Original Article

Depression, Anxiety and Stress among Undergraduate Students of Shah Abdul Latif University, Khairpur

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ABSTRACT

Higher rates of stress, anxiety, and depression are seen among university students. **Objective:** To find out the prevalence of stress, anxiety, and depression among undergraduate students. **Methods:** This was a cross-sectional survey study. The study was conducted among undergraduate students of Shah Abdul Latif University, Khairpur. The Depression Anxiety Stress Scale (DASS-21) was distributed to undergraduates in their first through last year of university. 132 students completed the DASS survey. We used Fisher's exact tests to compare the variations between the student groupings. **Results:** There were 132 students in all, and their mean age was 20.75 ± 2.1 years. The participants were categorized into two age groups: the first age group consisting of those aged 17-19 years, accounting for 63 (47.7%), and the second age group including individuals aged 20-22 years, representing 69 (52.3%). The male students were represented by 75 (56.8%), while the female students were represented by 57 (43.2%). Over 82 (62.1%) of students had a poor socioeconomic status. **Conclusions:** Female students were found with high frequency of depression, stress and anxiety.

INTRODUCTION

Major depressive disorder is most common mental disorders, and the university years are a risk period for the development of these disorders [1]. Depression affects 350 million individuals every year [2]. Young people experience stress and despair since they are going through a phase of identity development shift [3]. Academic, social, sexual, emotional, and behavioral issues are among the many that they face [4]. Mental health issues that manifest during college are linked to significant psychosocial functioning impairment and lower academic attainment; due to their efforts in managing the intellectual and interpersonal requirements in anticipation of their future occupations [5, 6]. Many research theories state that university students are more susceptible to depression because they have additional responsibilities, like pressure to continue their education, changes in housing and lifestyle, pressure from the economy or their jobs, etc [7]. Preparing for life after college involves more than simply meeting academic and social obligations; it also requires adjusting to a number of psychological adjustments [6]. Depression and stress are

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more common among young individuals since they are still developing their sense of self [3]. Conflicts of all kinds emotional, behavioral, sexual, economic, academic, and social affect the majority of these students [4]. Student depression is caused by homesickness, academic demands, and aspirations for a better and more secure future [8]. Students at universities who are loaded by observed mental stress may see a decline in their physical and mental well-being as well as their academic performance [9]. Stress can make it more difficult for pupils to focus, make decisions, solve problems and generally enjoy learning [10]. Students who experience high amounts of stress are more likely to engage in bad eating habits, which raises their risk of metabolic syndrome and other cardiovascular problems in the future [11, 12]. Stress can also have an impact on relationships with others and one's mental state. It can also make students more susceptible to anxiety disorders, despair, and even suicide [13, 14]. Depression is a major mental health issue that may have a significant impact on students' lives, according to the current research. The incidence of depression in boys and females are about equal before puberty, but almost treble in females after puberty hits. Students' social, vocational, and interpersonal functioning is negatively impacted by depression due to its severe impacts; In addition, students who experience depression often struggle with many academic issues, including difficulty focusing and a general lack of enthusiasm for their studies [15]. On top of that, they deal with emotional issues including insecurities, irritability, sleep disturbances, and unpredictable analytical abilities [16]. Depression among students may be caused by a number of things. Depression among students may be triggered by increased academic pressure, changes in family dynamics, and social life adjustments [16]. A similar correlation exists between the study of certain classes and emotional distress [17]. One of the most common mental health issues today is depression, which has its roots in the increasing complexity of contemporary life brought about by factors such as westernization, modernization, and the prevalence of modern communication and technological tools [2]. The frequency of depression among students is influenced by socio-economic variables. For example, research shows that students from lower socioeconomic classes are more likely to suffer from depression due to their financial fragility [18]. To the best of our knowledge, not much is known regarding the prevalence of stress, anxiety, and depression among the undergraduate students of Shah Abdul Latif University, Khairpur. This study's goal was to evaluate these undergraduate students' degrees of stress, anxiety, and depression. As a result, this knowledge may be useful in developing a future mental health management program that targets their primary risk factors and provides them with the tools they need to successfully manage stress, anxiety, and depression while attending college.

METHODS

This research was conducted using a cross-sectional survey design. The research was carried out at Shah Abdul Latif University, a government-funded institution located in the city of Khairpur. The study conducted from 10-02-2024 to 10-03-2024. The university provides interdisciplinary programs including natural sciences, social sciences, and physical science studies. The assessment of mental health state was conducted using the Depression Anxiety Stress Scales (DASS) in a cross-sectional survey. All undergraduate students included and M.Phil and Ph.D students excluded. Ethical approval was obtained from institutional board of advance research at Shah Abdul Latif University, Khairpur (Reference No: RB-C620, Date: 08/02/2024). In order to quantify stress, anxiety, and depression, the DASS-21 is used [19]. The following measurements were made of this scale's validity and reliability among students [20]. The DASS-21 scale's dependability was assessed using a range of 0.81 to 0.97. Score 34 or above for extremely severe, score 26 to 33 for moderate, score 19 to 25 moderate, score 15 to 18 for mild, and score 0 to 14 for normal are the categories for the DASS-21 subscale for stress. For normal score 0 to 7, for mild score from 8 to 9, for moderate score from 10 to 14, for severe score 15–19, and for very severe score 20 and above are the different categories for anxiety levels. Respondents' degrees of depression are divided into four categories: for mild score from 10 to 13, for moderate score from 14 to 20, for severe score from 21 to 27, and for very severe score from 28 or above. The DASS-21 is the scale utilized in this study since it is valid and trustworthy, and past research has shown that it is superior to and more consistent than the full-scale DASS-42 [20]. The total number of students at Department of Pharmacy, Zoology and Microbiology in year 2019 to 2023 was 428 (240 females and 188 males). They were given the self-assessment forms during and after class. It took around fifteen minutes to fill out the form. The participation percentage was 88%, with 132 completed surveys returned out of 150 that were sent. An online sample size calculator was used to determine the sample size. Data were entered and analyzed on SPSS version 26.0 and Excel 365. Age, stress, anxiety, and depression scores (means and standard deviations), and qualitative variables (number and percentage) were used to summarize the data. Group comparisons for qualitative variables were conducted using Fisher's exact test. A p-value of less than 0.05 was considered statistically significant.

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R E S U L T S

There were 132 students in all, and their mean age was 20.75 ± 2.1 years. The participants were categorized into two age groups: the first age group consisting of those aged 17-19 years, accounting for 63 (47.7%), and the second age group including individuals aged 20-22 years, representing (69) 52.3%. Of the total number of students, 75 (56.8%) were male, and 57 (43.2%) were female. More than 82 (62.1%) of pupils were from low-income families (Table 1).

Table 1: Sociodemographic Characteristics of the Students

Characteristics	N (%)
Age Groups (Years)	
17 – 19	63 (47.7%)
20 – 22	69 (52.3%)
Gender	
Female	57 (43.2%)
Male	75 (56.8%)
Marital Status	
Married	12 (9.1%)
Single	120 (90.9%)
Socioeconomic Standard	
Middle Income	50 (37.9%)
Low Income	82 (62.1%)
Academic Years	
1st Year	44 (33.3%)
2nd Year	35 (26.5%)
3rd Year	17 (12.9%)
4th Year	20 (15.2%)
5th Year	16 (12.1%)

Table 2 reveals that over 78 (59.1%) of study participants experienced anxiety, with females having a higher prevalence than men (p-value ≤ 0.05). The prevalence of depression among students was near 102 (77.3%) with increasing prevalence in females 48 (84.2%) than males 54 (72%), (p-value ≤ 0.05). Stress was detected in 20 (15.2%) of students with increasing frequency in female 12 (21.1%) than males 3 (4.0%), p-value ≤ 0.05.

Table 2: Frequency of Anxiety, Depression, and Stress According to Gender and Severity Level

Grades	Total N (%)	Male N (%)	Female N (%)	p-value
Anxiety Score				
Normal	54 (40.9%)	39 (52.0%)	15 (26.3%)	
Mild	21 (15.9%)	12 (16.0%)	9 (15.8%)	
Moderate	30 (22.7%)	15 (20.0%)	15 (26.3%)	≤ 0.05
Severe	24 (18.2%)	9 (12.0%)	15 (26.3%)	
Very Severe	3 (2.3%)	0	3 (5.3%)	
Depression Score				
Normal	30 (22.7%)	21 (28.0%)	9 (15.8%)	
Mild	36 (27.3%)	21 (28.0%)	15 (26.3%)	
Moderate	30 (22.7%)	21 (28.0%)	9 (15.8%)	≤ 0.05
Severe	9 (6.8%)	9 (12.0%)	0	
Very Severe	27 (20.5%)	3 (4.0%)	24 (42.1%)	
Stress Score				
Normal	117 (88.6%)	72 (96.0%)	45 (78.9%)	
Mild	12 (9.1%)	3 (4.0%)	9 (15.8%)	
Moderate	3 (2.3%)	0	3 (5.3%)	≤ 0.05
Severe	0	0	0	
Very Severe	0	0	0	

D I S C U S S I O N

Overall, 20 (15.2%) of undergraduates reported experiencing stress, according to this research. Comparable stress outcomes were seen in 12.5% of University College of Medicine and Dentistry, Lahore Dentistry Students [21]. Annosha *et al.*, conducted a cross-sectional study on physiotherapy students at Physiotherapy Institute of Sindh and reported higher rate of stress in 53.2% of students [22]. Prior research from various nations has documented a diverse range of prevalence rates; two studies conducted in Saudi Arabia documented stress rates of 71.9% and 57%, respectively [23, 24]. The percentage was 41.9% in Malaysian and 61.4% in Thai people [25, 26]. The observed variance may be attributed to cultural disparities, disparities in the healthcare system, and disparities in the research population and methodologies. One of our instruments is the Depression, Anxiety and Stress Scale-21 Items (DASS-21) questionnaire. The DASS-21 is a relevant and reliable tool for measuring stress, anxiety, and depression, according to a number of studies]. This tool serves just as an indication and cannot substitute a clinical evaluation. It is appropriate for assessing individuals who are within the typical range of adolescence and adulthood. Taouk et al., conducted psychometric validation of this measure for the Arabic culture [28]. In present study, among undergraduates surveyed, 102 (77.3%) and 78 (59.1%) reported suffering from depression and anxiety, respectively. Najma *et al.*, reported lower rate of Depression in 31% and anxiety in 41.9% students of University, College of Medicine and Dentistry Lahore [21]. The prevalence of depression and anxiety at Menoufiya University was revealed to be 63.6% and 78.4% respectively, which is higher than the values reported in prior research performed in Egyptian Institutions, among the medical students at Alexandria University, 43.9% experienced anxiety and 57.9% depression [29, 30]. A different research among medical students at Mansoura University found lower prevalence rates of depression and anxious symptoms, at 28.3% and 21.2%, respectively [31]. Additionally, our results are consistent with those from other nations; for example, among Pakistani medical students, a prevalence of 70% was recorded for anxiety and depression Jadoon *et al.*, [32]. Found that among 482 medical students, anxiety and depression were prevalent

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at a frequency of 43.89 percent [33]. It was 33% in Iran and 27.63% in Beirut [34]. According to the present research, there is a gender difference in self-reported stress and anxiety, with women reporting far greater levels of both than men. A study carried out at Menoufyia University revealed that women were more prone to stress and anxiety [29]. Male and Female medical students did not significantly vary in their stress levels, according to research by Amr *et al.*, from Mansoura University in Egypt [35]. It has been shown in previous epidemiological research that psychological symptoms tend to affect females more than men [30, 31]. This could be because, compared to men in eastern nations, women in the West have less employment possibilities, are more likely to complain excessively about their physical and mental health, and have a heavier workload in school [31]. Exams, interactions with patients, and autopsies are examples of high-stressors that disproportionately affect female students [36]. In contrast, Sarokhani *et al.*, found that 28% of males and 23% of girls suffer from depression [34]. The male doctor population had a greater prevalence of mental health issues than the overall male population, according to Tyssen *et al.*, but the female doctor population had the same high prevalence rates as the overall female population [37]. Gender difference data that doesn't add up is probably due to a complex interplay of biological, social, and other factors [35].

CONCLUSIONS

The findings of our study indicate that university resources and research need to concentrate not just on students' mental health but also, more specifically, on female students. The research found that female students were the most vulnerable to mental health problems among the student groupings examined.

Authors Contribution

Conceptualization: YAJ
Methodology: JAK, IAK, HS
Formal analysis: RK
Writing, review and editing: YAJ, J

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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REFERENCES

[1] Roldán-Espínola L, Riera-Serra P, Roca M, García-Toro M, Coronado-Simsic V, Castro A *et al.* Depression and lifestyle among university students: A one-year follow-up study. The European Journal of Psychiatry. 2024 Jul; 38(3): 100250. doi: 10.1016/j.ejpsy.2024.100250.

[2] Kaur S, Deepti SS, Lal M. Prevalence and correlates of depression among college going students of district Amritsar, India. International Research Journal of Medical Sciences. 2014 Nov; 2(11): 5-9.

[3] Alvi T, Assad F, Ramzan M, Khan FA. Depression, anxiety and their associated factors among medical students. Journal of College of Physicians and Surgeons Pakistan. 2010 Feb; 20(2): 122-6.

[4] Kaya M, Genc M, Kaya B, Pehlivan E. Prevalence of depressive symptoms, ways of coping, and related factors among medical school and health services higher education students. Turk Psikiyatri Dergisi. 2007 Jan; 18(2): 137.

[5] Alonso J, Mortier P, Auerbach RP, Bruffaerts R, Vilagut G, Cuijpers P *et al.* Severe role impairment associated with mental disorders: results of the WHO world mental health surveys international college student project. Depression and Anxiety. 2018 Sep; 35(9): 802-14. doi: 10.1002/da.22778.

[6] Uehara T, Takeuchi K, Kubota F, Oshima K, Ishikawa O. Annual transition of major depressive episode in university students using a structured self-rating questionnaire. Asia Pacific Psychiatry. 2010 Jun; 2(2): 99-104. doi: 10.1111/j.1758-5872.2010.00063.x.

[7] Lun KW, Chan CK, Ip PK, Ma SY, Tsai WW, Wong CS *et al.* Depression and anxiety among university students in Hong Kong. Hong Kong Medical Journal. 2018 Oct; 24(5): 466. doi: 10.12809/hkmj176915.

[8] Buchanan JL. Prevention of depression in the college student population: a review of the literature. Archives of Psychiatric Nursing. 2012 Feb; 26(1): 21-42. doi: 10.1016/j.apnu.2011.03.003.

[9] You M, Laborde S, Dosseville F, Salinas A, Allen MS. Associations of chronotype, Big Five, and emotional competences with perceived stress in university students. Chronobiology International. 2020 Jul; 37(7): 1090-8. doi: 10.1080/07420528.2020.1752705.

[10] Alias NF, Mustafa SM, Hamzah LM. The symptoms of stress as perceived by University Students. International Journal of Social Science Research. 2020 Mar; 2(1): 134-44.

[11] Chaudhuri A. A study to compare the effects of perceived stress on waist hip ratio and cardiovascular profile of MBBS and paramedical students in a Medical College of West Bengal. People.

2019 Dec; 11: 16.

[12] Choi J. Impact of stress levels on eating behaviors among college students. Nutrients. 2020 Apr; 12(5): 1241. doi: 10.3390/nu12051241.

[13] Hamblin E. Stress in college students: associations with anxiety and perfectionism. [Doctoral Dissertation]. 2018.

[14] Nandagaon VS and Raddi SA. Depression and Suicidal Ideation as a Consequence of Academic Stress among Adolescent Students. Indian Journal of Forensic Medicine & Toxicology. 2020 Oct; 14(4): 4464. doi: 10.37506/ijfmt.v14i4.12344.

[15] Onya ON, Stanley PC, Stanley PC. Risk factors for depressive illness among elderly GOPD attendees at UPTH. IOSR Journal of dental and medical sciences. 2013 Mar; 5(2): 77-86. doi: 10.9790/0853-0527786.

[16] Kumaraswamy N. Academic stress, anxiety and depression among college students: A brief review. International Review of Social Sciences and Humanities. 2013 Oct; 5(1): 135-43.

[17] Bayram N and Bilgel N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. Social Psychiatry and Psychiatric Epidemiology. 2008 Aug; 43: 667-72. doi: 10.1007/s00127-008-0345-x.

[18] Andrews B and Wilding JM. The relation of depression and anxiety to life-stress and achievement in students. British Journal of Psychology. 2004 Nov; 95(4): 509-21. doi: 10.1348/0007126042369802.

[19] Crawford JR and Henry JD. The Depression Anxiety Stress Scales (DASS): Normative data and latent structure in a large non-clinical sample. British Journal of Clinical Psychology. 2003 Jun; 42(2): 111-31. doi: 10.1348/014466503321903544.

[20] McDowell I. Measuring health: a guide to rating scales and questionnaires. Oxford university press; 2006 Apr: 3-9. doi: 10.1093/acprof:oso/9780195165678.003.0001.

[21] Naz N, Iqbal SA, Mahmood A. Stress, anxiety and depression among the dental students of university college of medicine and dentistry Lahore; Pakistan. Pakistan Journal of Medical and Health Sciences. 2017 Oct; 11(4): 1277-81.

[22] Syed A, Ali SS, Khan M. Frequency of depression, anxiety and stress among the undergraduate physiotherapy students. Pakistan Journal of Medical Sciences. 2018 Mar; 34(2): 468. doi: 10.12669/pjms.342.12298.

[23] Sani M, Mahfouz MS, Bani I, Alsomily AH, Alagi D, Alsomily NY *et al.* Prevalence of stress among medical students in Jizan University, Kingdom of Saudi Arabia. Gulf Medical Journal. 2012 Jan; 1(1): 19-25.

[24] Abdulghani HM. Stress and depression among medical students: A cross sectional study at a medical college in Saudi Arabia. Pakistan Journal of Medical Sciences. 2008 Jan; 24(1): 12.

[25] Sherina MS, Rampal L, Kaneson N. Psychological stress among undergraduate medical students. Medical Journal of Malaysia. 2004 Jun; 59(2): 207-11.

[26] Saipanish R. Stress among medical students in a Thai medical school. Medical Teacher. 2003 Jan; 25(5): 502-6. doi: 10.1080/0142159031000136716.

[27] Henry JD and Crawford JR. The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. British Journal of Clinical Psychology. 2005 Jun; 44(2): 227-39. doi: 10.1348/014466505X29657.

[28] Moussa MT, Lovibond P, Laube R, Megahead HA. Psychometric properties of an arabic version of the depression anxiety stress scales (DASS). Research on Social Work Practice. 2017 May; 27(3): 375-86. doi: 10.1177/1049731516662916.

[29] Abdallah AR and Gabr HM. Depression, anxiety and stress among first year medical students in an Egyptian public university. International Research Journal of Medicine and Medical Sciences. 2014 Feb; 2(1): 11-9.

[30] Ibrahim MB and Abdelreheem MH. Prevalence of anxiety and depression among medical and pharmaceutical students in Alexandria University. Alexandria Journal of Medicine. 2015 Jun; 51(2): 167-73. doi: 10.1016/j.ajme.2014.06.002.

[31] Amir M and El Gillany AH. Self-reported depression and anxiety by students at an Egyptian Medical School. Journal of Pakistan Psychiatric Society. 2010 Jul; 7(2): 71.

[32] Khan MS, Mahmood S, Badshah A, Ali SU, Jamal Y. Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan. The Journal-Pakistan Medical Association. 2006 Dec; 56(12): 583.

[33] Jadoon NA, Yaqoob R, Raza A, Shehzad MA, Zeshan SC. Anxiety and depression among medical students: a cross-sectional study. The Journal of the Pakistan Medical Association. 2010 Aug; 60(8): 699-702.

[34] Sarokhani D, Delpisheh A, Veisani Y, Sarokhani MT, Manesh RE, Sayehmiri K *et al.* Prevalence of depression among university students: a systematic review and meta-analysis study. Depression Research and Treatment. 2013 Oct; 2013. doi: 10.1155/2013/373857.

[35] Amr M, El Gilany AH, El-Hawary A. Does gender predict medical students' stress in Mansoura, Egypt?.

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Medical Education Online. 2008 Dec; 13(1): 4481. doi: 10.3402/meo.v13i.4481.

[36] Backović DV, Ilić Živojinović J, Maksimović J, Maksimović M. Gender differences in academic stress and burnout among medical students in final years of education. Psychiatria Danubina. 2012 Jun; 24(2.): 175–81.

[37] Tyssen R, Vaglum P, Grønvold NT, Ekeberg. Suicidal ideation among medical students and young physicians: a nationwide and prospective study of prevalence and predictors. Journal of Affective Disorders. 2001 Apr; 64(1): 69–79. doi: 10.1016/S0165-0327(00)00205-6.