Saeed A. A. R., et al., Yemeni J Med Sci. 2026; 20(1):30 -40 Raweh
https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

OPEN ACCESS Original Article

Prevalence of Depression, Anxiety, and Stress among Medical Science Students at Aljanad University for Science and Technology, Taiz, Yemen: A Cross-Sectional Study

Ayman A. Raweh Saeed [1*], Abdulghaffar Khaled Thabit [2], Shahd Ahmed Ahmed Qassem[2], Abdulaziz Fuad Sultan Abdo[2], Etfaq Badri Sarhan Saeed[2], Hafez Ibrahim Mohamed Ahmed[2], Shaima Ahmed Ali Saleh[2], Ruqayah Saleh Ghaleb Sad[2], Wafa Khalil Saeed Rajeh[2], Asmaa Al Taheri[2]

1 Department of Medical Laboratory, Faculty of Medical Sciences, Aljanad University for Science and Technology, Taiz, Yemen.

2 Department of Nursing, Faculty of Medical Sciences, Aljanad University for Science and Technology, Taiz, Yemen.

ABSTRACT

Background: Psychological distress is a major challenge among university students, particularly those in medical sciences, due to high academic and emotional demands. Depression, anxiety, and stress are increasingly recognized as serious concerns affecting students' well-being and academic performance.

Objective: This study aimed to assess the prevalence and severity of depression, anxiety, and stress among medical science students at Aljanad University for Science and Technology in Taiz, Yemen.

Methods: A cross-sectional study was conducted among 300 students from the departments of nursing, pharmacy, medical laboratories, nutrition, and dentistry. Data were collected using the Depression, Anxiety, and Stress Scale (DASS-21) and a structured questionnaire covering socio-demographic, academic, and psychosocial variables.

Results: The findings revealed a very high prevalence of psychological distress. All participants reported symptoms of depression and anxiety, while 98.7% experienced stress. Extremely severe anxiety was the most common condition (84.6%), followed by extremely severe depression (40%) and stress (37.6%). Higher levels of distress were significantly associated with younger age, early academic years, insomnia, lack of emotional family support, and difficulties in communication with faculty members. Dental and pharmacy students showed the highest severity levels of anxiety and depression, respectively.

Conclusion: Depression, anxiety, and stress are highly prevalent among medical science students at Aljanad University for Science and Technology, emphasizing the urgent need for targeted mental health interventions and supportive academic environments.

Keywords: Depression, anxiety, stress, medical students, psychological distress, Yemen.

**** Corresponding author address:*** *ayman.aa.just@gmail.com*

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

INTRODUCTION

Mental health is a critical component of overall well-being, encompassing not only the absence of disease but also psychological resilience and emotional stability. Poor mental health can significantly reduce quality of life and may contribute to serious health problems, particularly among young adults [1]. University students face numerous challenges, including adapting to social and academic demands while preparing for future careers, which can exacerbate mental health issues. Research indicates that psychological pressures are a major challenge for students worldwide. For example, approximately 60% of students may discontinue their studies due to conditions such as depression, anxiety, and stress [2]. Studies in Malaysia show that mental health problems increased from 10.7% in 1996 to 29.2% in 2015, with depression rising from 1.8% in 2011 to 2.3% in 2020 [3]. In the United States, 40 million adults experience anxiety disorders, with 75% having their first episode by age 22, often during the final year of college [4]. Similarly, studies in the Middle East, including Yemen, Egypt, Saudi Arabia, and Libya, report high rates of depression, anxiety, and stress among medical students [5-7]. Depression is characterized by prolonged low mood and loss of interest, anxiety involves excessive fear and worry often accompanied by physical and cognitive symptoms, and stress is a natural response to life challenges [7]. Medical students are particularly vulnerable due to long study hours, competitive environments, limited recreational opportunities, social isolation, and financial pressures [4]. Transitional periods in medical education, such as moving from preclinical to clinical stages, further increase stress and anxiety [5].

Despite global recognition of these issues, data on mental health among medical students in Yemen, especially in Taiz Governorate, are limited. A previous study in Sana'a reported high levels of depression, anxiety, and stress among medical students [8]. This gap highlights the importance of the current study, which aims to assess the prevalence and severity of depression, anxiety, and stress among medical sciences students at Aljanad University for Science and Technology in Taiz, Yemen.

METHODS

Study Design and Setting

A cross-sectional study was conducted to assess depression, anxiety, and stress among medical sciences students at Aljanad University for Science and Technology, Taiz, Yemen. Participants included students from the first to fourth academic years across five departments: Dentistry, Pharmacy, Laboratories, Nutrition, and Nursing. The study was carried out between 24 November 2024 and 1 February 2025.

Sampling and Sample Size

Students were recruited using convenience sampling, ensuring representation across departments and academic levels. A total of 300 students participated, with approximately 60 students from each department and 15 students from each academic year. While convenience sampling limits generalizability, it was chosen due to practical constraints.

Data Collection and Instrumentation

Data were collected using a structured questionnaire that included demographic and academic information (age, gender, study hours, extracurricular participation, and support systems) and the DASS-21 scale. The Depression, Anxiety, and Stress Scale - 21 Items (DASS-21), developed by Lovibond and Lovibond [9], was used to assess emotional states. The Arabic translation was pilot-tested among 15 fourth-year nursing students to ensure clarity and validity. Scores were calculated according to the original Lovibond scoring system.

Pilot Study

The pilot study aimed to confirm the tool's clarity, relevance, and usability. Minor adjustments were made based on participant feedback regarding wording and sequence.

Statistical Analysis

Data were coded and analyzed using SPSS version 21.0. Descriptive statistics (frequencies, percentages) and the chi-square test were applied to examine associations. Multivariable analysis was not conducted due to study design limitations.

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

RESULTS

Demographic Characteristics of the Study Participants

A total of 300 students participated in the study, aged between 17 and 28 years. The majority of participants (50%) were aged 21–24 years. Most of the students were female (73.7%) and single (88%). A large proportion resided in urban areas (91.7%), and 83.7% lived with their families. Regarding income, 71.7% reported sufficient financial resources. Additionally, 70% of the participants were not engaged in work during their studies. These characteristics are summarized in Table 1.

Table 1: Socio-Demographic Characteristic of the Study Sample, (n=300)

Demographic data		Frequency	%
Age	17-20 years	138	46%
	21-24 years	150	50%
	25-28 years	12	4%
	Total	300	100%
Sex	Male	79	26.3%
	Female	221	73.7%
	Total	300	100%
Marital status	Single	264	88%
	Married	35	11.7%
	Divorced	1	0.3%
	widowed	0	0
	Separated	0	0
	Total	300	100%
Residence	Rural	25	8.3%
	Urban	275	91.7%
	Total	300	100%
Level situation	Living with family	251	83.7%
	Living away from them	49	16.3%
	Total	300	100%
Income level	Sufficient	215	71.7%
	Insufficient	85	28.3%
	Total	300	100%
Working while studying	Yes	72	24%
	No	228	76%
	Total	300	100%
Relying on family for financial support	Yes	278	92.7%
	No	22	7.3%
	Total	300	100%

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

Students' Satisfaction with Educational Environment and Academic Performance

Most students reported being satisfied with the educational environment, with an overall satisfaction rate of 74.33% (combining "Very satisfied" and "Satisfied"), as shown in Figure 1. Satisfaction regarding academic performance was slightly higher, at 78.66% (combining "Very satisfied" and "Satisfied"), as illustrated in Figure 2.

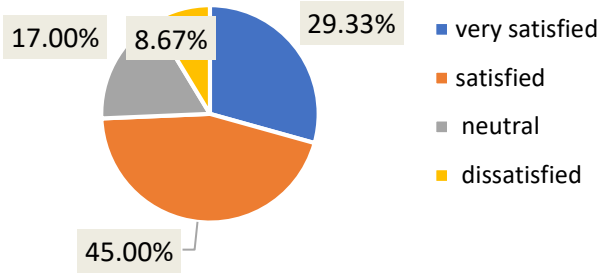

Figure 1: Distribution of participant's satisfaction with the educational environment

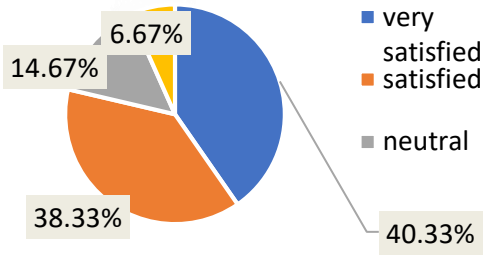

Figure 2: Distribution of participant's satisfaction with their academic performance

Prevalence and Types of Physical Illnesses among Study Participants

Out of the 300 participants, 29 (9.67%) reported having a physical illness, while 271 (90.33%) reported no such condition. Among those affected, colon disease was the most common, reported by 9 participants (31% of affected students), followed by H. pylori infection in 6 participants (20.7%) and asthma in 5 participants (17.2%). Other conditions, including heart diseases, anemia, blood infections, high cholesterol, and convulsions, were reported at lower rates, ranging from 1 to 2 cases each, representing less than 7% of affected participants, as illustrated in Figures 3 and 4.

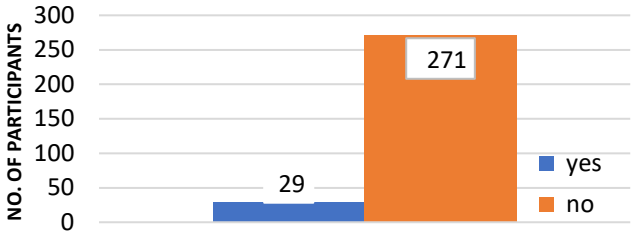

Figure 3: Distribution of participants with physical illnesses

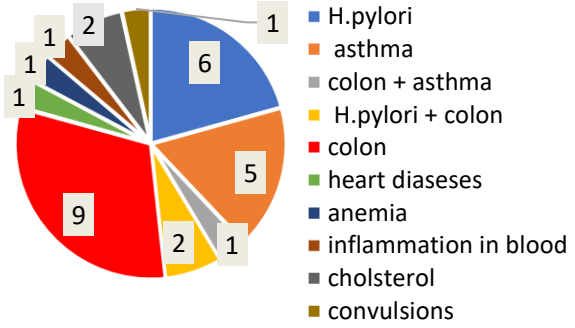

Figure 4 : Distribution of disease types among participants

Stimulant Use among Study Participants

The results indicated that more than half of the participants (53.7%) reported consuming stimulants such as tea and coffee, while approximately one-quarter (24.7%) reported no substance use. Among the remaining participants, 10.3% consumed qat only, 5.3% used both qat and stimulants (tea or coffee), and 5.7% reported consuming a combination of qat, shisha, and coffee. The lowest prevalence was observed among participants who consumed shisha only (0.3%). These findings are illustrated in Figure 5.

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

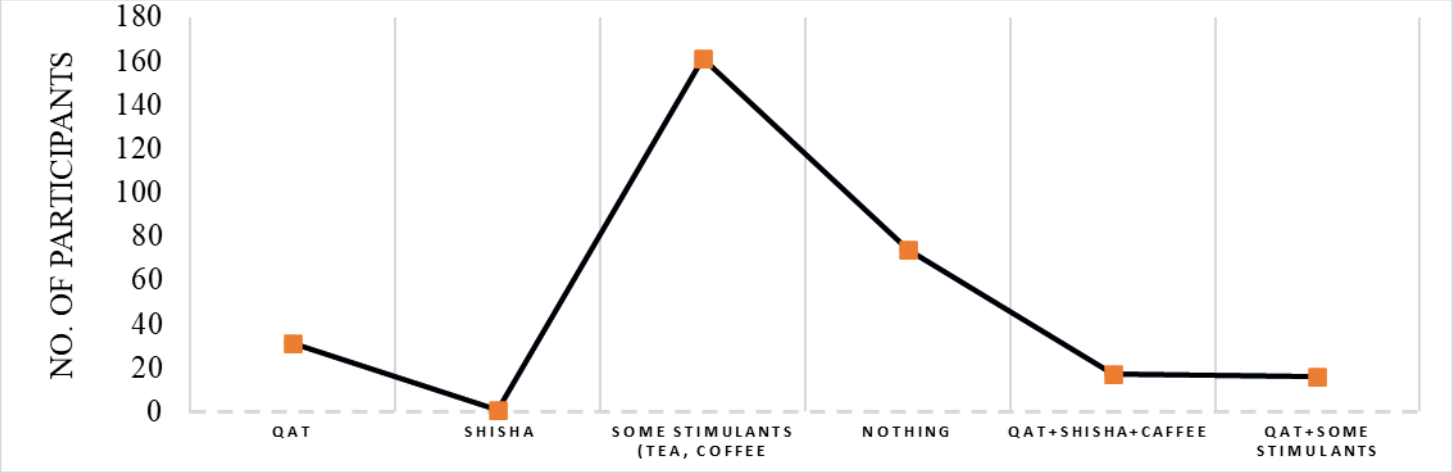

Figure 5: Distribution of participants by type of stimulant use

Prevalence of Depression, Anxiety, and Stress among Study Participants

The results of the study, assessed using the DASS-21 scale (Table 2), indicated that all participants (300 students) reported symptoms consistent with depression and anxiety, while 98.7% experienced psychological stress. It should be noted that the extremely high prevalence may reflect the use of convenience sampling, the specific characteristics of the study population, and the DASS-21 cutoff points applied. These factors are acknowledged as limitations affecting the generalizability of the findings.

Table 2: Prevalence of Depression, Anxiety, and Stress among Students Using DASS-21 Scale (n=300)

Condition	Number	Percent
Depression (DASS-21)	300	100%
Anxiety (DASS-21)	300	100%
Stress (DASS-21)	296	98.7%
No Stress	4	1.3%

Prevalence of Depression, Anxiety, and Stress According to Severity of Symptoms

The results indicated that a substantial proportion of medical students experienced extremely severe symptoms of depression, anxiety, and stress. Anxiety was the most prevalent, affecting 254 students (84.6%), followed by depression in 120 students (40%) and stress in 113 students (37.6%), as illustrated in Figure 6.

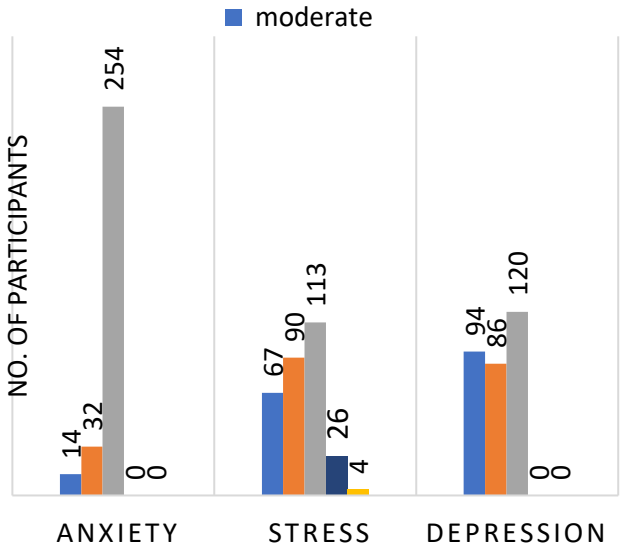

Figure 6: Severity of depression, anxiety, and stress among medical student

Severity of Depression, Anxiety, and Stress by Department

The findings illustrated in Figure 7 showed that the highest rates of extremely severe anxiety were recorded among students from the Dental (52 cases, 86.7%), Nursing (51 cases, 85.0%), Nutrition (51 cases, 85.0%), and Laboratories (51 cases, 85.0%) departments. Regarding extremely severe depression, the Pharmacy department had the highest prevalence (28 cases, 46.7%), while extremely severe stress was most common among Dental students (29 cases, 48.3%). These results indicate that dental students are particularly affected by elevated levels of psychological

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

disorders, highlighting the need for targeted mental health interventions in this group.

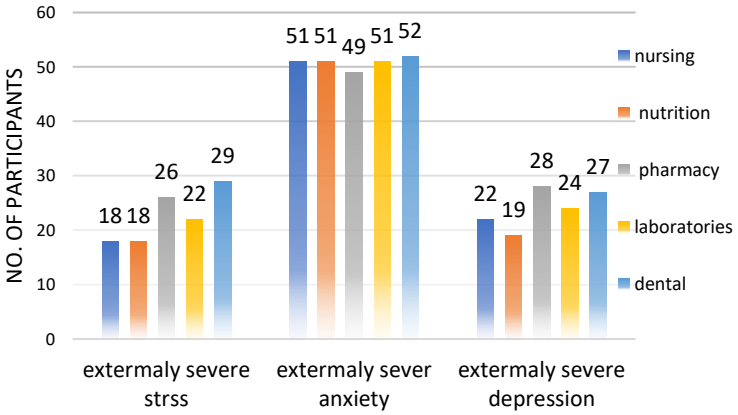

Figure 7: Distribution of extremely severe depression, anxiety, and stress among students by department

Influence of Demographic Characteristics on Depression, Anxiety, and Stress Levels

Table 3 shows that certain demographic characteristics had a significant impact on participants' levels of depression, anxiety, and stress.

Age: Statistically significant differences were observed across all psychological dimensions. The 21–24-year-old group was the most susceptible to depression (p = 0.000), stress (p = 0.002), and anxiety (p = 0.015).

Gender: No significant differences were found in depression or stress. However, anxiety showed a significant association with gender (p = 0.007), with females being more susceptible to very severe anxiety than males.

Marital status: No significant differences were observed in depression or stress, while anxiety was significantly associated with marital status (p = 0.021), with higher rates among unmarried participants.

Housing conditions: Significant differences were found in depression (p = 0.002) and stress (p = 0.014). Students living with their families were more likely to experience very severe levels of psychological disorders, whereas differences in anxiety were not significant (p = 0.818).

Income level: Statistically significant associations were observed with depression (p = 0.029) and stress (p = 0.004), with higher levels reported among students with sufficient income. Anxiety differences were not significant (p = 0.174).

Academic specialization: Significant differences were found for depression (p = 0.048) and stress (p = 0.017), while anxiety differences were not significant (p = 0.945).

Education level: A significant relationship was observed across all psychological dimensions. First- and second-year students scored higher in depression (p = 0.006), stress (p = 0.003), and anxiety (p = 0.000).

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

Table 3: Socio-Demographic Correlates of Depression, Anxiety, and Stress Severity (n=300)

Demographic data		Depression			Stress			Anxiety		
		Normal	Mild+ moderate	Severe +Very severe	Normal	Mild+ moderate	Severe +Very severe	Normal	Mild+ moderate	Severe +Very severe
Age	17-20	0	28(20.3%)	110(79.7)	1(0.7%)	31(22.5%)	106(76.8%)	0	3(2.2%)	135(97.8%)
	21-24	0	61(40.7%)	89(59.3%)	3(2.0%)	57(38.0%)	90(60.0%)	0	9(6.0%)	141(94.0%)
	≥25	0	5(41.7%)	7(58.3%)	0	5(41.6%)	7(58.4%)	0	2(16.7%)	10(83.3%)
	p-value			<0.001			0.002			0.015
Sex	Males	0	27(34.2%)	52(65.8%)	3(3.8%)	22(27.8%)	54(68.4%)	0	9(11.4%)	70(88.6%)
	Females	0	67(30.3%)	154(69.7%)	1(0.5%)	71(32.1%)	149(67.4%)	0	5(2.3%)	216(97.7%)
	p-value			0.796			0.743			0.007
Marital Status	Single	0	79(29.9%)	185(70.1%)	2(0.8%)	82(31.0%)	180(68.2%)	0	10(3.8%)	254(96.2%)
	Married	0	15(42.9%)	20(57.1%)	2(5.7%)	11(31.4%)	22(62.9%)	0	4(11.4%)	31(88.6%)
	Divorced	0	0	0	0	0	1(100.0%)	0	0	1(100.0%)
	P-value			0.413			0.084			0.021
Living situation	With family	0	73(29.1%)	178(70.9%)	3(1.2%)	70(27.9%)	178(70.9%)	0	12(4.8%)	239(95.2%)
	Away from family	0	21(42.9%)	28(57.1%)	1(2.0%)	23(46.9%)	25(51.1%)	0	2(4.1%)	47(95.9%)
	P-value			0.002			0.014			0.818
Income	Sufficient	0	77(35.8%)	138(64.2%)	3(1.4%)	73(34.0%)	139(64.6%)	0	10(4.7%)	205(95.3%)
	Insufficient	0	17(20.0%)	68(80.0%)	1(1.2%)	20(23.5%)	64(75.3%)	0	4(4.7%)	81(95.3%)
	p-value			0.029			0.004			0.174
Specialty	Nursing	0	24(40.0%)	36(60.0%)	0	24(40.0%)	36(60.0%)	0	2(3.3%)	58(96.7)
	Nutrition	0	21(35.0%)	39(65.0%)	1(1.7%)	17(28.4%)	42(69.9%)	0	1(1.7%)	59(98.3%)
	Laboratories	0	19(31.7%)	41(68.3%)	1((1.7%)	24(40.0%)	35(58.3%)	0	4(6.7%)	56(93.3%)
	Pharmacy	0	13(21.7%)	47(78.3%)	1(1.7%)	13(21.7%)	46(76.6%)	0	5(8.3%)	55(91.7%)
	Dentistry	0	17(28.3%)	43(71.7%)	1(1.7%)	15(25.0%)	44(73.3%)	0	2(3.3%)	58(96.7%)
	p-value			0.048			0.017			0.945

https://doi.org/10.20428/yjms.v20i1.3401
https://journals.ust.edu/index.php/yjms

Relationship between Social and Academic Factors and Psychological Disorders

The results of this study indicate that several social and academic factors have a significant impact on participants' levels of depression, anxiety, and stress. Participation in family social activities was significantly associated with depression (p = 0.001), although no significant associations were observed with anxiety (p = 0.599) or stress (p = 0.082). Insomnia emerged as a strong predictor across all psychological dimensions, showing significant relationships with depression (p < 0.001), stress (p < 0.001), and anxiety (p = 0.006). Difficulties in studying in English were significantly linked to higher levels of depression (p < 0.001) and stress (p = 0.023), but their association with anxiety did not reach statistical significance (p = 0.054). Similarly, communication difficulties were associated with increased depression (p = 0.001) and stress (p = 0.023), yet no significant effect was found for anxiety (p = 0.451). Finally, emotional support from family was significantly related to lower levels of depression (p = 0.004) and stress (p = 0.001), while its association with anxiety was not statistically significant (p = 0.451). These findings are summarized in Table 4.

Table 4: Psychosocial and Academic factors and its association with presence of Depression, Anxiety, and Stress, (n=300)

		Depression n (%)		Stress n (%)		Anxiety n (%)	
		Absent n=0	***Present n=300***	***Absent n=4***	***Present n=296***	***Absent n=0***	***Present n=300***
Participate in family social activities	Yes	0	218(72.7%)	3(75%)	215(72.6%)	0	218(72.7%)
	No	0	82(27.3%)	1(25%)	81(27.4%)	0	82(27.3%)
p-value		0.001		0.082		0.599	
Presence insomnia	Yes	0	147(49%)	1(25%)	146(48.6%)	0	147(49%)
	No	0	153(51%)	3(75%)	150(51.4%)	0	153(51%)
p-value		0.000		0.000		0.006	
Problems Studying in English	Yes	0	150(50%)	3(25%)	147(49.7%)	0	150(50%)
	No	0	150(50%)	1(25%)	149(50.3%)	0	150(50%)
P-value		0.000		0.023		0.054	
Difficulties Communicating	Yes	0	153(51%)	3(25%)	150(51.4%)	0	153(51%)
	No	0	147(49%)	1(25%)	146(48.6%)	0	147(49%)
p-value		0.001		0.023		0.451	
Emotional Support From family	Yes	0	248(82.7%)	3(25%)	245(82.7%)	0	248(82.7)
	No	0	52(17.3%)	1(25%)	51(17.3%)	0	52(17.3%)
p-value		0.004		0.001		0.451	

DISCUSSION

The present study explored the prevalence of depression, anxiety, and stress (DAS) among university students at Aljanad University for Science and Technology, Taiz, Yemen, and examined their associations with demographic, social, academic, and behavioral factors. Overall, the findings align with and diverge from previous studies in various aspects. Regarding age distribution, the majority of participants were aged 20–24 years, consistent with the findings of Shamsuddin et al. [3]. However, this differs from Ooi et al. [10], whose sample primarily comprised individuals aged 18–21 years. In terms of gender, the current results mirrored Shamsuddin et al. [3], with a slightly higher proportion of female participants. In contrast, Alfakeh et al. [11] reported a higher proportion of male respondents. Concerning residence, most participants in this study lived in urban areas, similar to Magfur et al.

[12], but differing from Abdallah & Gabr [4], where the majority resided in rural areas. Likewise, the majority of students in the current study were unmarried, in agreement with [4], although Shamsuddin et al. [3] reported a predominance of married participants. Living arrangements also varied, as our findings differed from Astutik et al. [13], where most students lived away from family. Regarding academic satisfaction and performance, the current study showed some differences compared to [1, 14, 15], highlighting the variability in student perceptions of academic achievement across contexts. Similarly, environmental factors have been shown to influence depression, stress, and anxiety among medical students [16]. The prevalence of physical illness among participants was low, consistent with Shao et al. [17] and Abdallah & Gabr [4]. Nevertheless, comorbidities have been linked to higher rates of depression and anxiety in other studies [18, 19]. With respect to the prevalence of DAS, our findings showed rates comparable to Alfakeh et al. [11] but differed from [4, 12, 20], reflecting variations across populations and settings. Similarly, substance use patterns, such as caffeine and stimulant consumption, were consistent with findings by Abdallah & Gabr [4], Bahhawi et al. [21], and Iorga et al. [22]. The severity of DAS symptoms varied, with extremely severe levels observed in this study similar to Alfakeh et al. [4] and Tripathi et al. [23], but lower or absent in other studies [12, 24, 25]. Regarding demographic associations, age showed a significant association with DAS, consistent with Abdel Wahed & Hassan [2], while sex did not, in agreement with Liasi et al. [20]. Marital status was associated with anxiety but not with depression or stress, echoing Abdel Wahed & Hassan [2], yet differing from Shamsuddin et al. [3]. Residential status showed no significant associations, similar to Astutik et al. [13]. Academic year was significantly associated with DAS, aligning with Abdel Wahed & Hassan [2] and Jadoon et al. [26], but differing from Bahhawi et al. [21]. Social, academic, and behavioral factors also played a role in DAS. Participation in family activities, insomnia, and difficulties in studying English were significantly associated with depression and stress, while insomnia was strongly linked to anxiety, consistent with Abdallah & Gabr [4]. A significant positive correlation was observed between insomnia severity and DAS scores, in line with Barakat et al. [27]. However, unlike previous studies, no significant association was found between communication difficulties with faculty members and DAS in this study. In summary, the findings underscore the multifactorial nature of depression, anxiety, and stress among university students. They highlight the influence of demographic characteristics, social support, academic challenges, and behavioral factors. These results have important implications for developing targeted interventions to promote students' mental health and well-being.

CONCLUSION

This study found a high prevalence of depression, anxiety, and stress among medical sciences students at Aljanad University for Science and Technology in Taiz, Yemen, with extremely severe anxiety being the most frequent. Psychological distress was more pronounced among younger students, those in early academic years, and students experiencing insomnia, poor family support, and difficulties communicating with faculty. Interestingly, higher income was associated with greater distress, suggesting a complex relationship between financial status and mental health. These findings highlight the vulnerability of medical students and underscore the importance of implementing mental health support, including counseling, stress management, and awareness programs, to promote well-being and academic success.

RECOMMENDATIONS

Based on the findings, several measures are recommended to address the high prevalence of mental health problems among medical sciences students. Universities should establish accessible and confidential counseling services to provide early support for students experiencing psychological distress. Incorporating structured stress management and mental health education into the curriculum may enhance coping skills and resilience. Faculty training on recognizing signs of student distress and fostering supportive communication is also advised. Strengthening family involvement and peer-support initiatives can contribute to a more inclusive and supportive academic environment. Academic workload and assessment practices should be reviewed to minimize unnecessary stressors. Finally, ongoing monitoring and further research are needed to evaluate

the effectiveness of these interventions and guide future mental health strategies.

Author's Contribution

All authors contributed equally to the conception and design of the study. Data collection, analysis, and interpretation were performed collaboratively. The first author drafted the initial manuscript, and all authors critically reviewed and approved the final version of the manuscript for publication.

Funding

This study was supported by Aljanad University for Science and Technology.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript.

REFERENCES

1. Teh CK, Ngo CW, Zulkifli RA binti, Vellasamy R, Suresh K. Depression, Anxiety and Stress among Undergraduate Students: A Cross Sectional Study. Open J Epidemiol. 2015;5(04):260–8. https://doi.org/10.4236/ojepi.2015.54030.
2. Abdel Wahed WY, Hassan SK. Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students. Alexandria J Med. 2017;53(1):77–84. https://doi.org/10.1016/j.ajme.2016.01.005.
3. Shamsuddin K, Fadzil F, Ismail WSW, Shah SA, Omar K, Muhammad NA, et al. Correlates of depression, anxiety and stress among Malaysian university students. Asian J Psychiatry. 2013;6(4):318–23. https://doi.org/10.1016/j.ajp.2013.01.014.
4. Abdallah AR, Gabr HM. Depression, anxiety and stress among first year medical students in an Egyptian public university. Int Res J Med Scince. 2014;2(1):11–9.
5. Papadopoulos T, Abrahim A, Sergelidis D, Bitchava K. Perceived stress among male medical students in Egypt and Saudi Arabia: effect of sociodemographic factors. 2011;2(January):119–23. https://doi.org/10.4314/ajcem.v12i3.
6. Sherif RF, Saeed NM, Sherif GA, Rabab KS, Fathi M. Prevalence of depression among Libyan medical students. 2021. Available from: https://www.redalyc.org/articulo.oa?id=692072543006.
7. Universty S. Incidence of Depression, Anxiety and Stress among Final-Year Medical Students versus Internship Graduates of the Faculty of Medicine, Sana'a University 2023. 2023.
8. AlHaddad KM, Al-Nuzaili AF, Al-Hakimi AA, Zayed AA, AlYosefi MA, Al-Madhfari RH, et al. Incidence of depression, anxiety and stress among final-year medical students versus internship graduates of the faculty of medicine, Sana'a University 2023. Sana'a Univ J Med Health Sci. 2025;19(5):363–70.
9. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. Behaviour research and therapy. 1995 Mar 1;33(3):335-43.
10. Ooi PB, Khor KS, Tan CC, Ong DLT. Depression, anxiety, stress, and satisfaction with life: Moderating role of interpersonal needs among university students. Front Public Health. 2022;10. https://doi.org/10.3389/fpubh.2022.958884.
11. Alfakeh SA, Alghamdi KM, Hilal RM, Abdelmoaty MM. Rates of depression, anxiety, and stress in King Abdulaziz University freshmen, Jeddah, Saudi Arabia: A cross-sectional study. 2021;7(2):116–21.
12. Magfur I, Hasan M, Imam R, Mamun A Al, Islam MM. Depression, anxiety and stress among first year medical students in Sylhet division. 2023.
13. Astutik E, Sebayang SK, Puspikawati SI, Tama TD, Sintha DM. Depression, Anxiety, and Stress among Students in Newly Established Remote University Campus in Indonesia. 2020;16(15):270–7.
14. Mohd Tamil A, Ismail NH, Jaafar MH, Md Isa Z, Ismail R, Mat Nasir N, et al. Depressive symptoms among adults: Baseline findings of PURE Malaysia cohort study. Heliyon. 2024;10(1):e23042.

https://doi.org/10.1016/j.heliyon.2023.e23042.

15. Pokhrel NB, Khadayat R, Tulachan P. Depression, anxiety, and burnout among medical students and residents of a medical school in Nepal: a cross-sectional study. 2020;1–18.
16. Dafaalla M, Farah A, Bashir S, Khalil A, Abdulhamid R. Depression, Anxiety, and Stress in Sudanese Medical Students: A Cross Sectional Study on Role of Quality of Life and Social Support. 2016;4(13):937–42. https://doi.org/10.12691/education-4-13-4.
17. Shao R, He P, Ling B, Tan L, Xu L, Hou Y, et al. Prevalence of depression and anxiety and correlations between depression, anxiety, family functioning, social support and coping styles among Chinese medical students. 2020;1–19.
18. Bhattacharya R, Shen C, Sambamoorthi U. Excess risk of chronic physical conditions associated with depression and anxiety. 2014.
19. Hakim A, Tak H, Bhansali S. Assessment of prevalence of depression and anxiety and factors associated with them in undergraduate medical students of Dr. S. N. Medical College, Jodhpur. 2017. https://doi.org/10.18203/2394-6040.ijcmph20173826.
20. Liasi GA, Nejad SM, Sami N, Khakpour S, Yekta BG. The prevalence of educational burnout, depression, anxiety, and stress among medical students of the Islamic Azad University in Tehran, Iran. 2021;7:1–8.
21. Bahhawi TA, Albasheer OB, Makeen AM, Arishi M, Hakami OM, Maashi SM, et al. Among Jazan University students, Saudi Arabia: Depression, anxiety, and stress and their association with khat use: a cross-sectional study. 2018. https://doi.org/10.2147/NDT.S182744.
22. Iorga M, Muraru I, Munteanu C, Petrariu FD. Preventive Medicine - Laboratory Depression, Anxiety And Stress Among Medical Students. 2019;123(3):496–505.
23. Tripathi R, Alqahtani SS, Meraya AM, Makeen HA, Tripathi P, Pancholi SS. Evaluation of depression, anxiety, and stress among university healthcare students. J Appl Pharm Sci. 2022;12(10):078–87. https://doi.org/10.7324/JAPS.2022.121008.
24. Kugbey N, Osei-boadi S. The Influence of Social Support on the Levels of Depression, Anxiety and Stress among Students in Ghana. 2015;6(25):135–41.
25. Kh A, Khodadadi B, Khodadadi B. Evaluation of Anxiety, Stress and Depression among Students of Lorestan University of Medical Sciences, west of Iran, in 2016. 2018;6(1):285–94. https://doi.org/10.24896/jrmds.20186147.
26. Jadoon NA, Yaqoob R, Raza A, Shehzad MA, Choudhry ZS. Anxiety and depression among medical students: A cross-sectional study. 2010;April 2015.
27. Barakat D, Elwasify M, Elwasify M, Radwan D. Relation between insomnia and stress, anxiety, and depression among Egyptian medical students. July 2016. https://doi.org/10.1097/01.XME.0000484345.57567.a9.