

Perceived Effectiveness of Mentor-Mentee Program Among Undergraduate Medical Students-A Cross-Sectional Study

Girish Pamidimarri^{1*}, Sreenivasulu Palugulla², M H R K Gupatha Bayya³, Vinay Kumar Sayeli⁴, Ravi Kishore Teki⁵

¹Assistant Professor, Department of Pharmacology, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Affiliated Dr. NTR University of Health Sciences, Andhra Pradesh, India, ²Associate Professor, Department of Pharmacology, World College of Medical Sciences and Research, Jhajjar, Affiliated to Pt. B. D. Sharma University of Health Sciences, Haryana, India, ³Professor, Department of Pharmacology, Rohilkhand Medical College and Hospital, Affiliated to Bareilly International University, Bareilly, Uttar Pradesh, India, ⁴Professor, Department of Pharmacology, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Affiliated Dr. NTR University of Health Sciences, Andhra Pradesh, India, ⁵3rd year MBBS student, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Affiliated Dr. NTR University of Health Sciences, Andhra Pradesh, India.

Abstract

Background: Transitioning from pre-graduation to graduation studies presents challenges for students, who require not only academic support but also emotional and moral guidance. As medical education involves multifaceted training, they need a mentorship program that can play a crucial role in fulfilling these needs. While such programs aim to support students in various ways, challenges often persist in their implementation. This study aims to evaluate the impact of the mentorship program on medical students and identify potential areas for improvement. **Material and Methods:** The data for this study were collected using a structured questionnaire distributed via Google Forms. The questionnaire was designed using a 5-point Likert scale. **Results:** A total of 100 responses were received and analysed. Demographic distribution with a mean age of 19.92 years, and 64 % were female and 36% were male. Regarding the duration of the Mentorship, 72% received more than 10 minutes of interaction with the mentor, and 52% of students reported that the number of interactions in a professional year was fewer than 6. The majority of students (89%) reported improvement in academic performance as neutral or positive. Matching mentors and mentees based on interests and learning styles and increasing the frequency of mentor-mentee interactions are the two important suggestions provided by the students. **Conclusion:** The mentorship program for medical students at this college has demonstrated notable positive outcomes, particularly in strengthening mentor-mentee relationships and fostering academic, professional, and holistic development. The program's effectiveness can be improved by optimizing mentor-mentee matching and increasing meeting frequency.

Keywords: Mentorship program, medical students, Academic performance, Mentor-mentee relationship, 5-point Likert scale.

Received: 19 January 2026

Revised: 20 February 2026

Accepted: 15 March 2026

Published: 07 April 2026

INTRODUCTION

Transitioning from pre-medical education to medical education can be extremely demanding for medical students. The academic rigor, the development of clinical skills, and the need for a holistic approach to healthcare often result in stress, burnout, and reduced well-being.^[1] To support medical students, the National Medical Commission (NMC) introduced the mentor-mentee program in 2004 and revised it in 2024, aimed at fostering students' academic and personal growth. The program focuses on academic counselling, professional development, emotional care, and addressing the challenges that medical students face.^[2]

Studies have consistently shown that mentorship plays a crucial role in enhancing academic performance, emotional and psychological well-being, and professional development. Under the mentorship program, mentees are more likely to achieve higher grades, develop better study habits, and have a clearer understanding of how to navigate the medical curriculum.^[3,4] Mentors offer strategic guidance on how to approach complex subjects and also help students stay motivated during challenging times.^[5,6] Research has shown that the mentor-mentee relationship enhances the mentee's academic and personal growth, and mentors also

benefit from enhanced teaching skills and personal satisfaction.^[7,8] Medical education can be extremely demanding, often resulting in significant emotional strain and exhaustion for students. A mentor provides essential emotional support, reducing feelings of isolation and offering a safe space to discuss personal and academic challenges. Effective mentorship can improve overall mental health, thus enhancing both academic and social outcomes for students. Mentorship helps shape students' professional identities. Mentors provide career advice, help students explore different medical specialties, and offer networking opportunities that can influence future career choices.^[9] A good mentor acts as a guide to help the student understand the professional responsibilities and ethical

Address for correspondence: Dr. Girish Pamidimarri, Assistant Professor, Department of Pharmacology, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Andhra Pradesh, India.
E-mail: girish23.mpc@gmail.com

DOI:
10.21276/amit.2026.v13.i1.575

How to cite this article Pamidimarri G, Palugulla S, Gupatha Bayya MHRK, Sayeli VK, Teki RK. Perceived Effectiveness of Mentor-Mentee Program Among Undergraduate Medical Students-A Cross-Sectional Study. Acta Med Int. 2026;13(1):942-946.

frameworks that define medical practice. In addition, the mentorship program showed improvements in career guidance, skill development, academic performance, and well-being.^[9–11] The students participating in the mentorship program are more likely to remain committed to their studies and pursue careers in medicine.^[3]

Though mentoring approaches were different, such as peer mentorship, structured mentorship programs, technology-enhanced mentorship, and interdisciplinary mentorship, the outcome is to improve the mentee's academic performance, professional development, and holistic development.^[7,12–14] Challenges to implementing mentorship programs arise from mismatches in expectations between mentor and mentee, time constraints, and cultural competence.^[10,15,16] In addition, administration is a major challenge in deploying the mentorship program, particularly in planning, resource allocation, and monitoring.^[3]

Given this background, this study aims to evaluate the impact of the mentor-mentee program on medical students' academic performance, professional development, holistic development, mentor-mentee relationship, and program effectiveness, and also to identify strengths and areas for improvement in the mentor-mentee program. The primary objective of this study is to evaluate the effectiveness of the mentor-mentee program at our institute using a validated questionnaire. The secondary aim of the study is to collect suggestions for improving the mentor-mentee program.

MATERIALS AND METHODS

The study was conducted at Alluri Sitarama Raju Academy of Medical Sciences (ASRAM), Eluru, Andhra Pradesh, India. The study focused on second-year medical undergraduate students enrolled at ASRAM Medical College. A Cross-Sectional Study design was used for this research. This design allows for the assessment of the mentor-mentee program's effectiveness at a single point in time, capturing data regarding the academic and personal development of students involved in the mentorship program. The study received approval from the Institutional Ethics Committee (IEC) of ASRAM Medical College, Eluru (Approval Number: ASRAMS BHR-EC/Approval No. 223/2024 dated 05/10/2024). Before participating, informed consent was obtained from all students, and they were informed that their participation was voluntary. The confidentiality of the participants was strictly maintained throughout the study. Students were told that the collected data would be used exclusively for research purposes.

Data Collection

The questionnaire used in this study has undergone content validation, with 20 subject experts participating. For all questionnaire items, the content validity ratio (CVR) was greater than 80%. The final validated questionnaire was distributed online using Google Forms to the students. A total of 100 students provided consent and completed the questionnaire. The questionnaire captured the following information- initially, demographic Information such as Name (optional for anonymity), Age, and sex. In the second half of the questionnaire, questions were asked about the

duration and frequency of meetings, and the effectiveness of the Mentorship Program on Academic Performance, Professional Development, Holistic Development, and the Mentor-Mentee Relationship. In the final part of the questionnaire, a question on overall program effectiveness and an open-ended question on suggestions for improving the program were included and captured.

Sample Size

The study involved 100 medical students (who volunteered and provided informed consent) from 250 phase II MBBS students. We tried to capture a representative sample of phase II MBBS students, but only 100 students completed the form.

Statistical Analysis

The questionnaire data were analysed in Microsoft Excel. Qualitative variables were summarised as proportions, and Quantitative Variables were examined for range, mean, mode, and standard deviation.

RESULTS

Demographic Information:

Age Distribution:

The mean age of the study sample is 19.92 years, the mode is 20 years, and the standard deviation is 1.02 years. The age range in the study participants is 18 to 24 years.

GENDER: In this study, a Total of 100 2-year MBBS students participated, of whom 36 were males (36%), and 64 were females (64%). The same has been summarised in [Table 1 & Figure 1].

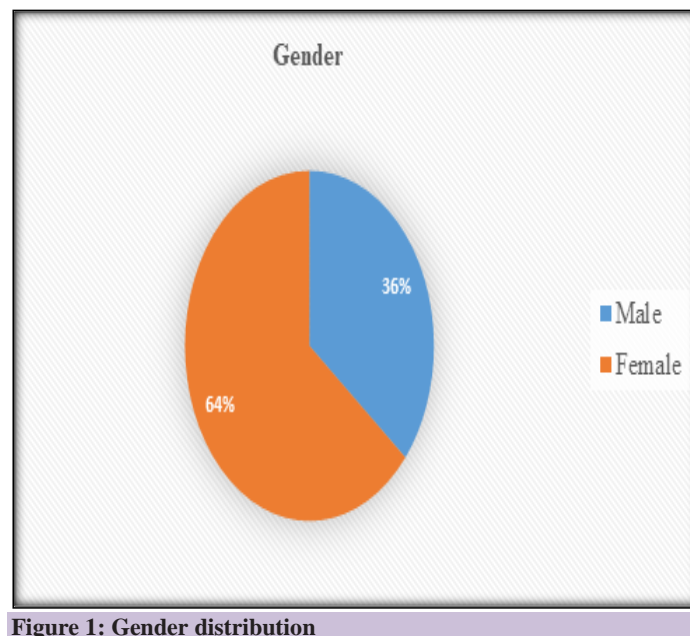


Figure 1: Gender distribution

Mentorship Program Information:

Duration of mentorship and Frequency of meetings: When we evaluated the current mentorship program on the duration of each interaction, 28% of students reported interactions lasting less than 10 minutes, and 72% reported interactions lasting more than 10 minutes. [Table 2]

When we evaluated the current mentorship program for the

frequency of meetings that were held in an academic year, 52% of the students reported that the number of interactions in a year was less than 6 times, and 48 % of the students

reported that the number of interactions in a year was greater than 6 times. [Table 2].

Table 1: Gender distribution

Gender	Frequency	Percentage	Cumulative Percentage
Male	36	36	36
Female	64	64	100
Total	100	100	

Table 2: Duration of mentorship meetings (in minutes) and Frequency of meetings (per year)

Mentorship program		No. of students reported (N=100)	Cumulative Percentage
Duration	<10 minutes	28	28
	>10 minutes	72	100
Frequency per year	< 6 times	52	52
	> 6 times	48	100

Academic Performance: In the current sample, 11% of students disagreed, while 89% agreed or remained neutral about their improvement in academic performance.

Professional Development: In the current sample, 14% of students disagreed, while 86% agreed or remained neutral about their professional development.

Holistic Development: In the current sample, 15% of students disagreed, while 85% agreed or remained neutral about their improvement in Holistic development.

Mentor-Mentee Relationship: In the current sample, 6%

of students disagreed, while 94% agreed or remained neutral about their improvement in the Mentor-Mentee Relationship.

Program Effectiveness: Measures at our Institute include the effectiveness of program orientation on the Mentorship program, the allocation of mentees to mentors, and the distribution of mentorship books, which capture program data. 16% of students disagreed, while 84% agreed or remained neutral about their improvement in program effectiveness. The same has been summarised in [Table 3].

Table 3: Responses on mentorship program recorded by using 5-point Likert scale

S. No	Assessment	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		F	C.P	F	C.P	F	C.P	F	C.P	F	C.P
1	Improvement in Academic performance	2	2	9	11	49	60	33	93	7	100
2	Improvement in Professional Development	3	3	11	14	45	59	35	94	6	100
3	Improvement in Holistic Development	3	3	12	15	40	55	40	95	5	100
4	Improvement in Mentor-Mentee Relationship	3	3	3	6	26	32	55	87	13	100
5	Improvement in Program Effectiveness	7	7	9	16	36	52	40	92	8	100

F – Frequency; C.P – Cumulative Percentage

Suggestions for Improving the Mentorship Program:

In the study sample, the opinions by the participants are as follows, 65 opinions (30%) suggested “Matching mentors based on interests, learning styles, career goals” followed by 43 opinions (20%) suggested “To increase the frequency of meetings” followed by 33 opinions (15%) suggested “Implement regular feedback channels” followed by 24 opinions (11%) suggested “Enable changing of mentors” followed by 24 opinions (11%) suggested “Want multiple

mentors” followed by 20 opinions (9%) suggested “Technology Integration for virtual mentoring” followed by four opinions (2%) suggested “Friendly Mentor” followed by three opinions (1.5%) suggested “No improvement needed” and one opinion (0.5%) suggested to “Provide confidentiality and support to reach desired academic goal” for Improving the Mentorship Program. The same has been summarised in [Table 4 & Figure 2].

Table 4: Suggestions for Improving the Mentorship Program

	Frequency	Percentage	Cumulative Percentage
Matching mentors based on interests, learning styles, career goals	65	30	30
To increase the frequency of meetings	43	20	50
Implement regular feedback channels	33	15	65
Enable changing of mentors	24	11	76
Want multiple mentors	24	11	87
Technology Integration for virtual mentoring	20	9	96
Friendly Mentor	4	2	98
No improvement needed	3	1	99
Provide confidentiality and support to reach desired academic goal	1	0.5	100

Total	217	100
-------	-----	-----

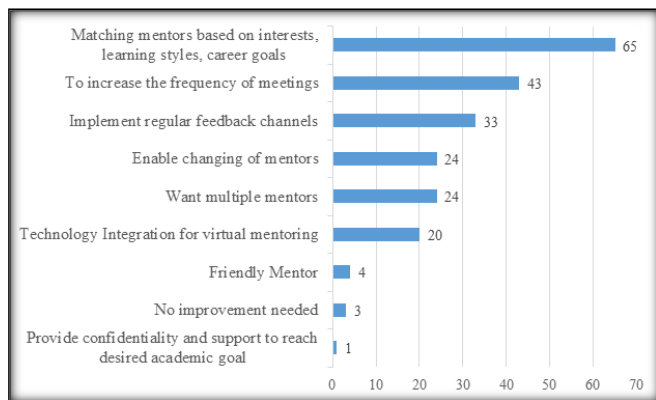


Figure 2: Suggestions for Improving the Mentorship Program

DISCUSSION

This study aims to evaluate the impact of the mentor-mentee program on MBBS students' academic performance, professional development, holistic development, mentor-mentee relationships, and program effectiveness. Additionally, the study seeks to identify strengths and areas for improvement to inform future program enhancements. The analysis has provided insights into the mentorship program's functioning. This study was planned after reviewing an extensive review of previous literature related to the mentorship program.^[3,18-20]

When we analysed demographic data, the gender distribution was 64% female and 36% male, which aligns with broader trends in Medical Education, where female students are often more numerous.^[18,21] The mean age of the study sample is 19.92 years (approximately 20 years). The age of the medical students is usually around 18 to 24 years (Early adulthood).^[22] So to address the academic challenges and other non-academic challenges like mobile addiction, procrastination. Effective Mentorship programs need to be designed, planned, and evaluated.

Duration and Frequency of Mentorship Interactions:

In 28% of interactions, the time was under 10 minutes, while 72% exceeded 10 minutes [Table 2]. A majority (52%) of students had fewer than six mentorship meetings per year [Table 2]. [Table 3] gave a more detailed breakdown of meeting duration. The prevalence of short interactions raises concerns about the potential for meaningful engagement. Effective mentoring often requires sustained interaction to build rapport and address complex issues. The infrequent meetings suggest a lack of consistent support, which can undermine the benefits of mentorship. Studies emphasise the importance of regular and sustained contact in mentorship programs. A meta-analysis by Eby et al. highlighted that the frequency and duration of mentoring interactions are positively associated with mentee outcomes.^[23]

Perceived Impact of the Mentorship Program:

Students generally reported positive impacts across academic performance, professional development, holistic development, mentor-mentee relationships, and program

effectiveness. The overall positive perceptions suggest that the program is valuable to students. Research indicates that effective mentorship can lead to positive outcomes in various domains. For instance, a study by Crisp and Cruz found that mentoring positively influenced students' academic and social integration.^[21] The current study shows very positive results for the mentor-mentee relationship, which is very important for the other positive results to occur.

Suggestions for Program Improvement:

The most frequent suggestions were "matching mentors based on interests, learning styles, career goals," and "to increase the frequency of meetings." Other common suggestions included "implement regular feedback channels" and "enable changing of mentors." The desire for increased meeting frequency reinforces the findings from the duration and frequency analysis. [Figure 2 and Table 4] Zachary. *et. al.*, and Orsini. *et. al.*, also reported the importance of matching mentors and mentees based on compatibility to enhance the mentoring relationship.^[24,25]

The high number of responses requesting increased meeting frequency shows that participants consider it a very important part of the program. [Figure 2 and Table 4] So, we recommend increasing the number of interactions to improve the effectiveness of the program.

Limitations of the study

Despite a sample size of 100 students, the participation rate was only 40% of the total 250 students, and the study revealed that many students were neutral about whether the mentorship program improved their performance.

A larger sample size would yield more robust data, enabling a better understanding of the mentorship program's strengths and weaknesses. A high proportion of neutral responses makes it difficult to generalise the results about the program's effectiveness and potential impact.

CONCLUSION

The mentorship program for medical students in this college setting has shown positive outcomes in areas such as improved mentor-mentee relationships, academic, and professional development. The response to improving the program's effectiveness, based on participants' feedback, found that addressing areas such as mentor matching, meeting frequency, and personalised support is necessary. By implementing the suggested improvements, the mentorship program can better serve students' diverse needs and contribute to their overall success in medical education.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Acknowledgment

We express our sincere gratitude to Dr. NTR University of Health Sciences for selecting this project in UGSR2024 with application number 24M093 and to Alluri Sitarama Raju

Academy of Medical Sciences (ASRAMS) for providing the academic support and platform necessary to conduct this research.

REFERENCES

- Vogan CL, McKimm J, Da Silva AL, Grant A. Twelve tips for providing effective student support in undergraduate medical education. *Med Teach*. 2014 Jun;36(6):480–5.
- Misra B. Mentor-Mentee Programme, Meeting between institutes and parents: Here's what NMC guidelines suggest Stopping Ragging [Internet]. 2024 [cited 2024 Dec 28]. Available from: <https://medicdialogues.in/health-news/nmc/mentor-mentee-programme-meeting-between-institutes-and-parents-heres-what-nmc-guidelines-suggest-to-stop-ragging-134384>
- Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students--a review of the PubMed literature 2000-2008. *BMC Med Educ*. 2010 Apr 30;10:32.
- Ramanan RA, Phillips RS, Davis RB, Silen W, Reede JY. Mentoring in medicine: keys to satisfaction. *Am J Med*. 2002 Mar;112(4):336–41.
- Zerzan JT, Hess R, Schur E, Phillips RS, Rigotti N. Making the most of mentors: a guide for mentees. *Acad Med*. 2009 Jan;84(1):140–4.
- Bhatia A, Singh N, Dhaliwal U. Mentoring for first year medical students: humanising medical education. *Indian J Med Ethics*. 2013;10(2):100–3.
- Garmel GM. Mentoring medical students in academic emergency medicine. *Acad Emerg Med*. 2004 Dec;11(12):1351–7.
- Fornari A, Murray TS, Menzin AW, Woo VA, Clifton M, Lombardi M, et al. Mentoring program design and implementation in new medical schools. *Med Educ Online*. 2014;19:24570.
- Dyrbye LN, Thomas MR, Shanafelt TD. Medical student distress: causes, consequences, and proposed solutions. *Mayo Clin Proc*. 2005 Dec;80(12):1613–22.
- Lemaire JB, Wallace JE, Sargious PM, Bacchus M, Zarnke K, Ward DR, et al. How Attending Physician Preceptors Negotiate Their Complex Work Environment: A Collective Ethnography. *Acad Med*. 2017 Dec;92(12):1765–73.
- Cruess SR, Cruess RL, Steinert Y. Role modelling--making the most of a powerful teaching strategy. *BMJ*. 2008 Mar 29;336(7646):718–21.
- Zellers DF, Howard VM, Barcik MA. Faculty Mentoring Programs: Reenvisioning Rather Than Reinventing the Wheel. *Review of Educational Research*. 2008 Sep 1;78(3):552–88.
- Buddeberg-Fischer B, Herta KD. Formal mentoring programmes for medical students and doctors--a review of the Medline literature. *Med Teach*. 2006 May;28(3):248–57.
- Hauer KE, Teherani A, Dechet A, Aagaard EM. Medical students' perceptions of mentoring: a focus-group analysis. *Med Teach*. 2005 Dec;27(8):732–4.
- Kram KE. *Mentoring at work: Developmental relationships in organizational life*. Lanham, MD, England: University Press of America; 1988. xiii, 252 p. (Mentoring at work: Developmental relationships in organizational life).
- Tervalon M, Murray-García J. Cultural humility versus cultural competence: a critical distinction in defining physician training outcomes in multicultural education. *J Health Care Poor Underserved*. 1998 May;9(2):117–25.
- Singh AP, Sayeli VK, Gera S, Rao GHJ, Singh AP, Sayeli VK, et al. A Cross-Sectional Study Evaluating the Basic Course in Biomedical Research Among Medical Postgraduates and Teachers. *Cureus* [Internet]. 2024 Jul 1 [cited 2025 Mar 18];16. Available from: <https://www.cureus.com/articles/265672-a-cross-sectional-study-evaluating-the-basic-course-in-biomedical-research-among-medical-postgraduates-and-teachers>
- Joe MB, Cusano A, Leckie J, Czuczman N, Exner K, Yong H, et al. Mentorship Programs in Residency: A Scoping Review. *J Grad Med Educ*. 2023 Apr;15(2):190–200.
- Farkas AH, Allenbaugh J, Bonifacino E, Turner R, Corbelli JA. Mentorship of US Medical Students: a Systematic Review. *J Gen Intern Med*. 2019 Nov;34(11):2602–9.
- Sambunjak D, Straus SE, Marusic A. Mentoring in academic medicine: a systematic review. *JAMA*. 2006 Sep 6;296(9):1103–15.
- Crisp G, Cruz I. Mentoring College Students: A Critical Review of the Literature Between 1990 and 2007. *Res High Educ*. 2009 Sep 1;50(6):525–45.
- Bhugra D, Molodynski A. Well-being and burnout in medical students: challenges and solutions. *Ir J Psychol Med*. 2024 Jun;41(2):175–8.
- Eby LT, Allen TD, Evans SC, Ng T, DuBois D. Does Mentoring Matter? A Multidisciplinary Meta-Analysis Comparing Mentored and Non-Mentored Individuals. *J Vocat Behav*. 2008 Apr;72(2):254–67.
- Zachary L. *The Mentor's Guide: Facilitating Effective Learning Relationships*, Third Edition. 3rd edition. Hoboken, New Jersey: Jossey-Bass Inc., U.S.; 2022. 320 p.
- Orsini JM, Bengtson MP, Carter HS. Developing a Mentorship Program in Higher Education Institutions. *EDIS* [Internet]. 2019 Apr 9 [cited 2025 Aug 2];2019(2). Available from: <https://journals.flvc.org/edis/article/view/106856>.