Original Article

Effect of Mentorship in Coping up the Stress and Improving the Academic Performance in those Students who Need Special Attention in 1st year MBBS Students

Supriya[1], Pravin G.U.[2]

[1]Associate Professor, Department of Anatomy, Sri Chamundeshwari Medical College Hospital & Research Institute, Channapatna, Karnataka, India.
[2]Principal, Professor, Department of Radiodiagnosis, Sri Chamundeshwari Medical College Hospital & Research Institute, Channapatna, Karnataka, India.

Abstract

Background: First-year MBBS students often face significant stress due to a demanding curriculum, transition to a professional course, and high academic expectations. This stress can negatively impact academic performance, particularly in students who require additional academic and emotional support. Structured mentorship may serve as a supportive intervention to help these students cope more effectively. The aim is to evaluate the effect of a structured mentorship program on stress reduction and academic performance improvement in first-year MBBS students who require special attention. The setting and design a prospective interventional study was conducted among 80 first-year MBBS students in a medical college. Students identified as needing academic or emotional support were enrolled and followed for seven months under a faculty-led mentorship program. **Material and Methods:** Pre- and post-intervention data were collected using the Perceived Stress Scale (PSS-10), a customized Academic Stress Scale for MBBS students, and academic performance records (internal marks). Additional feedback on study habits, time management, and motivation was gathered through structured questionnaires. Statistical analysis used paired t-tests were used to compare pre- and post-intervention scores for stress and academic performance. A p-value <0.05 was considered statistically significant. **Results:** There was a statistically significant reduction in perceived and academic stress scores post-intervention. Academic performance showed notable improvement in most students, with enhanced motivation and better time management practices. **Conclusion:** Mentorship proved to be an effective strategy in reducing stress and improving academic outcomes among first-year MBBS students needing special attention. Institutional implementation of structured mentorship programs is strongly recommended.

Keywords: Mentorship, Medical education, Academic performance, Student stress, Remedial education.

Received: 25 June 2025 **Revised: 20 July 2025** **Accepted: 26 August 2025** **Published: 13 October 2025**

Introduction

The first year of MBBS – Phase 1 represents a critical transition period in a medical student's academic and personal journey. Students are introduced to an intense curriculum including foundational subjects such as Anatomy, Physiology, and Biochemistry, which demands rapid adaptation to new learning styles, time management skills, and higher academic expectations.[1-3]

Mental well-being plays a pivotal role during this period, as it directly influences a student's ability to absorb, retain, and apply knowledge.[4] High levels of stress, anxiety, or emotional fatigue can impair concentration, motivation, and cognitive function — all of which are essential for academic success in medical school.[5] Multiple studies have shown that first-year medical students frequently report elevated stress levels due to academic pressure, fear of failure, and adjustment issues, with some even exp:eriencing symptoms of depression or burnout.[6-9] Students face a range of challenges that can impact both their mental well-being and academic performance.

1. Academic Overload: The volume and complexity of medical subjects such as Anatomy, Physiology, and Biochemistry often overwhelm new students. Many struggle with the abrupt shift from high school learning to the deep, integrated, and fast-paced content of medical education.[10-12]

2. Adjustment to a New Learning Environment: Medical students are expected to adopt self-directed learning, critical thinking, and effective time management — skills that are often underdeveloped at entry.[13] The sudden responsibility to manage one's own academic progress can be difficult.

3. Emotional and Mental Stress: Fear of failure, performance anxiety, homesickness (especially among hostellers), and the pressure to meet family and peer expectations are major emotional stressors.[14-16] A lack of coping strategies can lead to stress, burnout, and even depression.[17-18]

4. Competitive Atmosphere: The inherently competitive nature

Address for correspondence: Dr. Supriya, Associate Professor, Department of Anatomy, Sri Chamundeshwari Medical College Hospital & Research Institute, Channapatna, Ramanagara, Karnataka, India.
E-mail: priyapadmashali.13@gmail.com

DOI:
10.21276/amit.2025.v12.i3.118

How to cite this article: Supriya, Pravin G.U. Effect of Mentorship in Coping up the Stress and Improving the Academic Performance in those Students who Need Special Attention in 1st year MBBS Students. Acta Med Int. 2025;12(3):468-472.

of medical school can cause students to compare themselves unfavourably to their peers. This often fosters feelings of inadequacy or imposter syndrome, especially among those needing special academic attention.[19]

5. Lack of Mentorship or Guidance: Without structured support or mentorship, many students feel isolated and unsure about how to navigate the curriculum, prepare for exams, or deal with failure.[20-24] This lack of guidance is particularly detrimental to those already struggling.

6. Language and Communication Barriers: Students from non-English medium backgrounds may struggle with technical terminology, communicating with peers or faculty, or following lectures — adding an additional layer of stress.[25]

7. Physical Health and Lifestyle Issues: Irregular eating habits, lack of sleep, and decreased physical activity due to prolonged study hours can negatively affect physical health, further contributing to mental fatigue and academic decline.[26-27]

When mental health is compromised, it not only affects academic performance but also undermines a student's confidence, sense of purpose, and long-term professional identity.[28] Therefore, fostering psychological resilience and promoting mental well-being early in medical education is vital for both academic outcomes and the holistic development of future healthcare professionals.[29]

Interventions such as mentorship programs, peer support, stress management workshops, and institutional counselling services are increasingly recognized as essential components of a student-centered educational framework.[30-31] These efforts can help mitigate the emotional burden of the first year and lay a strong foundation for sustained academic and personal growth throughout the MBBS course.[31]

Materials and Methods

The study subjects included were students of 1st MBBS Phase1 from our SCMCH&RI, Channapatna. They were given the Consent form prior starting the study and the copy of which is as shown in the [Image 1]. To assess their status prior introducing the mentorship program a Structured Pre-mentorship Questionnaire was given to them and the copy is as shown in the [Image 2].

In the intervention phase, students were assigned to a faculty mentor as per the Student Mentorship Programme. They were the institutional mentors who will be guiding, motivating and encouraging the students. These institutional mentors will continue the mentoring until the student graduates and completes the academic course in the institution. The institutional mentors are the first faculty who will be in contact with the parent, who shall convey the academic and attendance performance of their mentees via mail/message. Mentorship involved regular one-on-one meetings, academic guidance, emotional support, time management and problem-solving discussions. The sessions were monthly once and biweekly for weaker students. The interaction notes, academic performances and attendance were documented in the mentorship file. The frequency of meetings would be a minimum of one meeting per month over a 7-month period. Mentorship sessions were tracked with the mentorship file documentations, regular mail updates to parents via mentors and feedback forms. Each mentor was from different departments from the Assistant Professor level onwards. The mentor was included from all phases of MBBS to continue the mentoring from the day of allotment until they finish the course. The allotment was done as per norms given in the NMC criteria. This mentoring system allots a maximum of 3 students per faculty, thereby giving more room for discussions for mentoring. However, academic doubts will be better clarified by the faculty of the same subject. Hence, students are divided into small group teachings and are allotted faculty who play a crucial role as academic mentors.

In the post-intervention phase, the same questionnaire was re-administered to assess the changes in the stress levels (PSS-10 scores), the perceived improvement in academic confidence and study habits, the changes in academic performance (formative assessments and internal assessments), and an addition of Section E: Mentorship feedback was asked on the usefulness of mentorship. The data obtained were kept confidential.

The copy of the Structured Post-mentorship Questionnaire is as shown in the [Image 1].

This study was an interventional type of study design which is done to assess the usefulness of mentoring to students of 1st MBBS Phase1 especially the ones who needed special attention in the academic course. The questionnaires although were distributed uniformly to all students during the study period. We mainly focused on the 80 students whom we considered to be the ones who needed special attention. The selection was based on their formative assessment score in the initial period soon after they joined, also based on faculty nominations, as they had assessed them during the small group learning sessions. The participants included [52 males and 28 females]. All students were identified as needing academic or emotional support based on their initial performance and stress levels.

Statistical Analysis

Data was analysed using Microsoft Excel and SPSS Software. To assess the effect of the mentorship programme, a paired t-test was applied:

1. Perceived Stress Scores (PSS-10) – pre- and post-intervention
2. Academic Performance – pre- and post-mentorship (measured by internal & formative assessment scores).

Results

1. Perceived Stress Levels (PSS-10):

- Mean PSS score before mentorship: 25.3 ± 5.4
- Mean PSS score after mentorship: 17.6 ± 4.2
- $t(79) = 9.21$, $p < 0.001$

The mean PSS-10 score decreased significantly after the mentorship programme ($p < 0.001$), indicating a substantial reduction in perceived stress among participants after the mentorship intervention.

2. Academic Performance:

- Mean academic score before mentorship: 61.4 ± 7.1%
- Mean academic score after mentorship: 69.2 ± 6.5%
- $t(79) = 8.03$, $p < 0.001$

This indicates a significant improvement in academic performance.

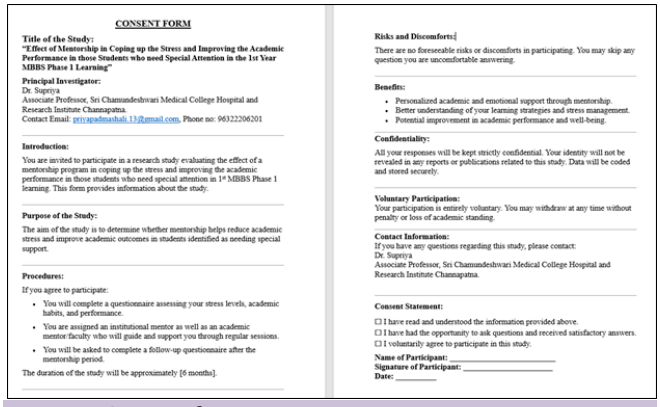
Academic scores significantly improved after the mentorship intervention ($p < 0.001$), suggesting a positive academic impact.

3. Self-Reported Learning Behaviors:

The mentorship programme had a statistically significant impact on both stress reduction and academic performance enhancement. Improvements were also noted in time management, motivation, and study habits, suggesting that mentorship serves as a valuable support system for academically vulnerable students.

Table 1: Comparison of mean scores in various domains before and after the mentorship intervention among first-year MBBS students demonstrating statistically significant improvement ($p < 0.001$).

Domain	Mean Pre-intervention	Mean Post-intervention	p-value
Time Management	2.8	4.1	< 0.001
Motivation	3.0	4.3	< 0.001
Study Habits	3.2	4.4	< 0.001



CONSENT FORM

Title of the Study:
"Effect of Mentorship in Coping up the Stress and Improving the Academic Performance in those Students who need Special Attention in the 1st Year MBBS Phase 1 Learning"

Principal Investigator:
Dr. Supriya
Associate Professor, Sri Chamundeshwari Medical College Hospital and Research Institute Channapatna.
Contact Email: priyapadmashali.13@gmail.com, Phone no: 96322206201

Introduction:
You are invited to participate in a research study evaluating the effect of a mentorship program in coping up the stress and improving the academic performance in those students who need special attention in 1st MBBS Phase 1 learning. This form provides information about the study.

Purpose of the Study:
The aim of the study is to determine whether mentorship helps reduce academic stress and improve academic outcomes in students identified as needing special support.

Procedures:
If you agree to participate:
- You will complete a questionnaire assessing your stress levels, academic habits, and performance.
- You are assigned an institutional mentor as well as an academic mentor faculty who will guide and support you through regular sessions.
- You will be asked to complete a follow-up questionnaire after the mentorship period.

The duration of the study will be approximately [6 months].

Risks and Discomforts:
There are no foreseeable risks or discomforts in participating. You may skip any question you are uncomfortable answering.

Benefits:
- Personalized academic and emotional support through mentorship.
- Better understanding of your learning strategies and stress management.
- Potential improvement in academic performance and well-being.

Confidentiality:
All your responses will be kept strictly confidential. Your identity will not be revealed in any reports or publications related to this study. Data will be coded and stored securely.

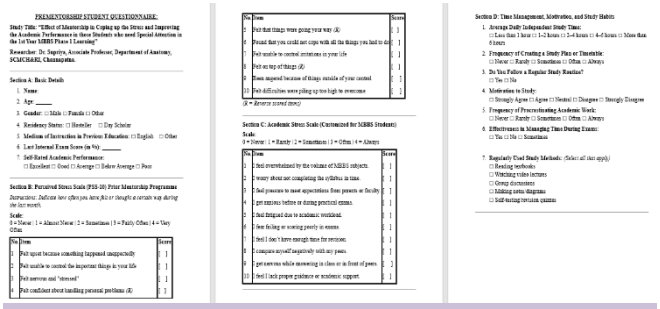
Voluntary Participation:
Your participation is entirely voluntary. You may withdraw at any time without penalty or loss of academic standing.

Contact Information:
If you have any questions regarding this study, please contact:
Dr. Supriya
Associate Professor, Sri Chamundeshwari Medical College Hospital and Research Institute Channapatna.

Consent Statement:
☐ I have read and understood the information provided above.
☐ I have had the opportunity to ask questions and received satisfactory answers.
☐ I voluntarily agree to participate in this study.

Name of Participant: _____
Signature of Participant: _____
Date: _____

Image 1: Consent form



PREMENTORSHIP STUDENT QUESTIONNAIRE:

Study Title: "Effect of Mentorship in Coping up the Stress and Improving the Academic Performance in those Students who need Special Attention in the 1st Year MBBS Phase 1 Learning"

Researcher: Dr. Supriya, Associate Professor, Department of Anatomy, SCMCH&RI, Channapatna.

Section A: Basic Details
1. Name:
2. Age: ____
3. Gender: ☐ Male ☐ Female ☐ Other
4. Residency Status: ☐ Hosteller ☐ Day Scholar
5. Medium of Instruction in Previous Education: ☐ English ☐ Other
6. Last Internal Exam Score (in %): ____
7. Self-Rated Academic Performance:
☐ Excellent ☐ Good ☐ Average ☐ Below Average ☐ Poor

Section B: Perceived Stress Scale (PSS-10) Prior Mentorship Programme
Instructions: Indicate how often you have felt or thought a certain way during the last month.
Scale:
0 = Never | 1 = Almost Never | 2 = Sometimes | 3 = Fairly Often | 4 = Very Often
(R = Reverse scored items)

No.	Item	Score
1	Felt upset because something happened unexpectedly	[ ]
2	Felt unable to control the important things in your life	[ ]
3	Felt nervous and "stressed"	[ ]
4	Felt confident about handling personal problems (R)	[ ]
5	Felt that things were going your way (R)	[ ]
6	Found that you could not cope with all the things you had to do	[ ]
7	Felt unable to control irritations in your life	[ ]
8	Felt on top of things (R)	[ ]
9	Been angered because of things outside of your control	[ ]
10	Felt difficulties were piling up too high to overcome	[ ]

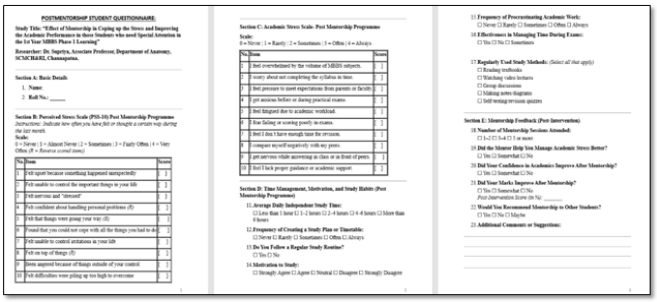
(R = Reverse scored items)

Section C: Academic Stress Scale (Customized for MBBS Students)
Scale:
0 = Never | 1 = Rarely | 2 = Sometimes | 3 = Often | 4 = Always

No.	Item	Score
1	Feel overwhelmed by the volume of MBBS subjects.	[ ]
2	Worry about not completing the syllabus in time.	[ ]
3	Feel pressure to meet expectations from parents or faculty.	[ ]
4	Get anxious before or during practical exams.	[ ]
5	Feel fatigued due to academic workload.	[ ]
6	Fear failing or scoring poorly in exams.	[ ]
7	Feel I don't have enough time for revision.	[ ]
8	Compare myself negatively with my peers.	[ ]
9	Get nervous while answering in class or in front of peers.	[ ]
10	Feel I lack proper guidance or academic support.	[ ]

Section D: Time Management, Motivation, and Study Habits
1. Average Daily Independent Study Time:
☐ Less than 1 hour ☐ 1–2 hours ☐ 2–4 hours ☐ 4–6 hours ☐ More than 6 hours
2. Frequency of Creating a Study Plan or Timetable:
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always
3. Do You Follow a Regular Study Routine?
☐ Yes ☐ No
4. Motivation to Study:
☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
5. Frequency of Procrastinating Academic Work:
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always
6. Effectiveness in Managing Time During Exams:
☐ Yes ☐ No ☐ Sometimes
7. Regularly Used Study Methods: *(Select all that apply)*
☐ Reading textbooks
☐ Watching video lectures
☐ Group discussions
☐ Making notes/diagrams
☐ Self-testing/revision quizzes

Image 2: Prementorship Study Questionnaire



POSTMENTORSHIP STUDENT QUESTIONNAIRE:

Study Title: "Effect of Mentorship in Coping up the Stress and Improving the Academic Performance in those Students who need Special Attention in the 1st Year MBBS Phase 1 Learning"

Researcher: Dr. Supriya, Associate Professor, Department of Anatomy, SCMCH&RI, Channapatna.

Section A: Basic Details
1. Name:
2. Roll No: _____

Section B: Perceived Stress Scale (PSS-10) Post Mentorship Programme
Instructions: Indicate how often you have felt or thought a certain way during the last month.
Scale:
0 = Never | 1 = Almost Never | 2 = Sometimes | 3 = Fairly Often | 4 = Very Often (R = Reverse scored items)

No.	Item	Score
1	Felt upset because something happened unexpectedly	[ ]
2	Felt unable to control the important things in your life	[ ]
3	Felt nervous and "stressed"	[ ]
4	Felt confident about handling personal problems (R)	[ ]
5	Felt that things were going your way (R)	[ ]
6	Found that you could not cope with all the things you had to do	[ ]
7	Felt unable to control irritations in your life	[ ]
8	Felt on top of things (R)	[ ]
9	Been angered because of things outside of your control	[ ]
10	Felt difficulties were piling up too high to overcome	[ ]

Section C: Academic Stress Scale- Post Mentorship Programme
Scale:
0 = Never | 1 = Rarely | 2 = Sometimes | 3 = Often | 4 = Always

No.	Item	Score
1	Feel overwhelmed by the volume of MBBS subjects.	[ ]
2	Worry about not completing the syllabus in time.	[ ]
3	Feel pressure to meet expectations from parents or faculty.	[ ]
4	Get anxious before or during practical exams.	[ ]
5	Feel fatigued due to academic workload.	[ ]
6	Fear failing or scoring poorly in exams.	[ ]
7	Feel I don't have enough time for revision.	[ ]
8	Compare myself negatively with my peers.	[ ]
9	Get nervous while answering in class or in front of peers.	[ ]
10	Feel I lack proper guidance or academic support.	[ ]

Section D: Time Management, Motivation, and Study Habits (Post Mentorship Programme)
11. Average Daily Independent Study Time:
☐ Less than 1 hour ☐ 1–2 hours ☐ 2–4 hours ☐ 4–6 hours ☐ More than 6 hours
12. Frequency of Creating a Study Plan or Timetable:
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always
13. Do You Follow a Regular Study Routine?
☐ Yes ☐ No
14. Motivation to Study:
☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
15. Frequency of Procrastinating Academic Work:
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always
16. Effectiveness in Managing Time During Exams:
☐ Yes ☐ No ☐ Sometimes
17. Regularly Used Study Methods: *(Select all that apply)*
☐ Reading textbooks
☐ Watching video lectures
☐ Group discussions
☐ Making notes/diagrams
☐ Self-testing/revision quizzes

Section E: Mentorship Feedback (Post Intervention)
18. Number of Mentorship Sessions Attended:
☐ 1–2 ☐ 3–4 ☐ 5 or more
19. Did the Mentor Help You Manage Academic Stress Better?
☐ Yes ☐ Somewhat ☐ No
20. Did Your Confidence in Academics Improve After Mentorship?
☐ Yes ☐ Somewhat ☐ No
21. Did Your Marks Improve After Mentorship?
☐ Yes ☐ Somewhat ☐ No
Post-Intervention Score (in %): _____
22. Would You Recommend Mentorship to Other Students?
☐ Yes ☐ No ☐ Maybe
23. Additional Comments or Suggestions:

Image 3: Postmentorship Study Questionnaire

Discussion

This study evaluated the impact of a structured mentorship program on stress reduction and academic improvement in first-year MBBS students who were academically and emotionally vulnerable. As measured by the PSS-10 scale, the findings indicate a significant decrease in perceived stress levels post-intervention. There was also a notable improvement in academic scores following the mentorship programme. These outcomes align with earlier studies that highlight the positive influence of mentorship on student well-being and performance.[1-4]

For instance, Fallatah et al. (2018) emphasized that effective mentoring relationships contribute to enhanced academic performance and reduced stress among medical students.[16] Similarly, a study conducted in Iran demonstrated that mentorship programmes led to a reduction in test anxiety and improved exam scores among nursing students.[12] Yusoff et al. (2010) explored the roles of emotional intelligence and academic stress, finding that mentorship can mitigate psychological distress and burnout in medical students.[8] Zhang et al, (2024) further highlighted that supportive mentoring styles positively influence innovative behaviour and academic aspirations among postgraduate students.[31]

Additionally, the importance of mentor–mentee demographic matching has been discussed by various scholars. For example, studies have shown that same-gender mentorship can enhance the sense of belonging and retention rates among female students.[24,30]

Mentorship likely contributed to stress reduction by providing emotional support, practical advice, and a sense of belonging.[5,20] The consistent contact with mentors may have created a safe space for students to discuss their academic struggles and personal challenges. The improvement in academic performance can be attributed to better goal setting, time management, and increased motivation—skills that were actively nurtured during the mentorship sessions.[25-27] These findings are consistent with the theory that mentorship acts as a buffer against academic stress by enhancing resilience and engagement.[28,29]

The mentorship programme in our study also appeared to positively affect self-reported parameters like motivation and study habits. This suggests that mentorship has a holistic impact, not just academically but also on personal development.[6,18] While earlier studies have emphasized peer mentorship or faculty guidance, our study supports the idea that even short-term, structured mentorship can be effective.[20,26] It also reinforces the need to identify students at risk early in their academic journey.[30,31] The use of both objective (academic scores) and subjective (stress perception) tools adds strength to our findings.[9,10]

Additionally, while the PSS-10 is a validated tool,[32] the academic stress scale used was customized and may require further validation. There is also a possibility of response bias in self-reported parameters. Despite these limitations, the findings

are encouraging and suggest that mentorship can be a low-cost, high-impact intervention.[19,23] However, the study has some limitations. It was conducted at a single institution, and the results may not generalize across all medical schools. The mentorship duration was limited to seven months, and long-term outcomes were not evaluated. Additionally, while the PSS-10 is a validated tool,[32] the academic stress scale used was customized and may require further validation. There is also a possibility of response bias in self-reported parameters. Despite these limitations, the findings are encouraging and suggest that mentorship can be a low-cost, high-impact intervention.[20,24]

Future studies could include control groups or compare different types of mentorship models (peer vs. faculty).[27,30] Longitudinal studies would help in understanding the sustainability of the benefits. Moreover, integrating mentorship formally into the curriculum could ensure more widespread benefits.[30-31] Our results emphasize that mentorship should not be seen as optional but as an essential support structure, particularly for students needing special attention. In the high-pressure environment of medical education, supportive interventions like mentorship may be crucial in shaping not just academic outcomes but also student mental health and professional identity.[28,31] Therefore, mentorship should be considered an important strategy in the design of academic and wellness programmes in medical schools.[24,30]

Conclusion

The mentorship programme significantly helped in reducing stress and improving academic performance in academically and emotionally vulnerable MBBS students. Integrating mentorship early in medical education can foster resilience, academic success, and personal development.

This study demonstrates the significant positive impact of mentorship on the mental well-being and academic success of first-year MBBS students. Students who were identified as needing special academic and emotional support benefitted notably from structured mentoring. The mentorship programme led to a measurable reduction in perceived stress levels, as indicated by the PSS-10 scores. Academic performance also showed a statistically significant improvement following the intervention. These findings suggest that stress and academic difficulties among medical students are modifiable with timely, personalised support. Self-reported improvements in time management, motivation, and study habits further support the holistic benefits of mentorship.

The close mentor-mentee relationship also provided a safe space for students to express concerns and receive guidance. The results highlight the value of non-academic support in fostering academic resilience. Mentorship also promoted self-reflection, academic goal-setting, and a sense of belonging among students. Students felt more confident and capable of handling the rigorous demands of medical education. Institutions should consider integrating formal mentorship programmes into the MBBS curriculum. Such programmes can act as early interventions to prevent burnout and dropout in medical school. Mentorship is not just academic—it builds emotional intelligence and personal development. While the study was limited to a single phase and institution, the outcomes are encouraging. Further multi-institutional research is recommended to strengthen the case for mentorship in medical education.

Acknowledgement

I wish to acknowledge Principal Sir and management of Sri Chamundeshwari Medical College Hospital & Research Institute, Channapatna, for his constant support during the study period.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Brown KW, Ryan RM. The benefits of being present: mindfulness and its role in psychological well-being. *J Pers Soc Psychol.* 2003;84(4):822–848.
2. Berk RA, Berg J, Mortimer R, Walton-Moss B, Yeo TP. Measuring the effectiveness of faculty mentoring relationships. *Acad Med.* 2005;80(1):66–71.
3. Sambunjak D, Straus SE, Marušić A. Mentoring in academic medicine: a systematic review. JAMA. 2006;296(9):1103–1115.
4. Lee A, Dennis C, Campbell P. Nature's guide for mentors. Nature. 2007;447(7146):791–797.
5. Kearney MK, Weininger RB, Vachon MLS, Harrison RL, Mount BM. Self-care of physicians caring for patients at the end of life: “Being connected… a key to my survival.” JAMA. 2009;301(11):1155–1164.
6. Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students: a review of the PubMed literature 2000–2008. BMC Med Educ. 2010 ;10:32.
7. O’Rourke M, Hammond S. The Medical Student Stress Profile: a tool for stress audit in medical training. Med Educ. 2010;44(10):1020–1021.
8. Yusoff MSB, Rahim AFA, Yaacob MJ. The impact of a mentoring program on medical student stress levels. Med Educ Online. 2010;15:1–8.
9. Shiralkar MT, Harris TB, Eddins-Folensbee FF, Coverdale JH. A systematic review of stress-management programmes for medical students. Acad Psychiatry. 2013;37(3):158–164.
10. Goyal M, Singh S, Sibinga EMS, et al. Meditation programs for psychological stress and well-being: a systematic review and meta-analysis. JAMA Intern Med. 2014;174(3):357–368.
11. Greeson JM, Toohey MJ, Pearce MJ. An adapted, four-week mind-body skills group for medical students: reducing stress, increasing mindfulness, and enhancing self-care. Explore (NY). 2015;11(3):186–192.

12. Köse S, Arslan GG, Özkan S. Effect of mentoring program on ways of coping with stress and locus of control for nursing students. Nurse Educ Today. 2015;35(3):408–412.
13. Mata DA, Ramos MA, Bansal N, et al. Prevalence of depression and depressive symptoms among resident physicians: a systematic review and meta-analysis. JAMA. 2015;314(22):2373–2383.
14. Rotenstein LS, Ramos MA, Torre M, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. JAMA. 2016;316(21):2214–2236.
15. Daya Z, Hearn JH. Mindfulness interventions in medical education: a systematic review of their impact on medical student stress, depression, fatigue and burnout. Med Teach. 2018;40(2):146–153.
16. Fallatah HI, Park YS, Farsi J, Tekian A. Mentoring clinical-year medical students: factors contributing to effective mentoring. Med Sci Educ. 2018;28(4):613–620.
17. Heeneman S, de Grave W. Development and initial validation of a dual-purpose questionnaire capturing mentors' and mentees' perceptions and expectations of the mentoring process. BMC Med Educ. 2019;19(1):133.
18. Jordan J, Watcha D, Cassella C, Kaji AH, Trivedi S. Impact of a mentorship programme on medical student burnout. AEM Educ Train. 2019;3(3):218–225.
19. Köse S, Arslan GG, Özkan S. The effect of the mentoring programme on adjustment to university and ways of coping with stress in nursing students: a quasi-experimental study. Nurse Educ Today. 2019;79:35–40.
20. Guhan N, Krishnan P, Priyadharshini P, Abraham P, Thomas S. The effect of mentorship programmes in enhancing the academic performance of first MBBS students. J Adv Med Educ Prof. 2020;8(4):196–200.
21. Sonawane T, Patil S, Pawar S, et al. Effects of mentoring in first-year medical undergraduate students on stress, anxiety and depression. J Clin Diagn Res. 2021;15(11):JC07–JC10.
22. Gardi C, Fazia T, Stringa B, Giommi F. A short mindfulness retreat can improve biological markers of stress and inflammation. Psychoneuroendocrinology. 2022;135:105579.
23. Hathaisaard C, Wannarit K, Pattanaseri K. Mindfulness-based interventions reducing and preventing stress and burnout in medical students: a systematic review and meta-analysis. Asian J Psychiatr. 2022;69:102997.
24. Anurat K, Thamyongkit S, Pakakasama S, Sumrithe S. Assessing the role of mentors in mitigating burnout and enhancing professional development in medical education. Int J Med Educ. 2024;15:1–7.
25. Miller J, Smith C. The role of faculty mentorship in supporting medical student mental health. Res Rev J. 2024;12(3):45–52.
26. Omondi AA, Njiru L, Madete J. Effects of mentorship programme on academic performance of students in the Department of Medical Engineering at Kenya Medical Training College. Int J Health Sci. 2024;7(7):47–66.
27. Raymond M, Jacob E. The effect of peer mentoring programmes on clinical academic progress and stress among operating room students. BMC Med Educ. 2024;24:5424.
28. Teo MYK, Ibrahim H, Lin CKR, et al. Mentoring as a complex adaptive system – a systematic scoping review of prevailing mentoring theories in medical education. BMC Med Educ. 2024;24(1):726.
29. Whitfield S, Hazard C, Haynes B, et al. On-site peer mentorship's effect on personal and professional development, stress reduction, and ease of transition into the medical education system. J Osteopath Med. 2024;124(8):345–351.
30. Wu J, Olagunju AT. Mentorship in medical education: reflections on the importance of both unofficial and official mentorship programmes. BMC Med Educ. 2024;24:1233.
31. Zhang Y, Qian Y, Wu J, et al. Enhancing resilience: the impact of a near-peer mentoring programme on first-year medical students. *Front Educ.* 2024;9:1523310.