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ANXIETY AND DEPRESSIVE SYMPTOMS AMONG MEDICAL STUDENTS AND INTERNS AT A MEDICAL COLLEGE IN HIMACHAL PRADESH: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Medical training may expose students and interns to substantial academic and clinical stress. This study described anxiety and depressive symptoms among trainees at a government medical college in Himachal Pradesh, India. **Methods:** An institution-based cross-sectional study was conducted in July 2025 using an online questionnaire, participation was voluntary. Anxiety and depressive symptoms were assessed using the Hospital Anxiety and Depression Scale (HADS). **Results:** Among 159 respondents, 39.6% had borderline or abnormal anxiety scores and 32.1% had borderline or abnormal depression scores. The sample included 56 third-year students, 66 fourth-year students and 37 interns. Overall, 30.2% reported sleeping fewer than six hours per night. **Conclusion:** Borderline or abnormal HADS screening scores were observed among a substantial proportion of participating trainees, highlighting the importance of accessible student mental-health support.

KEYWORDS : Medical Students; Interns; Anxiety; Depressive Symptoms.

INTRODUCTION

Medical education requires sustained cognitive effort, high-stakes examinations and adaptation to clinical responsibilities. Trainees may also encounter long working hours, on-call duties, disrupted sleep and exposure to patient morbidity. Studies from India and other settings have reported anxiety, depressive symptoms and other forms of psychological distress among medical students. Findings from a single institution should not automatically be generalised to all medical students; voluntary participation may also introduce non-response bias. Nevertheless, a description of participating trainees can help identify areas for further assessment and student support (Arun et al., 2021; Dyrbye et al., 2006; Puthran et al., 2016).

Previous reviews have described psychological distress among medical students and identified academic workload and competitive pressure as potential stressors (Sarkar et al., 2017). Barriers to seeking mental-health support may include stigma and concerns about confidentiality; claims about specific barriers should be interpreted in line with the populations and findings of the cited studies (Arun et al., 2021; Chew et al., 2019).

The Hospital Anxiety and Depression Scale (HADS) is a 14-item self-report screening instrument developed by Zigmond and Snaith (1983). It contains separate seven-item anxiety and depression subscales, each scored from 0 to 21. HADS assesses symptom burden and does not, by itself, establish a psychiatric diagnosis.

Objectives

1. To describe anxiety and depressive symptom scores among participating undergraduate medical students and interns.
2. To describe respondents' sociodemographic characteristics, academic training stage, sleep duration and recent major life events.
3. To provide descriptive findings that may inform institutional student-support initiatives.

Methodology

Study Design and Setting: An institution-based cross-sectional study was conducted using an online Google Forms questionnaire at Dr. Radhakrishnan Government Medical College, Hamirpur, Himachal Pradesh, India. The dataset comprised responses recorded in July 2025.

Sampling and Participants: The study population comprised registered third-year MBBS students, fourth-year (final-year) MBBS students and Compulsory Rotatory Residential Interns (CRRIs). Participation was voluntary. An online invitation link was distributed to all eligible trainees across the three cohorts (approximately 120 individuals per batch, representing a total eligible population of 360). A total of 159 completed responses were received and included in the analysis (overall response rate: 44.2%), comprising 56 third-year students (46.7%), 66 fourth-year students (55.0%), and 37 interns (30.8%).

Data Collection Tool: The questionnaire collected age, gender, academic group, average nightly sleep duration during the preceding week and self-reported experience of a major life event during the preceding six months. Anxiety and depressive symptoms were assessed using the 14-item HADS. The anxiety and depression subscales were scored separately, each with a possible total of 0–21. Conventional screening categories were 0–7 (normal range), 8–10 (borderline range) and 11–21 (abnormal range); these categories do not establish clinical diagnoses.

Statistical Analysis: Data were analysed using IBM SPSS Statistics version 26.0 . Continuous variables were summarised as means and standard deviations (SDs), and categorical variables as frequencies and percentages.

Ethical Considerations

The study received Institutional Ethics Committee approval and informed consent was obtained. Anonymity was strictly maintained.

RESULTS

A total of 159 responses were included in the analysis. The mean age was 22.63 years (SD 1.43). There were 118 female respondents (74.2%) and 41 male respondents (25.8%). The academic groups represented were third-year students (n = 56), fourth-year students (n = 66) and interns (n = 37).

Table 1. Demographic and academic characteristics of respondents (n = 159)

Characteristic	n (%) / Mean ± SD
Age (years)	22.63 ± 1.43
Female	118 (74.2%)
Male	41 (25.8%)
Third-year students	56 (35.2%)
Fourth-year students	66 (41.5%)
Interns	37 (23.3%)

Table 2. Lifestyle characteristics of respondents (n = 159)

Characteristic	Category	n (%)
Sleep duration	Less than 6 hours/night	48 (30.2%)
	6–8 hours/night	99 (62.3%)
	More than 8 hours/night	12 (7.5%)
Major Life Event	Present (past 6 months)	34 (21.4%)
	Absent	125 (78.6%)

The mean anxiety subscale score was 6.84 (SD 3.74), and the mean depression subscale score was 5.80 (SD 4.16).

Table 3. HADS subscale scores and screening categories among respondents (n = 159)

Screening Category	Anxiety n (%)	Depression n (%)
Normal (0–7)	96 (60.4%)	108 (67.9%)
Borderline (8–10)	38 (23.9%)	25 (15.7%)
Abnormal (11–21)	25 (15.7%)	26 (16.4%)

DISCUSSION

The psychological health of medical trainees has emerged as an important priority in medical education (Dyrbye et al., 2006; Rotenstein et al., 2016). In our study, 39.6% of participants had

borderline or abnormal anxiety scores, and 32.1% met the screening threshold for depressive symptoms. These findings are consistent with previous reports across Indian medical institutions (Arun et al., 2021; Sarkar et al., 2017).The rates of abnormal scores—15.7% for anxiety and 16.4% for depression—indicate that a notable segment of trainees experiences marked distress. Contributing factors often include licensing examination pressure (such as INICET/NEET-PG), long ward duties, competitive academic grading, and clinical responsibilities (Hope & Henderson, 2014).Sleep restriction was evident in this cohort, with 30.2% reporting fewer than six hours of sleep per night. Chronic sleep deficits reduce cognitive performance and impair mood regulation, compounding psychological morbidity in medical students (Almojali et al., 2017). Additionally, 21.4% of respondents experienced an acute major life stressor within the past six months, which may further exacerbate academic fatigue. Females constituted 74.2% of respondents in this sample. While higher female response rates are common in voluntary surveys, literature also indicates that female medical students frequently report higher perceived stress and mood symptoms than male peers (Chew-Graham et al., 2003; Rotenstein et al., 2016).

Strengths and Limitations

Strengths include the use of HADS, a recognised symptom-screening instrument, and the inclusion of undergraduate students at different clinical training stages and interns. Limitations include the cross-sectional design, which precludes causal inference; the single-institution setting, which limits generalisability; and voluntary participation, which may have introduced non-response bias. Data were self-reported, and HADS scores are screening results rather than clinical diagnoses.

CONCLUSION

Borderline or abnormal HADS anxiety and depression screening scores were observed among a substantial proportion of participating medical students and interns. These findings highlight the importance of accessible and confidential student mental-health support. Medical institutions may consider strengthening counselling services and providing education on sleep and stress management. Further multicentre studies with appropriate analytical methods are needed to assess associated factors and the generalisability of these findings.

DECLARATIONS

Conflict of Interest

The author declares no competing interests.

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