

Mental Health Issues Among Undergraduate Medical Students

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ABSTRACT

Undergraduate medical education is academically demanding and is often associated with increased psychological distress among students. Understanding the relationship between psychological distress, general health, and coping strategies is essential for promoting mental well-being in future healthcare professionals. To assess levels of depression, anxiety, stress, general health, and coping strategies among undergraduate MBBS students and examine the relationships among these variables. A cross-sectional study was conducted among 92 undergraduate MBBS students (46 males and 46 females) aged 18–25 years from Santosh Medical College and Hospital, Ghaziabad. Participants were selected using purposive sampling. Depression, anxiety, and stress were assessed using the Depression Anxiety Stress Scale-21 (DASS-21), general health was measured using the General Health Questionnaire-12 (GHQ-12), and coping strategies were assessed using the COPE Inventory. Data were analysed using descriptive statistics and Pearson's correlation analysis. The mean scores for depression, anxiety, and stress were 10.35 (SD = 8.24), 11.91 (SD = 7.63), and 14.36 (SD = 8.02), respectively, indicating moderate levels of psychological distress, with stress emerging as the most prominent concern. General health showed significant positive correlations with depression ($r = .472, p < .01$), anxiety ($r = .488, p < .01$), and stress ($r = .451, p < .01$). Significant positive correlations were also observed among depression, anxiety, and stress. However, coping strategies did not demonstrate significant associations with general health, depression, anxiety, or stress ($p > .05$). Undergraduate medical students experience considerable psychological distress, which is significantly associated with poorer general health. The strong interrelationship among depression, anxiety, and stress highlights the need for comprehensive mental health support within medical institutions. Regular screening, early intervention, and resilience-building programs may help promote psychological well-being among future healthcare professionals.

Keywords: Medical students, Depression, Anxiety, Stress, GHQ-12, COPE Inventory, Coping strategies.

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INTRODUCTION

Medical education is considered one of the most demanding professional courses. Medical students often face academic pressure, frequent examinations, and emotional stress during training. While it promises prestige, stability, and the opportunity to serve society, it simultaneously places students in an environment characterized by constant evaluation, high expectations, and sustained psychological pressure. In recent years, there has been a growing recognition that the process of becoming a doctor is not only academically rigorous but also psychologically taxing, raising serious concerns about the mental health of medical students.

In India, medicine is often associated with high family expectations and social prestige, which can increase pressure on students. Students enter medical colleges after enduring highly competitive entrance examinations, frequently following years of intense preparation. However, contrary to the expectation that securing admission marks the end of stress, many students

experience a shift rather than a reduction in pressure. The academic demands intensify, the learning environment becomes more self-directed, and the support systems that once provided emotional stability often diminish, especially for students living away from home. This transition creates a critical period of vulnerability, during which students must simultaneously adjust academically, socially, and emotionally.

As students' progress through their undergraduate training, the nature of stress evolves but does not diminish. The curriculum requires the assimilation of vast amounts of information within limited timeframes, frequent assessments, and continuous performance monitoring. In addition, clinical exposure introduces students to real-life scenarios involving illness, suffering, and death—experiences that demand emotional maturity and resilience. Continuous academic demands along with exposure to illness and death may negatively affect students' mental health, which may not always be visible but can significantly impair overall functioning.

Within this context, three psychological conditions—stress, anxiety, and depression—emerge as the most prominent indicators of mental health disturbances among medical students. These conditions are not isolated phenomena but are often interrelated and mutually reinforcing. Stress, typically the earliest response to academic and environmental demands, may initially manifest as heightened alertness and motivation. However, when persistent, it can overwhelm coping resources, leading to emotional exhaustion and reduced efficiency.

Closely linked to stress is anxiety, which reflects a state of persistent apprehension and anticipatory fear. In medical students, anxiety is frequently tied to performance expectations, fear of failure, and perceived inadequacy in comparison to peers. Over time, this heightened state of vigilance can interfere with concentration, impair learning, and contribute to avoidance behaviours. When anxiety becomes chronic, it not only affects academic performance but also disrupts interpersonal relationships and overall well-being.

Depression is one of the major mental health concerns seen among medical students. Unlike transient feelings of sadness, depression in medical students is often characterized by a sustained loss of interest, reduced motivation, feelings of worthlessness, and cognitive difficulties. Its presence is particularly concerning due to its association with academic decline, social withdrawal, and, in extreme cases, suicidal ideation. Importantly, depression often develops gradually, frequently preceded by prolonged stress and unmanaged anxiety, highlighting the need to examine these conditions collectively rather than in isolation.

While the prevalence of depression, anxiety, and stress has been widely documented, understanding mental health solely in terms of symptoms provides an incomplete picture. Psychological distress inevitably affects an individual's overall functioning, including physical health, social interactions, and daily productivity. This broader dimension of well-being is captured through the concept of general health, which reflects the individual's ability to maintain psychological balance and effectively engage with everyday demands. Instruments such as the General Health Questionnaire (GHQ-12) are particularly valuable in identifying early signs of psychological dysfunction and understanding how mental health disturbances translate into functional impairment.

Equally important in this context is the role of coping mechanisms, which determine how individuals respond to stress and adversity. Not all students exposed to similar stressors develop psychological problems, suggesting that the way stress is managed plays a critical role in shaping outcomes. Coping strategies may range from adaptive approaches, such as problem-solving and seeking support, to maladaptive patterns, such as avoidance, denial, or

disengagement. Effective coping strategies may reduce stress, while ineffective coping may increase psychological distress. Therefore, examining coping patterns is essential for understanding variability in mental health outcomes among medical students.

Despite the increasing body of research in this area, several important gaps remain. A significant proportion of studies have focused primarily on estimating the prevalence of depression, anxiety, or stress, often treating these variables independently. However, such an approach fails to capture the interconnected nature of psychological distress and its broader impact on general health. Furthermore, relatively fewer studies have explored how coping strategies interact with mental health variables, particularly in the context of Indian medical students.

Another critical gap lies in the limited exploration of gender differences. Sociocultural expectations, emotional expression, and coping styles often differ between male and female students, potentially influencing both the experience and reporting of psychological distress. Understanding these differences is essential for designing targeted and effective mental health interventions.

In addition, many existing studies adopt a narrow focus, examining single variables or limited outcomes, thereby overlooking the need for a multidimensional perspective. Mental health is a complex construct that cannot be fully understood through isolated measures. A comprehensive approach that integrates psychological symptoms, general well-being, and coping strategies is necessary to provide a more accurate and meaningful understanding of student experiences.

Against this backdrop, the present study aims to assess the prevalence of depression, anxiety, and stress among undergraduate medical students and to examine their association with general health and coping mechanisms. By employing standardized instruments such as the DASS-21, GHQ-12, and COPE Inventory, the study seeks to move beyond mere prevalence estimates and offer a more integrated analysis of mental health.

Understanding these dynamics is crucial not only from an academic perspective but also from a broader societal standpoint. Medical students represent the future of the healthcare system, and their mental well-being has direct implications for patient care, professional competence, and ethical practice. If psychological distress remains unaddressed, it may lead to burnout, reduced empathy, and compromised clinical judgment in later professional life.

Therefore, the need of the hour is not merely to acknowledge the presence of mental health issues but to actively integrate preventive, promotive, and supportive mental health strategies within medical education systems. By identifying the patterns and determinants of

psychological distress, the present study aims to contribute to the development of evidence-based interventions that can foster resilience, enhance well-being, and ultimately produce not only skilled but also psychologically healthy medical professionals.

AIM

To examine the relationship between psychological distress (depression, anxiety, and stress), general health, and coping strategies among undergraduate MBBS students.

OBJECTIVES

To assess the levels of depression, anxiety, stress, general health, and coping strategies among undergraduate MBBS students and determine the correlations among these variables.

MATERIALS AND METHODS

The present study employed a cross-sectional research design to assess the prevalence of depression, anxiety, and stress among undergraduate medical students and to examine their relationship with general health status and coping strategies. The study was conducted at the Department of Clinical Psychology in collaboration with the Departments of Paediatrics and Psychiatry at Santosh Medical College and Hospital, Ghaziabad.

A total sample of 92 undergraduate MBBS students participated in the study. The sample comprised 46 male and 46 female students, ensuring equal gender representation. Participants were selected using a purposive sampling technique, whereby individuals who fulfilled the predefined inclusion criteria were recruited for the study.

The participants included undergraduate medical students within the age range of 18–25 years who were currently enrolled in the MBBS course and who voluntarily agreed to participate. Students who provided informed consent were included in the study. Individuals with a history of diagnosed psychiatric illness, those currently undergoing psychological or psychiatric treatment, and those who failed to complete the assessment tools adequately were excluded from the study.

The study utilized standardized psychological instruments to assess the variables of interest. Depression, anxiety, and

stress were assessed using the Depression Anxiety Stress Scale (DASS-21) developed by Lovibond and Lovibond (1995), which measures three dimensions of psychological distress through a 21-item self-report format. General psychological well-being was assessed using the General Health Questionnaire (GHQ-12) developed by Goldberg and Williams (1988), which is widely used as a screening tool for identifying psychological distress and disturbances in general functioning. Coping strategies were evaluated using the COPE Inventory developed by Carver (1989), which measures various cognitive and behavioural coping responses adopted by individuals in stressful situations.

The procedure of the study was carried out in a systematic and ethically appropriate manner. Participants were approached within the academic setting and were provided with a brief explanation regarding the purpose and nature of the study. Ethical considerations, including voluntary participation, confidentiality of responses, and the right to withdraw at any stage, were clearly explained prior to participation. After obtaining informed consent, participants were administered a demographic and screening form to collect basic information and to ensure eligibility for inclusion in the study.

Following confirmation of eligibility, participants were administered the set of standardized questionnaires, including the DASS-21, GHQ-12, and COPE Inventory. Clear instructions were provided to ensure accurate completion of the tools. Upon completion, the responses were collected and compiled for data analysis. The data were entered into a structured Microsoft Excel sheet for organization and preliminary screening. Incomplete or inconsistent responses were identified and excluded from further analysis.

The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the demographic characteristics and study variables. Pearson's correlation analysis was performed to examine the relationships among depression, anxiety, stress, general health, and coping strategies. Statistical significance was considered at $p < .05$.

RESULTS

Table 1.

Demographic Characteristics of Participants (N = 92)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	46	50.0

	Female	46	50.0
Age Group (Years)	18–21	87	94.6
	22–25	5	5.4
Course	MBBS	92	100.0

Note. The study consisted of 92 undergraduate MBBS students. Equal representation of male and female participants was maintained. The majority of participants belonged to the 18–21 years age group.

Table 2.

Descriptive statistics

Descriptive Statistics

	Mean	Std. Deviation	N
General Health Questionnaire (GHQ)	12.33	5.417	92
Depression	10.35	8.244	92
Anxiety	11.91	7.630	92
Stress	14.36	8.021	92
Cope Rating Scale	151.10	17.461	92

Note: The study sample consisted of 92 undergraduate MBBS students. Equal representation of male and female participants was maintained, with 46 males (50.0%) and 46 females (50.0%). The majority of participants belonged to the 18–21 years age group (94.6%), while only a small proportion were aged between 22 and 26 years (5.4%). All

participants were enrolled in the MBBS program (100%), ensuring homogeneity of the educational background of the sample. These demographic characteristics indicate that the study primarily represents young undergraduate medical students in the early years of medical training.

Table 3.

Correlation matrix of study variables

		Correlations				
		General Health Questionnaire (GHQ)	Depression	Anxiety	Stress	Cope Rating Scale
General Health Questionnaire (GHQ)	Pearson Correlation	1	.472**	.488**	.451**	-.025
	Sig. (2-tailed)		.000	.000	.000	.814
	N	92	92	92	92	92
Depression	Pearson Correlation	.472**	1	.641**	.720**	.052
	Sig. (2-tailed)	.000		.000	.000	.625
	N	92	92	92	92	92
Anxiety	Pearson Correlation	.488**	.641**	1	.748**	-.034
	Sig. (2-tailed)	.000	.000		.000	.744
	N	92	92	92	92	92

Stress	Pearson	.451**	.720**	.748**	1	.038
	Correlation					
	Sig. (2-tailed)	.000	.000	.000		.720
Cope Rating Scale	N	92	92	92	92	92
	Pearson	-.025	.052	-.034	.038	1
	Correlation					
	Sig. (2-tailed)	.814	.625	.744	.720	
	N	92	92	92	92	92

p values: ** $p < .01$

Note: Pearson's correlation analysis was conducted to examine the relationships among general psychological distress, depression, anxiety, stress, and coping strategies. The findings revealed that the General Health Questionnaire (GHQ) was significantly and positively correlated with depression ($r = .472$, $p < .01$), anxiety ($r = .488$, $p < .01$), and stress ($r = .451$, $p < .01$). These results indicate that higher levels of depression, anxiety, and stress are associated with poorer general psychological health among undergraduate medical students.

Furthermore, depression demonstrated significant positive correlations with anxiety ($r = .641$, $p < .01$) and stress ($r = .720$, $p < .01$). Anxiety was also strongly and positively correlated with stress ($r = .748$, $p < .01$). These findings suggest a substantial overlap among the three psychological distress variables, indicating that students experiencing one form of emotional distress are more likely to experience others as well.

The Cope Rating Scale did not show any statistically significant relationship with GHQ ($r = -.025$, $p > .05$), depression ($r = .052$, $p > .05$), anxiety ($r = -.034$, $p > .05$), or stress ($r = .038$, $p > .05$). This finding suggests that coping strategies, as assessed in the present study, were not significantly associated with psychological distress or general health outcomes.

Overall, the results indicate that depression, anxiety, and stress are strongly interrelated and significantly associated with general psychological distress, whereas coping strategies do not demonstrate a significant relationship with these variables in the present sample.

DISCUSSION

The present study was conducted to assess depression, anxiety, and stress among undergraduate medical students and to examine their relationship with general health and coping strategies. The findings revealed moderate levels of psychological distress among the participants, with stress emerging as the most prominent concern, followed by anxiety and depression. These findings support the growing body of literature indicating that medical students constitute a psychologically vulnerable population due to the demanding nature of medical education.

The elevated stress levels observed in the present study may be attributed to the extensive academic workload, frequent examinations, clinical responsibilities, and high

expectations associated with medical training. Medical students are often required to master a large volume of information within limited time periods while simultaneously adapting to competitive academic environments. Similar findings have been reported by Firth-Cozens (2001), who identified academic pressure as a major source of stress among medical students. Likewise, Dyrbye, Thomas, and Shanafelt (2006), in their systematic review, concluded that medical students consistently experience higher levels of psychological distress than their age-matched peers in the general population.

The findings further revealed moderate levels of anxiety among the participants. Anxiety among medical students is often associated with fear of academic failure, performance-related concerns, uncertainty regarding future career prospects, and social comparison with peers. Persistent anxiety may negatively affect concentration, learning efficiency, and interpersonal functioning. Similar observations were reported by Sahoo and Khess (2010), who found considerable levels of anxiety among Indian medical students and emphasized the role of academic stressors in its development. Aggarwal, Bhalla, and Singh (2018) also reported elevated anxiety levels among undergraduate medical students, highlighting the need for early psychological support within educational institutions.

The present study also identified moderate levels of depressive symptoms among the participants. Depression in medical students has been linked to prolonged academic stress, emotional exhaustion, reduced social support, and difficulties in balancing personal and professional demands. The findings are consistent with those reported by Rotenstein et al. (2016), whose meta-analysis demonstrated a high prevalence of depressive symptoms among medical students globally. Similarly, Singh, Lal, and Singh (2015) reported significant levels of depression among Indian medical students, suggesting that the medical training environment itself may contribute substantially to emotional difficulties.

A major finding of the present study was the significant positive correlation between general psychological distress (GHQ) and depression, anxiety, and stress. Students reporting higher levels of depression, anxiety, and stress also demonstrated poorer general psychological health. This finding supports the conceptualization that emotional distress extends beyond symptom experience and

influences overall functioning, well-being, social relationships, and daily activities. Goldberg and Williams (1988) emphasized that GHQ scores are sensitive indicators of psychological dysfunction and reduced psychological well-being. Therefore, the present findings suggest that emotional distress among medical students has meaningful consequences for their overall mental health status.

The study further demonstrated strong positive interrelationships among depression, anxiety, and stress. Depression was significantly correlated with anxiety and stress, while anxiety showed the strongest association with stress. These findings suggest that psychological distress among medical students rarely occurs in isolation. Instead, the presence of one form of emotional disturbance increases vulnerability to others. Similar findings have been reported by Lovibond and Lovibond (1995), who proposed that depression, anxiety, and stress represent related yet distinct dimensions of negative emotional states. The strong correlations observed in the present study support this theoretical framework and indicate the possibility of overlapping symptom presentations among medical students.

One of the most noteworthy findings of the study was the absence of a significant relationship between coping strategies and psychological distress variables. Contrary to expectations, coping scores did not demonstrate significant associations with depression, anxiety, stress, or general health. This finding differs from several previous studies that have identified coping as an important protective factor against psychological distress. Lazarus and Folkman (1984) suggested that effective coping facilitates adaptation to stressful situations and reduces emotional burden. Similarly, Kumar and Nancy (2011) reported that adaptive coping strategies were associated with lower levels of stress among medical students.

The absence of significant findings in the present study may be explained in several ways. First, the total COPE score may not adequately differentiate between adaptive and maladaptive coping strategies. Students may simultaneously employ both effective and ineffective coping mechanisms, resulting in a neutral overall association. Second, the intensity of academic demands may exceed the protective influence of coping strategies. Third, cultural and contextual factors may influence how coping strategies are utilized and reported among Indian medical students. Therefore, future research should examine specific coping dimensions rather than overall coping scores.

Overall, the findings indicate that psychological distress is highly prevalent among undergraduate medical students and significantly affects their general mental health. The strong relationships among depression, anxiety, stress, and general health suggest that mental health concerns among

medical students should be viewed as multidimensional and interconnected phenomena. The findings emphasize the importance of routine mental health screening, stress management programs, counselling services, and resilience-building interventions within medical institutions.

The present study contributes to the growing literature on medical student mental health by providing an integrated examination of psychological distress, general health, and coping strategies. It highlights the urgent need for institution-based mental health initiatives aimed at promoting psychological well-being and preventing long-term adverse consequences such as burnout, emotional exhaustion, and reduced professional effectiveness.

The present findings suggest that psychological distress remains a significant concern among undergraduate medical students. The moderate levels of depression, anxiety, and stress observed in the sample indicate that emotional difficulties are common even during the early years of medical training. The significant association between psychological distress and general health highlights the adverse impact of emotional problems on overall well-being. These findings emphasize the importance of developing institutional support systems aimed at early identification and management of mental health concerns among medical students.

CONCLUSION

The present study examined depression, anxiety, stress, general health, and coping strategies among undergraduate medical students. The findings revealed a substantial burden of psychological distress within the study population, with participants reporting moderate levels of depression, anxiety, and stress. Among these variables, stress emerged as the most prominent psychological concern, indicating that the academic and emotional demands of medical training exert a considerable impact on students' mental well-being.

The study further demonstrated significant positive associations between depression, anxiety, stress, and general psychological distress as measured by the General Health Questionnaire (GHQ). Students with higher levels of depression, anxiety, and stress were more likely to report poorer overall psychological health. Additionally, strong positive correlations among depression, anxiety, and stress suggest that these psychological conditions are closely interconnected and frequently co-occur rather than existing as isolated problems.

A notable finding of the study was the absence of significant relationships between coping strategies and psychological distress variables. This suggests that the coping mechanisms employed by the participants may not have been sufficiently effective in reducing emotional distress or improving psychological well-being. The

finding highlights the need for further exploration of specific adaptive and maladaptive coping strategies among medical students.

Overall, the results indicate that mental health problems among undergraduate medical students represent a significant concern that warrants attention from educational institutions and healthcare professionals. The findings emphasize the importance of early identification, regular mental health screening, psychological support services, and stress management programs within medical colleges. Strengthening adaptive coping skills and promoting mental health awareness may help reduce psychological distress and enhance students' overall well-being.

In conclusion, the present study underscores the need for comprehensive and institutionally integrated mental health interventions to support undergraduate medical students. Addressing psychological distress during medical training is essential not only for students' personal well-being but also for the development of competent, resilient, and emotionally healthy future healthcare professionals.

STRENGTHS

- Equal representation of male and female participants.
- Use of standardized and validated psychological assessment tools.
- Simultaneous assessment of depression, anxiety, stress, general health, and coping strategies.
- Provides data regarding mental health among Indian undergraduate medical students.

LIMITATIONS

- The study was conducted in a single medical college, limiting the generalizability of findings.
- The sample size was relatively small.
- The cross-sectional design does not permit causal inferences.
- Self-report measures may be influenced by social desirability and response bias.
- Coping strategies were assessed using a total score rather than specific coping dimensions.

FUTURE IMPLICATIONS

- Implementation of regular mental health screening programs in medical colleges for early identification of students experiencing psychological distress.
- Establishment of accessible counselling and psychological support services within medical institutions.
- Development of stress management, resilience-building, mindfulness, and emotional well-being programs as part of the medical curriculum.

- Promotion of mental health awareness initiatives to reduce stigma and encourage help-seeking behaviour among medical students.
- Future studies should employ larger sample sizes and include participants from multiple medical colleges to enhance the generalizability of findings.
- Longitudinal research is needed to examine changes in depression, anxiety, stress, and coping strategies throughout different stages of medical training.
- Further investigation of specific adaptive and maladaptive coping strategies is recommended, as overall coping scores did not show significant associations with psychological distress.
- Future research should explore additional factors such as burnout, sleep quality, academic performance, resilience, social support, and personality characteristics.
- Intervention-based studies evaluating the effectiveness of counselling, peer-support programs, and stress reduction techniques should be conducted.
- Improving the mental health of medical students may contribute to better academic performance, enhanced professional competence, improved patient care, and the development of psychologically resilient healthcare professionals.

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