

RESEARCH PAPER

Depression, Anxiety, and Stress among Overseas First-year Medical Students in Sylhet Division, Bangladesh

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Abstract

Background: A significant proportion of international students, particularly from India (Kashmir) and Nepal, enrol in medical colleges across Bangladesh and face considerable academic and emotional pressures that may lead to psychiatric morbidity. This study aimed to estimate the prevalence of depression, anxiety, and stress among first-year overseas medical students in the Sylhet Division and to examine selected socio-demographic variables associated with these psychological outcomes.

Methods: A cross-sectional study was conducted from March 2022 to February 2023 in all medical colleges of the Sylhet Division. A total of 138 foreign students were purposively interviewed. Participants completed a pre-tested socio-demographic questionnaire and the Depression, Anxiety, and Stress Scale (DASS-21).

Results: Among the 138 participants, 53 (38.4%) were male and 85 (61.6%) female. Regarding religion, 48 (34.8%) were Muslim, 59 (42.8%) Hindu, 26 (18.8%) Christian, 2 (1.4%) Buddhist, and 3 (2.2%) belonged to other faiths. Fathers' occupations included service (74, 53.6%), business (48, 34.8%), and other professions (16, 11.6%). Illicit drug use was reported by 2 (1.4%), and 7 (5.1%) had a family history of psychiatric illness; 40 (29.0%) described their family environment as overprotective. Based on DASS-21 scoring, 24 (17.4%) students met the criteria for depression, 45 (32.6%) for anxiety, and 14 (10.1%) for stress. Overlap was common: 21 (15.2%) had both depression and anxiety; 12 (8.7%) had both depression and stress; 13 (9.4%) had both anxiety and stress; and 11 (8.0%) exhibited all three conditions.

Conclusion: Depression, anxiety, and stress are prevalent among first-year overseas medical students in the Sylhet Division, underscoring the need for early mental health interventions and counselling services within medical colleges.

Key words: medical students, first-year, depression, anxiety, stress, DASS-21.

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<https://doi.org/10.5281/zenodo.17555953> Received 22 July 2025; Received in revised form 20 October 2025; Accepted October 25, 2025. 1992-2426/© 2025 The Author(s). Published by Sylhet MAG Osmani Medical College, Sylhet, Bangladesh. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

INTRODUCTION:

Entering medical school represents more than an academic milestone; it exposes students to intense workloads, unfamiliar social environments, and heightened expectations. Early academic life in medical college requires adjustment to demanding coursework, frequent examinations, clinical exposure, and often relocation away from familiar surroundings — a challenge that is particularly pronounced for overseas students in Bangladesh.

Studies have shown that medical students experience significantly higher rates of depression, anxiety, and stress compared to their non-medical peers.¹ Reported prevalence rates of depression or depressive symptoms among medical students vary widely across studies, ranging from 1.4% to 73.5%.^{2,3} Students in both public⁴ and private⁵ medical institutions have demonstrated substantial levels of psychological morbidity. The psychological and social well-being of medical students is crucial for their academic performance, professional development, and overall personal fulfilment.⁶

In Bangladesh, previous studies have reported high rates of depression, anxiety, and stress among first-year medical students.⁷ Increasing attention has been paid to the mental health of both domestic and international students, reflecting the intense academic demands and unique socio-demographic context of medical education in the country.⁸

However, studies focusing specifically on psychiatric morbidity among overseas medical students in Bangladesh remain limited. Therefore, the present study aimed to estimate the prevalence of depression, anxiety, and stress among first-year overseas medical students in the Sylhet Division, thereby addressing this existing knowledge gap.

Materials and Methods

This descriptive, cross-sectional study was carried out from March 2022 to February 2023 in the Sylhet Division of Bangladesh. All overseas first-year students enrolled in both government and private medical colleges in Sylhet Division were eligible. Among the foreign students 138 were participated in the study.

A structured questionnaire was developed, pre-designed and pre-tested on a small pilot group

for clarity and reliability. It included sections on socio-demographic information (sex, religion, father's occupation, illicit drug intake, family history of psychiatric illness, overprotective family environment) and the psychological assessment using the Depression, Anxiety and Stress Scale (DASS-21), which is a self-report instrument widely used and validated in educational settings.

Statistical Analysis

Data were analysed using SPSS version 25. Descriptive statistics were used to summarise participants' socio-demographic characteristics and psychological outcomes. Categorical variables (such as sex, religion, father's occupation, illicit drug use, family psychiatric history, and overprotective family environment) were expressed as frequencies and percentages.

The prevalence of depression, anxiety, and stress, as measured by the DASS-21, was calculated, including overlapping conditions. The results were presented in tabular form and illustrated using a Venn diagram to depict the co-occurrence of depression, anxiety, and stress.

No inferential statistical tests were conducted, as the study aimed primarily to estimate prevalence and describe patterns among first-year overseas medical students.

Results

A total of 138 first-year foreign medical students participated in the study. Of these, 53 (38.4%) were male and 85 (61.6%) were female. Regarding religion, the majority of students were Hindu (42.8%), followed by Muslim (34.8%), Christian (18.8%), Buddhist (1.4%), and other religions (2.2%). In terms of parental occupation, more than half of the students' fathers were employed in service (53.6%), while more than one third (34.8%) were engaged in business, and 11.6% had other occupations. Very few students reported illicit drug intake (1.4%). Regarding psychiatric history, 7 students (5.1%) reported a family history of psychiatric illness, whereas 131 students (94.9%) did not. Finally, 40 students (29.0%) reported coming from an overprotective family environment.

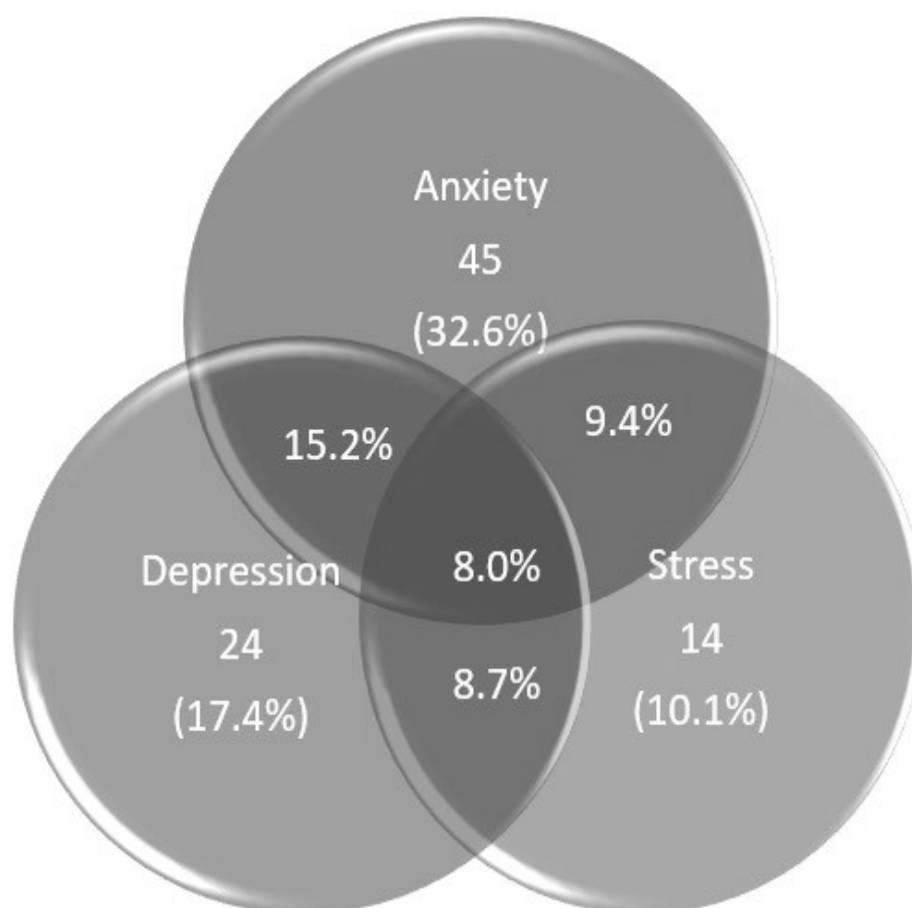
Table 1 Socio-demographic variables of first year overseas medical students (n=138)

Variables	Frequency (n)	Percentage (%)
Sex		
Male	53	38.4
Female	85	61.6
Religion		
Muslim	48	34.8
Hindu	59	42.8
Christian	26	18.8
Buddhist	2	1.4
Others	3	2.2
Occupation of Father		
Service	74	53.6
Business	48	34.8
Other	16	11.6
Illicit drug intake		
Yes	2	1.4
No	136	98.6
Family history of psychiatric illness		
Yes	7	5.1
No	131	94.9
Overprotective family		
Yes	40	29.0
No	98	71.0

Table 2 Proportion of depression, anxiety, stress among first year overseas medical students (n=138)

Parameters	Frequency (n)	Percentage (%)
Depression	24	17.4
Anxiety	45	32.6
Stress	14	10.1
Depression + Anxiety	21	15.2
Depression + Stress	12	8.7
Anxiety + Stress	13	9.4
Depression + Anxiety + Stress	11	8.0

With regard to the proportion of depression, anxiety, and stress, as assessed by the DASS-21; 17.4% had depression, 32.6% had anxiety and 10.1% had stress. A significant proportion of students had overlapping symptoms. Of them, 21(15.2%) had depression and anxiety, 12(8.7%) had depression and stress, 13(9.4%) had both anxiety and stress and 11(8.0%) had all three

**Figure 1: Venn Diagram showing proportion of depression, anxiety and stress (n=138)**

DISCUSSION

The findings of the study indicated that 82.6% of students fell within the normal range for depression, whereas 17.4% experienced varying degrees of depressive symptoms. These results are broadly consistent with previous research demonstrating that depression is common among students, particularly in high-pressure academic environments. For instance, a 2023 study of 546 Bangladeshi medical students reported that approximately 28.9% experienced depressive symptoms, with female students being more frequently affected.⁹ Similarly, a study conducted in Patna, India, in 2023 among 368 students found a depression rate of 25%.¹⁰ A Swedish study reported a slightly lower prevalence of 12.9%.¹¹ Conversely, a study from Pakistan conducted in 2003 among 189 medical students found a substantially higher depression rate of 60%.¹²

Regarding anxiety, 32.6% of students in the present study were found to experience anxiety. This prevalence is broadly consistent with global research, where high rates of anxiety among medical students have been attributed to academic pressures, career concerns, and socio-economic factors.^{13,14} A recent meta-analysis of medical students worldwide reported an overall anxiety prevalence of 33.8%, closely aligning with the 32.6% observed in this study.¹⁵ Similarly, a study by Magfur et al. in Bangladesh reported an anxiety prevalence of 37.5% among medical students,⁹ while a higher prevalence of 64.8% was reported in another study by Alim et al.⁷

In the present study, 10.1% of students were found to experience stress. Comparable rates of stress have been reported in other studies, ranging from 12.5% to 32%,^{9,17} while some studies reported considerably higher rates of 53% and 59%.^{7,16} These differences may be attributable to variations in methodology, socio-cultural context, and the academic environment.

A notable proportion of students exhibited

overlapping symptoms: 21 (15.2%) experienced both depression and anxiety, 12 (8.7%) had both depression and stress, and 13 (9.4%) had both anxiety and stress. Additionally, 11 students (8.0%) were affected across all three psychological domains (depression, anxiety, and stress), consistent with findings by Magfur et al. and Rana et al., who reported 10.45% of students with all three conditions.^{9,17}

Regarding socio-demographic characteristics, 53 (38.4%) of participants were male and 85 (61.6%) female. Most students were Hindu (42.8%), followed by Muslim (34.8%). Over half of the students' fathers were employed in service (53.6%), and a small proportion reported illicit drug use (1.4%). A family history of psychiatric illness was reported by 7 students (5.1%), whereas 131 (94.9%) did not report such history. Finally, 40 students (29.0%) described their family environment as overprotective.

Conclusion

Depression, anxiety, and stress are common psychological problem among medical students. These problem leads to hamper academic activity and different psychiatric disease. Different environmental factor worsens this situation. To create mental health awareness, screening program and adequate service provide is necessary to prevent and manage that psychological problem. Stress reduction program may be included in curriculum. Further large sample study needs to explore real scenario.

Declarations

Funding: This research was supported by a research grant from Bangladesh Medical University (BMU).

Declaration of interests: The authors declare that they have no known competing financial interests appeared to influence the work reported in this paper.

Ethics approval: Ethical clearance was taken from Ethical Review Board of Sylhet MAG Osmani Medical College, Sylhet.

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To cite: Chowdhury AR, Hasan MM, Magfur I, Sayed MA, Singha RK. Depression, anxiety, and stress among overseas first-year medical students in Sylhet Division, Bangladesh. *Sylhet MAG Osmani Med Coll J* 2025; 24 (2): 14–19. <https://doi.org/10.5281/zenodo.17555953>