratio	40.452	0.772
Linear-by-Linear Association	0.002	0.965

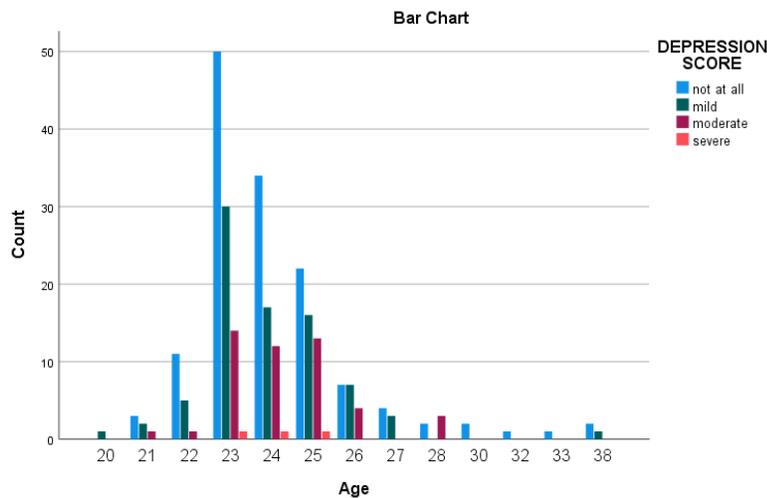


No significant correlation has been found in the chi-square test between the age and the anxiety ($p = 0.673$) which means that the prevalence of anxiety is

not significantly dependent on the age of the final-year students in Gomal University.

Table 6: Chi-Square test of Depression Score according to Gender.

Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.754	0.815
Likelihood Ratio	20.369	0.676
Linear-by-Linear Association	2.247	0.134

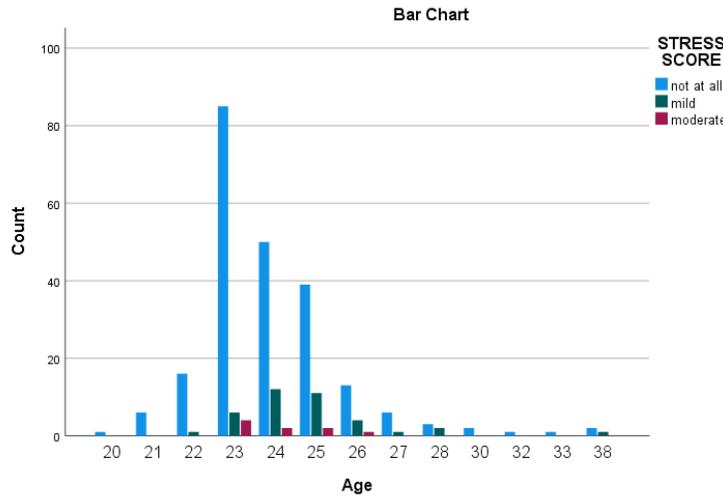


Also, the chi-square test of gender and depression indicates there is no significant relationship ($p = 0.815$) indicating that there is no significant role

played by gender in the prevalence of depression among the students.

Table 7: Stress Score by Department Chi-Square Test.

Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.747	0.958
Likelihood Ratio	26.480	0.877
Linear-by-Linear Association	0.009	0.925



Stress by department chi square test reveals no significant stress by department ($p = 0.958$), which means that the level of stress does not have a significant correlation with the department that the students are taken.

The findings of the present analysis indicate that the problem of anxiety, depression, and stress is common among final-year medical students of Gomal University, with the former referred to in the highest rate. Even though the chi-square tests do not find significant relationships between the demographic factors and psychological distress, the descriptive statistics give useful information about the overall mental health of this group of students. These results highlight the importance of specific mental health services and support of medical students to assist them in coping with these issues and foster wellbeing.

Discussion of findings

The current research evaluated anxiety, depression and stress levels among final year medical students in Gomal University, Dera Ismail Khan. The results offer valuable information on psychological issues of medical students, which is also in line with literature on the psychological distress that is common in this

segment of the population across the world. In this section, the results are discussed within the framework of the existing research, possible contributory factors are discussed, and the implications to future interventions are suggested.

The researchers discovered that anxiety was the most prevalent mental health problem among final-year medical students with 39.0% reporting about moderate anxiety and 15.1% reporting about severe anxiety. A low percentage (1.1) of students had extreme severe anxiety but only 36.0% said they had none at all. These results are in agreement with other researches that have emphasized the issue of anxiety as a widespread occurrence among medical students all over the globe. Indicatively, a meta-analysis study by Tian-Ci et al. (2019) established that around 33.8% of medical students experienced the symptoms of anxiety, an outcome consistent with our results. The excessive anxiety among medical students can be explained by the academic stress and the competition among classmates, as well as the uncertainty related to their future profession when students enter their final academic year (Dyrbye et al., 2019). The final-year shift to clinical practice triggers its own original stressors, including direct patient care, which can be one of the reasons behind

the increasing level of anxiety (Slavin, 2018). Moreover, the stress of doing well in clinical rotations and getting the specialty further increases stress and is probably what makes anxiety worse (Chang et al., 2020).

A large percentage (30.1 and 17.6) of students also reported depression, although a small number of students (30.1 and 17.6) reported depression moderately and severely respectively. Nevertheless, most of the students (51.1) denied any depressive symptoms. These results are in agreement with the current research on depression in medical students, where a study conducted in Pakistan reveals that the prevalence of depression is approximately 36.9% among medical students (Khan et al., 2021). On the same note, research conducted globally shows that depression poses a very serious problem in medical education and that prevalence levels fall between 25 and 40 percent (Puthran et al., 2016). The cases of mild to moderate levels of depression identified in this study can be explained due to various factors such as the challenging academic task, the time spent working in various clinical training, and the problem of studying and personal life. The sense of academic failure or the fear of failing to live to high expectations may cause the feeling of inadequacy which is part of the depressive symptoms (Dyrbye et al., 2019). Besides, these problems are exacerbated by the emotional burnout associated with clinical rotations and the inadequacy of the mental health support systems (Erschens et al., 2019).

The most common psychological problem in the study is stress as 82.7% of students said they were not stressed, 14.0% were stressed mildly and 3.3% were stressed moderately. These results indicate that whereas stress is very common, it is usually moderate to mild in intensity with minimal cases of students having extreme degrees of stress. It is in line with other research publications, which reveal different rates of stress among medical students in different nations (Rotenstein et al., 2016). To illustrate, other countries, such as Pakistan, have reported the suggested stress levels in medical students between 28% and 78% (Wang & Ji, 2021; Liu et al., 2021). The low rate of extreme level of stress in this research could be explained by the coping mechanisms that were adopted by the students or the support mechanisms that were offered by the university.

Nevertheless, even moderate to low stress levels may have considerable effects on the performance of students both academically and overall well-being. Probably, the stress-inducing factors of the medical student population are the high academic standards, clinical workload, and the lack of understanding of their future career opportunities (Hill et al., 2018).

The chi-square tests in the study did not show significant relationships between the demographic variables (age, gender, department and study year) and psychological distress. This implies that age, gender, and department might not have a significant effect in the psychological well-being of medical students in Gomal University. This result is contrary to some earlier studies that found that gender differences exist in the incidence of mental health problems, with female students tending to have more anxiety and depression (Puthran et al., 2016). The insignificance of the associations in this research might however be attributable to the circumstances in Gomal University or the constraint of the sample size. Curiously enough, even though there were no significant correlations, the descriptive statistics indicate that tendency in which a greater percentage of female students reported having mild-anxiety and depression than their male counterparts. These tendencies should be subject to further studies, which could imply that gender-specific interventions might be required in mental health support programs of medical students in the future.

The COVID-19 pandemic has intensified mental health problems on university students across the globe, and the medical students are not an exception. The past literature has discovered that the pandemic had a tremendous impact on the level of anxiety and depression among medical students, especially related to isolation, exam doubts, and transitioning to online studies (Imran et al., 2021). Though the present research does not specifically deal with the effects of COVID-19, it should be mentioned that the residual effects of the pandemic may be one of the factors that led to high rates of anxiety and depression among the participants.

Mental Health Interventions Implications.

The results of the study emphasize the dire necessity of mental health intervention that considers the needs of medical students. Although a substantial

number of students do complain of some degree of psychological distress, most of the participants indicate moderate values of anxiety and depression as opposed to extreme distress. This underscores the significance of active mental health measures that aim at stress management, coping and resilience building. Universities need to establish all-encompassing mental health programs to encompass counseling programs, peer support groups, and workshops that help de-pressurize academic stresses (Erschens et al., 2019). Also, it is important to make the academic environment more accommodating and enable the students to ask the help of others without the fear of being stigmatized. Administrators and faculty should also be trained to identify the symptoms of mental health distress and be able to provide the necessary assistance. The creation of the system that encourage work-life balance and offer the tools that will help students cope with stress and anxiety will not only result in the improvement of their well-being but also their academic performance and future career success. The anxiety, depression, and stress rates among final-year medical students of Gomal University are aligned with the worldwide rates of medical education. The most prevalent mental health problem was anxiety, with depression and stress coming second and third. Though the role of demographic aspects did not have a significant effect on mental health outcomes, the results underscore the need to intervene with the psychological distress of medical students to alleviate the condition. Universities and medical schools should put more emphasis on mental health and equip students with the means to successfully overcome the medical education obstacles.

Conclusion

This was done to determine the prevalence of anxiety, depression, and stress among final-year medical students at Gomal University, Dera Ismail Khan. The results emphasize that anxiety is the most common mental health problem, which is then followed by depression and stress. Of the respondents, 39.0% said that they were moderate and 15.1% that they were severe and that the bulk (51.1) of them was not depressed. The stress levels were also lower, as 82.7 percent of students affirm that they did not experience any stress but, in some

cases, there was mild to moderate stress. The research also determined that there were some levels of anxiety, depression, and stress, but these were not so excessive to the majority of the students. The findings indicate that final-year medical students go through high psychological distress, but it is commonly of mild to moderate severity. This is in line with parallel studies conducted in other parts of the world who report high cases of distress among the medical students especially when approaching graduation years where they are uncertain of their future career, academic achievements and professional clinical demands, contributing more to their mental load.

Surprisingly, the prevalence of anxiety, depression, or stress did not have any significant association with demographic factors, including age, gender, or department. It implies that these might not be significant causes of psychological distress that are witnessed among this population. It implies that the issues encountered by students who are in medical learning like excessive academic load, competition among peers and the entry into the clinical practice, are common among diverse groups of students irrespective of their personal or academic context.

The medical students in the last-year-group of this study were highly stressed because of their clinical placements, direct patient care and the uncertainties of their future careers that awaited them. The competitive environment and the demands to excel in studies and get a good specialty usually increase these stressors. Clinical years can be very anxiety-inducing and stressful as a new responsibility and challenges arise.

As the rates of anxiety and depression are high, it is essential to point out that universities need effective mental health interventions to be implemented focusing on medical students. The strategies are to strive to deal with stress, foster resilience, and offer sufficient emotional support. It will be necessary to set up counseling facilities, peer support groups and workshops that will help students cope with the academic and clinical stress that is likely to come along with the academic and clinical pressures. Also, it is crucial to create the atmosphere in which students are not afraid of asking help without feeling stigmatized to support their well-being. Finally, the research presents some useful information on the

psychological issues that end-of-year medical students enrolled at Gomal University experience. The results indicate the necessity of the specific interventions aimed at helping students to maintain their mental state so that the future healthcare workers would be able to cope with stress and preserve their health concurrently.

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