OPEN ACCESS

Scholars International Journal of Anatomy and Physiology
Abbreviated Key Title: Sch Int J Anat Physiol
ISSN 2616-8618 (Print) |ISSN 2617-345X (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

Exam Related Anxiety and Stress among Medical Students: A Mixed Methods Study

Dr. Prachi Arvikar[1*], Dr. Ranjana Shingane[2]

[1]Postgraduate Student, Department of Physiology, Dr. Ulhas Patil Medical College, Jalgaon Maharashtra India
[2]Professor and Head of Department of Physiology, Government Medical College, Buldhana Maharashtra India

DOI: https://doi.org/10.36348/sijap.2026.v09i01.003 | **Received:** 18.11.2025 | **Accepted:** 10.01.2026 | **Published:** 13.01.2026

***Corresponding author:** Dr. Prachi Arvikar
Postgraduate Student, Department of Physiology, Dr. Ulhas Patil Medical College, Jalgaon Maharashtra India

Abstract

Background: Exam-related stress and anxiety are common occurrences among medical students, especially with changing curricular trends and assessment patterns. It leads to psychosomatic disturbances (Gastrointestinal disturbances, chronic pain disorders, substance abuse, drug overuse, depression, etc.) especially around exam periods. It lowers their academic performance and satisfaction levels, ultimately affecting the health care delivery in long run. ***Methodology:*** A pre-validated questionnaire was circulated among the exam-going students. Anonymous responses were solicitated to encourage honest responses. We used MS-Excel for quantitative analysis. Content and thematic analysis was done for qualitative responses. ***Results:*** Out of 205 responders, there were 88 and 117 students from 3rd and 4th MBBS year respectively. About 56% of students perceived moderate-to-significant exam-related stress. Apart from exams in general, most were apprehensive about practical exam performance and faculty expectations. Only about 42% were satisfied with their level/efforts of study against the academic workload. Common themes for causation were time management, concentration challenges, lack of guidance/support, and ineffective study techniques. Vast majority had sleep disturbances and about 60% had somatic disturbances. Students had a strong preference for informal and emotion-based coping. ***Conclusion:*** Exam-related stress in multifactorial and needs to be addressed appropriately. Implementing structured study schedules and time management techniques could alleviate some of the stress. Encouraging active learning methods, such as spaced repetition and active recall, might enhance retention.

Keywords: Anxiety, Exam-related stress, Exam performance, medical students, Test-related stress, Undergraduates.

INTRODUCTION

Hans Selye defined stress as "the non-specific response of the body to any demand for change" [1]. In simple words it is a state of worry or mental tension caused by a difficult situation (WHO) [2]. Stress is a multifaceted psychological and physiological phenomenon that can result in significant health implications. While some levels of stress are advantageous, excessive stress, commonly referred to as distress, triggers defensive responses which can have physical and/ or psychological manifestations [3].

Medical schools aim to train and produce competent and empathetic physicians to help the sick, advance medical knowledge, and promote public health. The medical curriculum is vast and demanding and has been recognized as very stressful and can negatively impact the student's well-being [4,5]. The prevalence of anxiety is 33.8% among medical students globally, which is substantially higher than the general population. The prevalence rates among medical students from the Middle East and Asia are 42.4% and 35.2%, respectively [5]. Medical students are not immune but rather experience more stress than non-medical students, especially exam-related anxiety and stress.

Test anxiety is a situation-specific trait of anxiety states and worries conditions that are happened during examinations. Some students gradually experience this anxiety over a period of time while some may have a sudden onset. Similarly, it can be short term or prolonged. Literature shows that exam related anxiety is quite ubiquitous but is a problem when this stress affects the student's ability to learn/ revise or the capacity to perform/ recall (i.e. academic performance). The impact of stressors varies greatly depending on their nature and the individual's characteristics, with

perception influenced by cultural background, personal traits, experiences, and coping mechanisms [3-6]. We have conducted this exploratory study among the exam-going students with aim and objectives to understand these stressors and factors associated with exam related stress and anxiety.

MATERIALS AND METHODS

A descriptive mixed method cross-sectional study was conducted among undergraduate students of medical college in Central India. We framed a pre-validated questionnaire regarding stressors like sources, pattern, psychosomatic impact, coping mechanisms etc. Likert scale was used for closed ended questions. After clearance from Ethical committee, the self-reported and structured questionnaire was circulated among the exam-going MBBS students in the campus of medical college. Anonymous responses were solicitated to encourage honest responses. Out of 237 responses, after removing the incomplete responses, we analyzed the remaining 205 responses. We used MS-Excel for quantitative analysis. Content and thematic analysis was done for qualitative responses.

RESULTS

Out of 205 responders (89 girls and 116 boys), there were 88 and 117 students from 3rd and 4th professional year of MBBS respectively. Only 124 students reported a tendency to study more than 4 hours a day. Almost 90% students experienced stress and anxiety during the academic year. Yet 115 students were only-sometimes overwhelmed by the routine studies.

Exams (almost universal, >75%) were the cause of academic stress among the students, followed by Practical/Clinical Work (almost 50%). Other stressors like Peer Competition, Assignments, Peer Pressure were also experienced by up to 30% students. There were some contextual stressors like Faculty Expectations, Family Pressure, Language Barrier (up to 20%). Rare mentions about Fees, Self Distractions, Theory–Practice Gap were also reported.

Intensive study just before exams (57%) was the most common approach for preparation for exams followed by regular daily study (52%). About 44% students showed strong reliance on external structured resources (e.g. Marrow, Prepladder, etc.). Group study (25%) was less commonly practised, suggesting poor peer collaboration. Students overwhelmingly preferred retrospective methods (past papers about 65%) rather than prospective methods (practice tests, feedback). Only 86/205 (about 42%) students were sure that their current study methods were effective in managing the academic workload. The unsure students had following opinions for possible reasons (Box 1):

Box 1: Possible reasons for not being sure about ineffective study pattern (thematic and *verbatim* responses)

Time Management and Course Load: Long college hours, revising a lot of content with no gap between exams and extensive syllabus
Study Habits and Discipline: Procrastination, early mental fatigue, lack of discipline, reliance on cramming rather than deeper understanding, not studying consistently, and starting preparation late for exams, lack of concentration and feeling exhausted after short study periods (3-4 hours).
Learning and Recall Effectiveness: Confusion about study approach, difficulty managing multiple unrelated topics simultaneously, "the actual gain is not as expected despite reading a lot," inability to recall or remember what was read, and "struggling to perform satisfyingly in exams (theory and viva) even after preparation."
External Factors and Learning Environment: Some felt compelled to prioritize marks over knowledge, believed they are learning obsolete things, noted a gap in the study method/presentation compared to prior education, mismatch in teaching-learning expectations.
Clinical & Practical Skills: Feeling of less efficient in clinical skills and perceived Gap between theoretical study methods and practical application.

115 (56%) students reported that they often-to-always experience moderate to severe anxiety and stress during exam period. Most of the students had almost equally stressed about both theory and practical exams (almost 52%) followed by practical exams alone (about 35%). Common reasons were lack of confidence, fear of failure and incompetence. Exam specific stressors are mentioned verbatim in the box no 2.

Box 2: Exam-specific stressors

Theory exam-related	Practical exam-related
Vast syllabus with limited revision time; Uncertainty of questions Recall issues Writing issues	Self-doubt Fear of viva Spontaneity, rapid-fire questioning Communication barriers (difficulty expressing knowledge orally, language issues, fluency)

Vast majority of students had sleep disturbances. Physical symptoms like headache, restlessness, palpitations, blurring, irritation, and difficulty in concentrating were reported by 50-60% of

the survey participants. Loss of appetite, increased appetite, gastrointestinal symptoms, and anger were also reported by 63, 34, 36 and 37 students respectively. Among those who consume medications, antacids, proton pump inhibitors and paracetamol were the common medications used by some of the students.

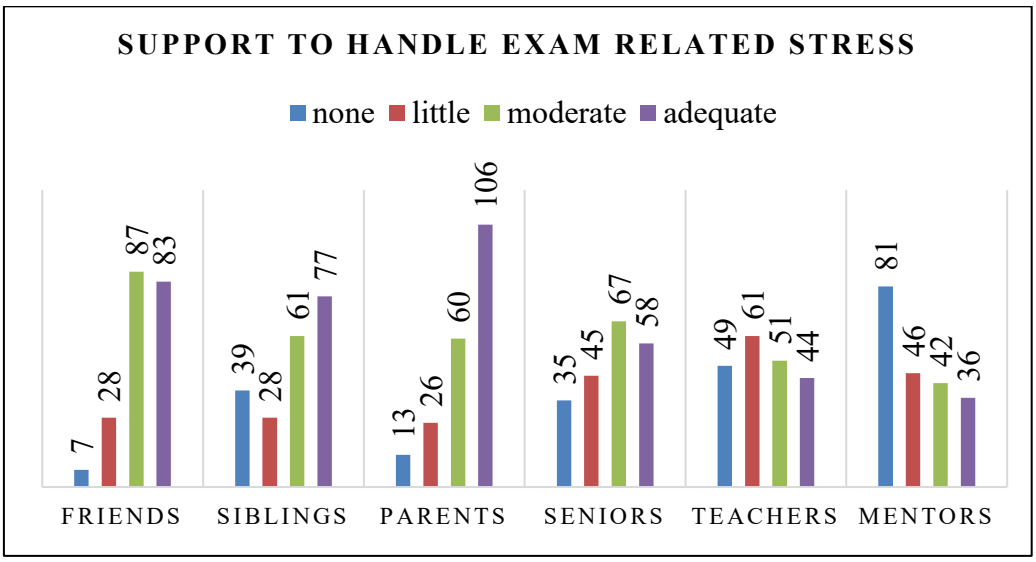

Fig. 1: Support used by students to handle exam-related stress

Fig. 1 show that parents and friends were the most reliable source of exam-related support. Teachers and formal mentors were seen as the least supportive (54% and 62% students reported none/little support respectively). On personal level, students perceived that "talking to someone" is helpful. Exercise and cultivating/maintaining hobbies or leisure activities were reported by only about 30% students as coping method. Help of a counsellor or psychologist was sought by only about 12% of students, and only few benefitting out of such professional help.

Students had reported following suggestions for improving resources or support systems for exam-related stress

- **Study-Related Support:** A significant number of students requested study workshops focusing on strategies and guidance, and some suggested practical resources like high-yield university MCQs, timetable guidance, and previous exam papers. One response: "dedicated and focused last-minute mentoring in pre-exam period."
- **Better Mentorship programs:** Support groups were a frequent suggestion, and approachable faculty to share coping strategies and reduce the feeling of "being in a rat race."
- **Environment and Activities:** non-academic activities (sports, arts), and meditation or stress reliever sessions.

DISCUSSION

This study highlights the multifactorial nature of academic stress among medical students, consistent with both Indian and international literature. Although exact comparability is limited by differing instruments and cut-offs, Exam-related stress, suboptimal study strategies, and limited formal support observed in this cohort closely mirror patterns reported in Indian and international literature [7-12]. Strong preference for last-minute, exam-focused preparation and low engagement with faculty and professional counselling are particularly striking in this group.

Multiple studies using standardized tools (e.g. perceived stress scale, test-anxiety scale, etc.) consistently identify academics and examinations as the dominant stressors, linked to extensive syllabus, frequent tests, long college hours and difficulty balancing topics as reasons for feeling unprepared despite substantial study time and fear of poor performance [6-9,12-16]. Contextual stressors in this study (faculty expectations, family pressure, and language barriers in about one-fifth of students) are also described in Indian literature, while international data more often emphasize financial strain, continuous assessment and institutional culture [8,9,15,17].

Only about 42% of students in this cohort were confident that their study methods were effective. These findings align with international research emphasizing the importance of disciplined study habits and effective learning techniques to mitigate academic stress. The students' own explanations from box no 1 were also reported to be associated with higher perceived stress and poorer academic outcomes in past studies [8,12,18]. The preference for last-minute intensive study and reliance on coaching apps and past papers over formative testing or feedback over regular daily study reflects a coping strategy that may exacerbate stress and reduce retention.

The observation that theory and practical exams both equally stressed out the students, with about 35% more stressed by practicals alone, was in contrast with findings of Tsegay *et al.,* [6]. Specific concerns from box no 2 were also seen by other researchers commenting that oral examinations, time pressure, and uncertainty of questions contribute significantly to test anxiety and reduced confidence [7,9,12,19].

Nearly half the students in this study reported often-to-always experiencing moderate to severe anxiety during exam periods, with most of them experiencing extensive sleep disturbance and physical symptoms such as headache, palpitations, restlessness, irritability, and concentration difficulty. These perceptions parallel Indian and international studies where 50–80% of medical students report such issues (moderate to severe stress and somatic symptoms are common) [7,9,17,19-21].

Stress coping strategies are the adaptive behavioural reactions and responses to the external stimuli which may alter/ threaten the physiological and psychological wellbeing [15,22]. The present study shows a strong preference for informal and emotion-based coping (talking to someone, family and friends) and low uptake of professional psychological help (about 12%), which is in line with Indian data where stigma, lack of awareness, and concerns about confidentiality lead students to rely on family, peers, or religious/spiritual practices instead of formal counselling [14,15,23,24]. International studies also describe frequent use of emotion-focused and self-help type coping such as talking with friends, leisure activities, and listening to TV/ music, but report somewhat higher utilization of institutional counselling services where these are widely publicized and easily accessible [4,12,22].

Literature highlights physical activity, sleep hygiene, and engagement in non-academic pursuits as beneficial coping strategies but only one-third students were practising these. Coping mechanisms mostly focusing on distraction and disengagement, make it clear that students are unaware of problem solving and positive coping mechanisms [12,15,24]. The common use of non-psychotropic medications such as antacids and analgesics for exam-related somatic symptoms was in contrast with risk of alcohol and substance abuse as coping mechanism in past studies [8,14]. Teachers and formal mentors were rated as least supportive, similar to past studies [15,24] with more than half describing little or no support from faculty. The low rate of professional help-seeking behavior reflects stigma and lack of awareness about mental health resources Awareness about teacher approachability, mentoring, curriculum expectations and institutional support (workshops, support groups) can impact the coping mechanisms and outcomes [8,9,24].

CONCLUSION

In conclusion, this study underscores the complex interplay of academic, personal, and systemic factors contributing to stress among medical students. The above perspectives underscore the need to embed stress management and health-seeking guidance within the curriculum. The findings reinforce calls in the literature for structured academic support, mentoring, and mental health services. Addressing these requires multifaceted interventions tailored to cultural and institutional contexts, combining curricular reforms, enhanced support services, and student empowerment strategies.

Disclosure of conflict of interest: The authors declare no conflict of interest.

REFERENCES

1. Selye, H. (1956). *The stress of life*. McGraw-Hill.
2. World Health Organization. (2025, December 3). *Stress*. https://www.who.int/news-room/questions-and-answers/item/stresswho
3. Al-Rouq, F., Al-Otaibi, A., AlSaikhan, A., Al-Essa, M., & Al-Mazidi, S. (2022). Assessing physiological and psychological factors contributing to stress among medical students: Implications for health. *International Journal of Environmental Research and Public Health, 19*(24), Article 16822. https://doi.org/10.3390/ijerph192416822
4. Williamson, C., Wright, S. T., & Beck Dallaghan, G. L. (2024). Test anxiety among US medical students: A review of the current literature. *Medical Science Educator, 34*(2), 491–499. https://doi.org/10.1007/s40670-024-01999-w
5. Quek, T. T., Tam, W. W., Tran, B. X., Zhang, M., Zhang, Z., Ho, C. S., ... Ho, R. C. (2019). The global prevalence of anxiety among medical students: A meta-analysis. *International Journal of Environmental Research and Public Health, 16*(15), Article 2735. https://doi.org/10.3390/ijerph16152735
6. Tsegay, L., Shumet, S., Damene, W., Gebreegziabhier, G., & Ayano, G. (2019). Prevalence and determinants of test anxiety among medical students in Addis Ababa Ethiopia. *BMC Medical Education, 19*(1), Article 423. https://doi.org/10.1186/s12909-019-1859-5
7. Sharma, A., Singh, S. P., Shekhar, S., Kushwaha, P., & Gahlot, A. (2023). Exam anxiety and its associated risk factors among Indian medical undergraduates. *National Journal of Community Medicine, 14*(6), 348–356. https://doi.org/10.55489/njcm.140620232774
8. Jeyapalan, T., & Blair, E. (2024). The factors causing stress in medical students and their impact on academic outcomes: A narrative qualitative systematic review. *International Journal of Medical Students, 12*(2), 195–203. https://doi.org/10.5195/ijms.2024.2218

9. Panja, S., Dhali, A., Avinash, B., Chattopadhyay, M., Bhowmick, K., & Biswas, J. (2023). Psychological stress experienced by first-year medical undergraduates: A cross-sectional study from eastern India. *Cureus, 15*(10), Article e46725. https://doi.org/10.7759/cureus.46725
10. Khadka, J., Bhattarai, P., Chapagain, S., Manandhar, N., & Sharma, R. (2022). Severe stress among medical students of two medical colleges: A descriptive cross-sectional study. *Journal of Nepal Medical Association, 60*(252), 702–706. https://doi.org/10.31729/jnma.7196
11. Okoye, O. C. (2022). Perceived stress and stressors among undergraduate medical students of a Nigerian institution. *Malawi Medical Journal, 34*(4), 245–251. https://doi.org/10.4314/mmj.v34i4.4
12. Salih, S., Mahmoud, S. S., Abudeyah, M. A., Albeladi, F. I., Mohsen, W. M., Hayyan, A. I., ... Al-Habib, A. F. (2023). Stressors and coping strategies among medical students in Jazan, Saudi Arabia: A cross-sectional study. *Journal of Family Medicine and Primary Care, 12*(9), 2075–2081. https://doi.org/10.4103/jfmpc.jfmpc_545_23
13. Rupani, M. P., Parikh, K. D., Trivedi, A. V., Singh, M. P., Shah, K., Parmar, K., ... Rupani, N. P. (2016). Cross-sectional study on exam anxiety among medical students of a tertiary care teaching hospital of Western India. *National Journal of Community Medicine, 7*(5), 449–454.
14. Sindhu, B. M., Kumbar, A. S., Shashank, K. J., & Rashmi, B. M. (2023). Study of examination-related anxiety levels and coping strategies adopted by undergraduate students at a medical college in Central Karnataka. *Dentistry and Medical Research, 11*(1), 21–25. https://doi.org/10.4103/dmr.dmr_26_23
15. Satpathy, P., Siddiqui, N., Parida, D., & Sutar, R. (2021). Prevalence of stress, stressors, and coping strategies among medical undergraduate students in a medical college of Mumbai. *Journal of Education and Health Promotion, 10*, Article 318. https://doi.org/10.4103/jehp.jehp_1395_20
16. Patil, S. G., & Aithala, M. R. (2017). Exam anxiety: Its prevalence and causative factors among Indian medical students. *National Journal of Physiology, Pharmacy and Pharmacology, 7*(12), 1323–1328. https://doi.org/10.5455/njppp.2017.7.0516113072017
17. Garg, K., Agarwal, M., & Dalal, P. K. (2017). Stress among medical students: A cross-sectional study from a North Indian Medical University. *Indian Journal of Psychiatry, 59*(3), 502–504. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_239_17
18. Yusoff, M. S., Abdul Rahim, A. F., & Yaacob, M. J. (2010). Prevalence and sources of stress among Universiti Sains Malaysia medical students. *Malaysian Journal of Medical Sciences, 17*(1), 30–37.
19. Abdulghani, H. M., AlKanhal, A. A., Mahmoud, E. S., Ponnamperuma, G. G., & Alfaris, E. A. (2011). Stress and its effects on medical students: A cross-sectional study at a college of medicine in Saudi Arabia. *Journal of Health, Population and Nutrition, 29*(5), 516–522. https://doi.org/10.3329/jhpn.v29i5.8906
20. Kamboj, G., Nilika, & Bhartiya, S. (2021). Prevalence of stress, anxiety and depression in undergraduate medical students: A cross sectional study. *International Journal of Community Medicine and Public Health, 8*(4), 1471–1475. https://doi.org/10.18203/2394-6040.ijcmph20210846
21. Arun, P., Ramamurthy, P., & Thilakan, P. (2022). Indian medical students with depression, anxiety, and suicidal behavior: Why do they not seek treatment? *Indian Journal of Psychological Medicine, 44*(1), 10–16. https://doi.org/10.1177/0253717620982326
22. Ijah, R. F. O. A., Onodingene, N. M., Kolawole, T. A., Ogamba, M. I., Bassey, A. I. L., & Mato, C. N. (2023). Stress-coping strategies amidst preparation for examinations: An analytical study among undergraduate medical students. *Advances in Clinical and Medical Research, 4*(1), 1–20. https://doi.org/10.52793/ACMR.2023.4(1)-50
23. Aga, S. S., Milibari, B. B., Alqahtani, Z. S., Alnabihi, A. N., Alageely, A. G., Alageely, O. G., ... Al-Harbi, M. A. (2023). Assessment of mental health and various strategies among health professions' (HP) students: A cross sectional study in King Saud Bin Abdulaziz University for Health Sciences. *Journal of Education and Health Promotion, 12*, Article 457. https://doi.org/10.4103/jehp.jehp_681_23
24. Delna, S., Pradeep, C., Nirmal Sujitha, I. J., & Lakshmi Dorai, B. (2023). Stress and strategies in coping stress among the medical students of a south Indian city. *MGM Journal of Medical Sciences, 10*(1), 18–23. https://doi.org/10.4103/mgmj.mgmj_212_22