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DEMOGRAPHIC, SOCIO-CULTURAL, AND LEARNING ENVIRONMENT STUDY

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ABSTRACT

Background: The university environment encompasses both the physical infrastructure and the social interactions within an academic community that shape the overall learning experience. The heightened stress and academic pressure associated with university life contribute to the rising prevalence of mental disorders among students. This study aims to investigate the prevalence and correlates of depressive and anxiety symptoms among Herat University students.

Methods: An institutional-based cross-sectional study was conducted at Herat University between September and December 2022. Data on mental disorders were collected using the Dari-translated Version of the Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) scales. Sociodemographic and learning environment data was collected via a 24-item structured questionnaire. Data analysis was conducted using IBM SPSS Statistics version 27. Descriptive statistics were used to show the prevalence of mental disorders. Chi-square tests and multivariate logistic regression analyses were conducted to identify potential association and predictors of mental disorders.

Results: Of all participants in the study, 72.9% and 73.2% exhibit mild to severe levels of depression and

Anxiety, respectively. Participants' self-confidence, adaptability to new university environment, self-perceived success, their current levels of social activities, and social interaction with peers were associated with both depressive and anxiety symptoms. In contrast, access to study material, social support, ability to find friends at university, and access to healthcare were significantly associated with depression. Furthermore, anxiety was associated with low internet accessibility, lower family income, parental comorbidities, and recreational activities. Multivariate regression analyses revealed that participants' self-perception as successful individuals, and their abilities to adapt well to academic lives were predictors of depression, while being self-confident and adaptable to academic lives were predictors of anxiety.

Conclusion: Depressive and anxiety disorders were prevalent among Herat University students. Targeted interventions that address the specific needs of university students are essential for promoting the mental well-being of university students.

Keywords: Afghanistan, anxiety, depression, GAD-7, Herat University, PHQ-9

. Introduction

The transition to university life marks a significant developmental milestone often characterized by increased positive emotions, anticipatory behaviors, and a heightened sense of self-efficacy [1-3]. However, this period also exposes students, particularly first-year students, to various pressures that can contribute to or worsen mental health challenges, especially depression and anxiety [4, 5]. Untreated depression can have severe psychological, emotional, and physical consequences for university students. It can also negatively affect interpersonal relationships, academic performance, and overall well-being [4, 6, and 7].

Depression and anxiety pose significant concerns among university students, with a substantial number exhibiting symptoms of depression and anxiety [8,9]. The prevalence of depression among university students ranges from 20% to 75% [6, 10-17] while that of anxiety is estimated to be between 14% and 88% [6,10-14, 16,17].

University students' mental health is significantly influenced by a complex interplay of factors, including academic pressures, environmental transitions, and personal characteristics [18]. Regarding depression and anxiety; academic pressures, environmental transitions , emotional isolation, financial concerns, and adaptation to new teaching methods are among the primary stressors contributing to these conditions in university students[12,19-22]. Specifically, demographic factors such as age, gender, physical activity levels, self-confidence, social support, type of identity, and a history of mental disorders have been consistently identified as significant predictors of depression and anxiety among this vulnerable population [13, 14, 23-26].

Pioneer studies into the prevalence and contributing factors of depression and anxiety in Herat city have primarily concentrated on specific demographic segments [26-31]. Nevertheless, a comprehensive assessment of the prevalence and associated factors of these two prevalent mental health conditions among students from all academic disciplines within Herat University remained absent. This study aims to assess the prevalence and associated factors of depression and anxiety among Herat University students.

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Material and Methods

2.1. Study setting

This institutional-based cross-sectional study was conducted at Herat University between September and December 2022.

2.2. Target population

The target population of this study consisted of all undergraduate students enrolled in various academic disciplines at Herat University during the second semester of the 2022 academic year, during which Herat University was house to 15,537 students, comprising 7,347 males (47.3%) and 8,190 females (52.7%).

2.3. Sample size estimation

A minimum sample size of 375 was determined using the Raosoft sample size calculator (http://www.raosoft.com/samplesize.html) with a 95% confidence interval, a 95% confidence level, and assuming a 50% response distribution. To account for potential missing or incomplete data, an additional 40 samples (≈10%) buffer was added, resulting in a target sample size of 415. All participants provided informed consent to participate in the study.

2.4. Sampling strategy

A stratified simple random sampling method was employed to select study participants. Each academic school within Herat University served as a stratum. Students' attendance records were utilized as the sampling frame. The total population of students (15,537) was divided by the target sample size (415), resulting in an allocation ratio of approximately 37.4. This ratio was used to determine the number of participants to be selected from each school. A simple random sampling technique was then implemented to select the specified number of individuals from each stratum.

2.5. Data collection

Data was collected by two clinical psychologists, via paper-based self-administered questionnaires. Sociodemographic data was gathered through a standardized 19-item instrument. To assess depressive symptoms, participants completed the validated Dari version of the 9-item Patient Health Questionnaire (PHQ-9)[32]. The 7-item Generalized Anxiety Disorder questionnaire was used to measure anxiety levels[33]. Data were scored and categorized according to the established guidelines for each instrument.

2.6. Statistical analysis

Statistical analyses were conducted using IBM SPSS Statistics (version 29). Continuous data with normal distribution were summarized with mean and standard deviation (SD), while non-normally distributed data were presented as median and interquartile ranges (IQR). Categorical data were described using frequencies and percentages. The Chi-square test was employed to examine associations between categorical variables and depression or anxiety. To identify demographic factors predicting depression and anxiety, all categorical variables with a p-value less than 0.20 were entered into a logistic regression model. A forward likelihood ratio method was used to identify potential predictions. For each predictor, significance (p-value), 95% confidence interval (95% CI), and odds ratio (OR) were reported. A p-value of 0.05 was considered statistically significant for all analyses

Results

3.1 Demographic and sociocultural profile of study participants

A sample of 414 individuals (data of one participant was excluded from the analyses due to a high rate of missing information), with a mean age of 21.65 ± 1.83 (range: 18 and 30 years, participated in this study. **Table 1** presents the demographic and socio-cultural characteristics of these participants.

Of all participants in this study, 234 (56.5%) were female, 350 (84.5%) were single, 280 (67.6%) resided in Herat city, and 300 (72.5%) lived with their families. The majority of participants (n=341; 82.4%) were unemployed, while 266 (64.3%), and 225 (54.3%) had a medium economic and nutrition status, respectively; while, 209 (50.5%) had medium access to healthcare.

3.2 Learning environment characteristics of study participants

Table 2 provides a detailed overview of the learning environment of study participants. One-third of the study population described their academic environment as neutral and competitive. Of all participants, 301 (72.7%), and 220 (53.1%) reported access to adequate study resources and Internet, respectively. A majority of study participants (n=259; 62.6%) reported receiving parental support, 345 (83.3%) self-identified themselves as successful in their academic endeavors and 380 (91.8%) as goal-oriented individuals. Regarding social integration, 299 (72.2%) indicated ease in finding friends within the university setting, while 281 (67.9%) expressed confidence in their ability to adapt effectively to the new academic environment.

Table1. Demographic and socio-cultural profiles of study participants (n=414)

Variables	Number	Percentage
Age (in years)		
≤21	118	28.5
>21	296	71.5
Gender		
Female	234	56.5
Male	180	43.5
Marital status		
Single	350	84.5
Married	64	15.5
Original residence		
Herat city	280	67.6
Other provinces	134	32.4
People who you live with?		
Family	300	72.5

Friends	33	8.0
Dormitory	70	16.9
Alone	11	2.7
Occupation		
Unemployed	341	82.4
Employed	73	17.6
Economic status		
Poor	61	14.7
Medium	266	64.3
Good	87	21.0
Nutrition		
Poor	44	10.6
Medium	225	54.3
Good	145	35.0
Do you have adequate access to healthcare services?		
Low	79	19.1
Medium	209	50.5
High	126	30.4
Would you characterize yourself as a self-confident individual?		
Correct	361	87.2
Wrong	53	12.8
Do any of your family members suffer from chronic health conditions?		
Yes	132	31.9
No	282	68.1
How would you assess your current level of social engagement?		
Low	193	46.6
Medium	194	46.9
High	27	6.5
Do you find your academic pursuits to be sufficiently enjoyable?		
Yes	265	64.0
No	149	36.0
Do you perceive you have sufficient opportunities for social interaction with your peers?		
Correct	326	78.7
Wrong	88	21.3

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Table 2. Learning environment characteristics of study participants (n=414)

Variables	Number	Percentage
How do you characterize your academic environment?		
Supportive	76	18.4
Bullying	45	10.9
Competitive	145	35.0
Neutral	148	35.7

Do you have adequate internet access for academic purposes?		
Yes	220	53.1
No	194	46.9
Do you have access to enough study resources?		
Yes	301	72.7
No	113	27.3
Who provides support for your academic endeavors?		
Parents	259	62.6
Brother and sister	45	10.9
friends	24	5.8
Mentor	9	2.2
Nobody except me	77	18.6
Who is the primary source of your worries?		
Family	123	29.7
Friends + classmates	76	18.4
Teachers	78	18.8
Nobody except me	137	33.1
Do you consider yourself as a successful person, in your academic endeavor?		
Correct	345	83.3
Wrong	69	16.7
Do you consider yourself a goal-oriented individual?		
Correct	380	91.8
Wrong	34	8.2
Do you find it easy to make friends at university?		
Correct	299	72.2
Wrong	115	27.8
Do you adapt well to new academic environment?		
Correct	281	67.9
Wrong	133	32.1

Table 3. Prevalence of depressive symptoms among study participants

Variables	Number	Percentage
No or minimal	112	27.1
Mild	154	37.2
Moderate	81	19.6
Moderate to severe	44	10.6
severe	23	5.6

Table 4. Prevalence of anxiety symptoms among study participants

Variables	Number	Percentage
Normal	111	26.8
Mild	152	36.7
Moderate	98	23.7
Severe	53	12.8

Table 5. Demographic, socio-cultural, and learning environment characteristics correlate of depressive and anxiety symptoms among study participants

Table 6. Multivariate logistic regression analysis of demographic, socio-cultural, and learning environment factors with depression and anxiety

Variables		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Depression	Being successful	2.127	.607	12.296	1	<0.001	8.39	2.56	27.54
	Adaptability	.693	.278	6.210	1	0.013	2.00	1.16	3.45
Anxiety	Self-confidence	1.586	.616	6.632	1	0.010	4.88	1.46	16.33
	Adaptability	.813	.283	8.232	1	0.004	2.26	1.29	3.93

S.E: Standard error; dF: degree of freedom; Sig: significance value (p-value); Exp (B): exponential value of B or odds ratio; CI: Confidence interval.

Variables	Total number	Depression N (%)	Anxiety N (%)
Marital status			
Single +divorce	350	260 (74.3)	263 (75.1)
Married	64	42 (65.6)	40 (62.5)
P		0.152	0.036
Economic status			
Poor	61	43 (70.5)	49 (80.3)
Medium	266	200 (75.2)	199 (74.8)
Good	87	59 (67.8)	55 (63.2)
P		0.364	0.042
Do you have adequate access to healthcare services?			
Low	79	68 (86.1)	63 (79.7)
Medium	209	153 (73.2)	155 (74.2)
High	126	81 (64.3)	85 (67.5)
P		0.003	0.139
Would you characterize yourself as a self-confident individual?			
Correct	361	253 (70.1)	253 (70.1)
Wrong	53	49 (92.5)	50 (94.3)
P		0.001	<0.001
Do any of your family members suffer from chronic health conditions?			
Yes	132	102 (77.3)	105 (79.5)
No	282	200 (70.9)	198 (70.2)
P		0.175	0.046
How would you assess your current level of social engagement?			
Low	193	155 (80.3)	156 (80.8)
Medium	194	128 (66.0)	128 (66.0)
High	27	19 (70.4)	19 (70.4)
P		0.006	0.004
Do you find your academic pursuits to be sufficiently enjoyable?			
Yes	265	189 (71.3)	184 (69.4)
No	149	113 (75.8)	119 (79.9)
P		0.321	0.021
Do you perceive you have sufficient opportunities for social interaction with your peers?			
Correct	326	229 (70.2)	229 (70.2)
Wrong	88	73 (83.0)	74 (84.1)
P		0.017	0.009
How do you characterize your academic environment?			
Supportive	76	56 (73.7)	55 (72.4)
Bullying	45	39 (86.7)	34 (75.6)
Competitive	145	94 (64.9)	100 (69.0)
Neuter	148	113 (76.4)	114 (77.0)
P		0.018	0.460
Do you have adequate internet access for academic purposes?			
Yes	220	154 (70.0)	151 (68.6)
No	194	148 (76.3)	152 (78.4)
P		0.151	0.026
Do you have access to enough study resources?			
Yes	301	209 (69.4)	213 ()70.8
No	113	93 (82.3)	90 (79.6)
P		0.009	0.069
Who provides support for your academic endeavors?			
Parents	259	176 (68.0)	182 (70.3)
Brother and sister	45	35 (77.8)	30 (66.7)
Classmate and friends	24	17 (70.8)	19 (79.2)
Mentor	9	8 (88.9)	8 (88.9)
Nobody except me	77	66 (85.7)	64 (83.1)
P		0.023	0.110
Do you consider yourself as a successful person, in your academic endeavor?			
Correct	345	236 (68.4)	241 (69.9)
Wrong	69	66 (95.7)	62 (89.9)
P		<0.001	0.001
Do you consider yourself a goal-oriented individual?			
Correct	380	269 (70.8)	271 (71.3)
Wrong	34	33 (97.1)	32 (94.1)
P		0.001	0.004
Do you find it easy to make friends at university?			
Correct	299	209 (69.9)	215 (71.9)
Wrong	115	93 (80.9)	88 (76.5)
P		0.024	0.342
Do you adapt well to new academic environment?			
Correct	281	190 (67.6)	190 (67.6)
Wrong	133	112 (84.2)	113 (85.0)
P		<0.001	<0.001

Discussion

This study aimed to assess the prevalence of depressive and anxiety symptoms among Herat University students and to examine the relationship between these symptoms with the demographic, socio-cultural, and learning environment factors. Depression and anxiety were highly prevalent among the participants, affecting 72.9% and 73.2%, respectively. These findings are consistent with studies from Jordan (depression=71.3%) and Pakistan (anxiety=72.0%), which exhibited similar high prevalence rates [34-35]. However, the prevalence of depression and anxiety observed in this study was considerably higher than that reported in studies from Ecuador (Depression=6.2% & Anxiety=2.2%), Austria (Depression=55.3% & Anxiety=52.6%), Canada (Depression=36% & Anxiety=39%), Ethiopia (Depression=35.5%), Nigeria (Depression=63.5% & Anxiety=44.6%), India (Depression=57.1% & Anxiety=13.6%), Saudi Arabia (Depression=55.9% & Anxiety=66.8%), and Nepal (Depression=23.3% & Anxiety=5.8%)[6,10,13,25,35-39]. Conversely, the prevalence rates in this study were lower than those found in studies from Peru (Depression=77.6%), Pakistan (Depression=75.0% & Anxiety=88.4%), and Egypt (Depression=88.8% & Anxiety=82.6%) [11,14,40]. Societal variances, coupled with methodological differences and variations in clinical measurement tools used to assess mental disorders may contribute to the observed heterogeneity in mental health outcomes among university students globally[41]. This trend has emerged as a major public health challenge.A key finding of this study is the positive association between academic environment and depressive symptoms. This is in line with previous research in Austria, Egypt, Nigeria, and Peru, which demonstrated that negative perceptions of the educational environment can adversely affect emotional stability, motivation, and academic success [13, 14, 39, 40, 42]. However, a study from Jordan found no significant association between academic performance and mental health disorders[34]. The observed differences may be attributed to variations in academic disciplines, program duration, curriculum design, and socioeconomic status [13, 14, 40]. In fact, higher education institutions have the potential to significantly impact the development of both positive and negative behaviors in young adults[43].

This study demonstrated a significant association between the family income and anxiety levels. This finding is supported by previous research suggesting that financial stress can negatively impact students' mental health [21, 27, 35, 38, 44]. Financial strain may exacerbate symptoms of depression and anxiety, potentially leading to poor mental health[21, 45]. Although research suggests a strong association between subjective perceptions of financial stress and adverse mental health outcomes, the causal mechanisms, bidirectional effects, and long-term implications of this relationship require further investigation.

The result of this study indicates that support for academic endeavors was associated with depression. This is in line with numerous studies suggesting a positive relationship between support for academic endeavors and mental health outcomes among university students [6, 25, 36, 46, 47]. Additionally, experiences of loneliness, isolation, and inadequate academic support during this critical developmental period may increase the risk of emotional instability and severe mental health disorders among young adult college students[46].

The present study provides additional evidence supporting the hypothesis that low self-confident is a significant risk factor for mental health outcomes. Specifically, our results demonstrate a significant correlation between lower self-confident and increased symptoms of depression and anxiety, aligning with previous research in the field [25, 48-51]. University students with high self-confident may encounter increased pressure to maintain academic excellence. When confronted with academic stressors, these individuals may develop negative self-perceptions, potentially leading to a decline in self-confident and mental health[48]. While empirical research supports the vulnerability model's assertion of a connection between self-confident and mental well-being among university students[50], the exact nature of this relationship and the underlying mechanisms remain elusive and warrant further exploration.

Multivariate logistic regression found that participants' self-perception as self-confident individuals was a predictor of anxiety. This finding aligns with research conducted in Norway[51] and the Netherlands[52], which also suggested that low self-confidence can contribute to anxiety symptoms. These studies further emphasize that boosting self-confidence can reduce the level of anxiety in university students.

A key finding of this study is the association between depression, anxiety, and the ability to adapt well to new academic settings. This finding is consistent with previous research conducted in China[53, 54] which demonstrated an inverse relationship between adaptability and both depressive and anxious symptomatology. The capacity to effectively adjust to changing, unfamiliar, or uncertain situations may help in better coping with depressive and anxiety symptoms.

This study identified a significant association between parental comorbidities and anxiety symptoms. In contrast to previous research, which has primarily linked familial medical history to depression [25, 36, 47, 55] our findings suggest additional mental health implications. Furthermore, research conducted in Peru and Indiahas demonstrated that individuals with chronic illnesses exhibit a higher level of susceptibility to both depression and anxiety [10, 14]. While genetic factors may contribute to the increased risk of mental health disorders among individuals with a family history of medical comorbidities, parental comorbidities can also negatively impact the emotional, behavioral, and cognitive development of offspring[36, 56].

5. Conclusion

This study highlights the high prevalence of mental disorders in Herat University students, with sociodemographic and learning environment factors emerging as associated factors. To mitigate the impact of mental health issues, a multi-disciplinary approach is necessary. Psychological interventions focused on enhancing self-confidence, social support, and social interaction can be beneficial. Additionally, higher education institutions should create supportive learning environments by providing adequate resources, counseling services, and promoting mental health awareness. By implementing such strategies, Herat University can contribute to improving the mental health and overall well-being of its students.

6. Limitation

This study has several limitations. Firstly, its cross-sectional design precludes the establishment of causal relationships between variables. Longitudinal research is necessary to investigate the temporal dynamics of mental health trends and identify specific predictors among Herat University students. Secondly, mental health diagnoses were based solely on self-reported data from the PHQ-9 and GAD-7 questionnaires, which may not accurately reflect the true prevalence of mental disorders. A gold standard diagnostic approach, involving comprehensive clinical assessments, is recommended for future studies. Finally, the generalizability of these findings is limited to the specific context of Herat University. Caution should be exercised when extrapolating these results to other university settings within Afghanistan and beyond.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHORS CONTRIBUTION

Mina Alekozay: Conceptualization; investigation; formal analysis; data Curation; writing— original draft; methodology; writing—review and editing; software. **Aziz-ur-Rahman Niazi:** Conceptualization; investigation; writing—original draft; methodology; writing—review and editing; formal analysis; supervision; project administration. **Abdul Fattah Najm:** Conceptualization; investigation; funding acquisition; methodology; software; formal analysis; writing—original draft; writing—review and editing.

ETHICAL CONSIDERATIONS

The Human Ethics Committee of Herat University of Afghanistan approved the study protocol (Approval number #13072020). Written informed consents were obtained from the participants before data collection for this study.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

TRANSPARENCY STATEMENT

The lead author Mina Alekozay affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

References

1. Vagiri RV, Leboho PE, Desry LK, Khutso M, Pfunzo M. Investigation of positive mental health levels among faculty of health sciences students at a rural university in South Africa. PLOS Glob Public Health. 2024;4(7).
2. Parmentier M, Dangoisse F, Zacher H, Pirsoul T, Nils F. Anticipatory emotions at the prospect of the transition to higher education: A latent transition analysis. Journal of Vocational Behavior. 2021;125(103543).
3. Gueroni LPG, Pompeo DA, Eid LP, Ferreira JMA, Sequeira CAC, Lourenção LG. Interventions for Strengthening General Self-Efficacy Beliefs in College Students: An Integrative Review. Rev Bras Enferm. 2024;77(1).
4. Auerbach RP, Mortier P, Bruffaerts R, Alonso J, Benjet C, Cuijpers P, et al. WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. Journal of Abnormal Psychology. 2018;127(7):623-38.
5. Akhtar P, Ma L, Waqas A, Naveed S, Li Y, Rahman A, Wang Y. Prevalence of depression among university students in low and middle income countries (LMICs): a systematic review and meta-analysis. Journal of Affective Disorders. 2020;274:911-9.
6. Duffy A, Keown-Stoneman C, Goodday S, Horrocks J, Lowe M, King N, et al. Predictors of mental health and academic outcomes in first-year university students: Identifying prevention and early-intervention targets. BJ Psych Open. 2020;6(e46):1-8.
7. Kogan LR, McConnell SL, Schoenfeld-Tacher R. Veterinary Students and Non-academic Stressors. JVME 2005;32(2):193-200.
8. Lipson SK, Zhou ES, Abelson S, Heinze J, Jirsa M, Morigney J, et al. Trends in College Student Mental Health and Help-Seeking by Race/Ethnicity: Findings from the national Healthy Minds Study, 2013–2021. J Affect Disorders. 2022;01(306):138-47.
9. Spring S. American College Health Association. American College Health Association-National College Health Assessment III: Undergraduate Student Reference Group: American College Health Association; 2023 [
10. Kirdchok P, Kolkijkovin V, Munsukpol W, Chinvararak C. Prevalence of common mental health problems and associated factors among university students visiting Supara mental health service: A cross-sectional study [version 3; peer review: 2 approved] F1000Research 2023;11(1107).
11. Asif S, Mudassar A, Shahzad TZ, Raouf M, Pervaiz T. Frequency of depression, anxiety and stress among university students. Pak J Med Sci. 2020;36(5):971-6.
12. Sheldon E, Buckley MS, Bone C, Mascarenhas T, Chan N, Wincott M, et al. Prevalence and risk factors for mental health problems in university undergraduate students: A systematic review with meta-analysis. J Affect Disord. 2021;15(287):282-92.
13. Humer E, Neubauer V, Brühl D, Dale R, Pieh C, Probst T. prevalence of mental health symptoms and potential risk factors among Austrian veterinary medicine students. Scientifc Reports. 2023;13(13746).
14. Zila-Velasque JP, Grados-Espinoza P, Regalado-Rodrı´guez KM, Sosa-Nuñez F, AlcarrazJaime A, Cortez-Soto AG, et al. Sociodemographic and educational factors associated with mental health disorders in medical students of clinical years: A multicenter study in Peru. PLoS ONE. 2023;18(6).
15. Kang HK, Rhodqes C, Rivers E, Thornton CP, Rodney T. Prevalence of Mental Health Disorders Among Undergraduate University Students in the United States: A Review. . J Psychosoc Nurs Ment Health Serv. 2021;59(17-24).
16. Moghimi E, Stephenson C, Gutierrez G, Jagayat J, Layzell G, Patel C, et al. Mental health challenges, treatment experiences, and care needs of post-secondary students: a cross-sectional mixed-methods study. BMC Public Health. 2023;23(655).
17. Müller C, El-Ansari K, El-Ansari W. Cross-Sectional Analysis of Mental Health among UniversityStudents: Do Sex and Academic Level Matter? Int J Environ Res Public Health 2022;19(12670).
18. Liu X-Q, Guo Y-X, Zhang W-J, Gao W-J. Influencing factors, prediction and prevention of depression in college students: A literature review. World Journal of Psychiatry. 2022;12(7):860-73.
19. Barbayannis G, Bandari M, Zheng X, Baquerizo H, Pecor KW, Ming X. Academic Stress and Mental Well-Being in College Students: Correlations, Affected Groups, and COVID-19. Front Psychol. 2022;13.
20. Zahedi H, Sahebihagh MH, Sarbakhsh P. The Magnitude of Loneliness and Associated Risk Factors among University Students: A Cross-Sectional Study. Iran J Psychiatry. 2022;17(4):411-7.
21. T M, J BD. Financial stress and mental health among higher education students in the UK up to 2018: rapid review of evidence. Epidemiol Community Health. 2019;73:977-48.
22. Grados-Espinoza P, Zila-Velasque JP, Soriano-Moreno DR, Regalado-Rodríguez KM, Sosa-Nuñez F, Barzola-Farfán W, et al. A cross-sectional study to assess the level of satisfaction with virtual education in Peruvian medical students. Front Public Health. 2022.
23. Ishimaru D, Adachi H, Mizumoto T, Erdelyi V, Nagahara H, Shirai S, et al. Criteria for detection of possible risk factors for mental

health problems in undergraduate university students. Front Psychiatry. 2023;14(1184156).
24. Have MT, Penninx BWJH, Dorsselaer S, Tuithof M, Kleinjan M, Graaf R. Insomnia among current and remitted common mental disorders and the association with role functioning: results from a general population study. Sleep med. 2016:34-41.
25. Torres C, Otero P, Bustamante B, Blanco V, Díaz O, Vázquez FL. Mental Health Problems and Related Factors in Ecuadorian College Students. Int J Environ Res Public Health 2017;14(530).
26. Noorzai M, Joya SA, Mohseni R, Niazi A-u-R. Staying Active, Minding Health: Does Exercise Influence Depression and Anxiety in Herat University's Education Students? Nangarhar University; International Journal of Biosiciences. 2024;3(2).
27. Najm AF, Alekozay M, Faqiryar RB, Niazi A-u-R. Prevalence and Associated Factors of Depression among Medical Students of Herat University. Health Care Curr Rev. 2023;11(337).
28. Niazi A-u-R, Alekozay M, Najm AF. Prevalence and associated factors of depression, anxiety and stress among coronavirus disease 2019 (COVID-19) patients in Herat, Afghanistan. Global Health Journal 2022;6(2):85-90.
29. Niazi A-u-R, Alekozay M, Noor MA, Sadat SJ, Ahmadzadeh EA, Hamedi T, et al. Interplay of Post-Traumatic Stress Disorder, General Anxiety Disorder and Resilience among Earthquake Survivors in Zinda Jan District of Herat Province. nangarhar University; International Journal of Biosciences. 2023;2(4).
30. Niazi AuR, Alekozay M, Osmani K, Najm AF. Prevalence and associated factors of depression, anxiety, and stress among pregnant women in Herat, Afghanistan: a cross-sectional study. . Health Sci Rep. 2023;6(e1490).
31. Niazi AuR, Alekozay M, Osmani K, Najm AF. Fertility status and depression: a case-control study among women in Herat, Afghanistan. Health Sci Rep. 2024;7(e70063).
32. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: Validity of a brief depression severity measure. J Gen Intern Med. 2001;16(9):606-13.
33. Spitzer RL, Kroenke K, Williams JBW, Lowe B. A Brief Measure for Assessing Generalized Anxiety Disorder; The GAD-7. Arch Intern Med. 2006;166:1092-7.
34. Alhemedi JA, Qasaimeh MG, Abdo N, Elsalem L, Qaadan D, Alomari E, et al. Depression Among University Students in Jordan After the COVID-19 Pandemic: A Cross-Sectional Study. Psychology Research and Behavior Management. 2023;16:4237-49.
35. Azim SR, Baig M. Frequency and perceived causes of depression, anxiety and stress among medical students of a private medical institute in Karachi: A mixed method study. J Pak Med Assoc. 2019;69:840-5.
36. Fentahun S, Takelle GM, Rtbey G, Andualem F, Tinsae T, Nakie G, et al. Prevalence of depression and its associated factors among Ethiopian students: a systematic review and meta-analysis. . BMJ Open. 2024;14(e076580).
37. Aluh DO, Abba A, Afosi AB. Prevalence and correlates of depression, anxiety and stress among undergraduate pharmacy students in Nigeria. Pharm Educ. 2020;20:236-48.
38. Basudan S, Binanzan N, Alhassan A. Depression, anxiety and stress in dental students. Int J Med Educ. 2017;8:179-86.
39. Adhikari A, Dutta A, Sapkota S, Chapagain A, Aryal A, Pradhan A. Prevalence of poor mental health among medical students in Nepal: A cross-sectional study. BMC Med Educ. 2017;17(232).
40. Abed HA, Abd-Elraouf MSED. Stress, Anxiety, Depression Among Medical Undergraduate Students at Benha University and Their Socio-Demographic Correlates. Egypt J Hosp Med. 2022;86:27-32.
41. Agyapong-Opoku G, Agyapong B, Obuobi-Donkor G, Eboreime E. Depression and Anxiety among Undergraduate Health Science Students: A Scoping Review of the Literature. Behav Sci. 2023;13(1002).
42. Aljadani AH, Alsolami A, Almehmadi S, Alhuwaydi A, Fathuldeen A. Epidemiology of Burnout and Its Association with Academic Performance Among Medical Students at Hail University, Saudi Arabia. Sultan Qaboos University Med J. 2021;20(2):231-6.
43. Leshner AI, Scherer LA. Mental Health, Substance Use, and Wellbeing in Higher Education: Supporting the Whole Student. . Washington, DC: The National Academies Press; 2021.
44. Çelik N, Ceylan B, Ünsal A, Çagan Ö. Depression in health college students: Relationship factors and sleep quality. Psychol Health Med. 2019;24:625-30.
45. Richardson T, Elliott P, Roberts R, Jansen M. Longitudinal Study of Financial Difficulties and Mental Health in a National Sample of British Undergraduate Students. Community Ment Health J 2017;53:344-52.
46. Vicary E, Kapadia D, Bee P, Bennion M, Brooks H. The impact of social support on university students living with mental illness: a systematic review and narrative synthesis. Journal of Mental Health. 2024.
47. Suraj SS, Umar BI, Gajida AU, Umar MU. Prevalence and factors associated with depression among medical students in Nigeria. Niger Postgrad Med J. 2021;28:198-203.
48. Kwok G, Tam CL. Depression, Self-Esteem, and Lifestyle Factors Among University Students in Singapore and Malaysia. International Journal of Information Systems and Social Change. 2021;14(1).
49. Jafari M, Salimi M, Fattahi F, Rezaei M, Ashtarian H. The Correlation of Self-esteem and Depression in the Students of Kermanshah University of Medical Sciences, Iran. Int J Health Life Sci. 2021;7(4).
50. Ebert DD, Buntrock C, Mortier P, Auerbach R, Weisel KK, Kessler RC, et al. Prediction of major depressive disorder onset in college students. Depress Anxiety Association of America. 2019;36:294-304.
51. Martinsen KD, Rasmussen LMP, Wentzel-Larsen T, Holen S, Sund AM, Pedersen ML, et al. Change in quality of life and self-esteem in a randomized controlled CBT study for anxious and sad children: can targeting anxious and depressive symptoms improve functional domains in schoolchildren? BMC Pcychology. 2021;9(8).
52. Worm H. Measuring Emotions of Daily Life: The Association between Self-Esteem and Anxiety of University Students. University of Twente. 2021:1-36

53. Zhang K, Mi Z, Parks-Stamm EJ, Cao W, Ji Y, Jiang R. Adaptability Protects University Students From Anxiety, Depression, and Insomnia During Remote Learning: A Three-Wave Longitudinal Study From China. Front Psychiatry. 2022;13(868072).
54. Wang J, Fang S, Yang C, Tang X, Zhu L, Nie Y. The Relationship Between Psychological Flexibility and Depression, Anxiety and Stress: A Latent Profile Analysis. Psychology Research and Behavior Management 2023;16:997-1007.
55. Yusof NSM, Zainal ZA, Huri HZ, Jacob SA, Alwi MNM, Hassan Y, Ghazali LN. Prevalence of depression among undergraduate pharmacy students in Malaysia. Int J Pharm Res. 2020;12(09752366).
56. Kim S, Kim SM, Park SJ, Song J, Lee J, Kim KH, Min Park SM. Association of parental depression with adolescent children's psychological wellbeing and health behaviors. BMC Public Health. 2024;24(1412).