Original Article

Evaluating student feedback on the MBBS mentorship program in a medical college

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Abstract

Background & Objective: Mentorship is essential for medical undergraduates' professional and personal development to enhance soft skills, knowledge, and academic performance. The present study analyzed the mentee's feedback about the program.

Material & Methods: The present cross-sectional (retrospective) study, approved by the ethics committee, was conducted between January and March 2022. One hundred fifty feedback forms (open and closed-ended questions) of 2016–2019 MBBS students (at the end of one and a half years of implementation) were analyzed. Data were represented as mean ± SD and median. Qualitative data was coded and analyzed descriptively.

Results: 58% and 50.66% of mentees agreed on easy approachability and communication with mentors. 52.67 % agreed strongly, and 52% agreed that mentors listened actively to their problems and provided constructive feedback. 68.67% agreed and 56.67% agreed strongly that important lessons about personal, college, and career life were learned. 78.66% agreed that research motivation was provided. 71, 33%, and 60% agreed that mentoring helped improve academics and develop a conceptual learning style. 70% and 51.33% agreed that mentors helped them solve medical life problems and develop skills (communication, interpersonal, and humane values). 46.66% agreed that mentors encouraged them to participate in sports or extracurricular activities. 52% agreed strongly that their mentors had a professional attitude, 47.33% agreed mentors were beneficial to them, and 46.67% agreed strongly to recommend their mentors for future professional and personal development activities. Open-ended analysis showed that, in decreasing order, the most beneficial developmental activities performed with their mentors were problem-solving (40.56%), guidance, counseling (34.26%), and soft skill development (13.85%). Menttes considered time constraints a hurdle and suggested scheduled, regular meetings and the use of social media for the program's effectiveness.

Conclusion: Regular feedback, evaluation, and perceptions of mentees are vital for the mentorship program.

Keywords: medical education, mentorship, feedback, communication, personality, counseling, surveys and questionnaires, academics, social media, likert

Introduction

The mentor/mentee program is an active process aiming to help the mentees achieve excellence in their careers and realize academic, professional, and personal goals (1). Mentors play a vital role in mentoring programs. They help mentees acquire and share knowledge and information and develop competencies necessary to enhance research capabilities and improve academics (2). The feedback of mentees regarding the mentors' role in providing motivation, encouragement to participate in research activities, or improving competencies and academics is thus necessary to analyze the mentoring program implemented or running in a medical school.

Mentoring provides psychological support and emotional care and helps reduce stress (3). Mentorship also helps a student or students imbibe empathy and improve communication skills. Training a student in

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emotional intelligence starts with a face-to-face discussion with the mentor. Literature suggests that students' exposure to mentors who are empathetic towards patients helps them learn the skills and enhance their emotional intelligence (4-6).

The mentees can improve active listening, dedication, focus, and problem-solving skills. It provides motivation, inspires learners to achieve their goals, and increases creativity and productivity. Mentoring plays a vital role in students pursuing Science, Technology, Engineering, and Mathematics (STEM) fields and, importantly, is a considerable impetus for underrepresented students (7, 8). Mentorship is an upcoming newer and essential concept in the field of medical education made mandatory by the Medical Council of India (MCI) (9) (now the National Medical Commission (NMC), and thus requires continuous evaluation to get an insight into the perception of stakeholders (medical students) regarding the program. Feedback about mentoring results in responses like training, advising, counseling, and guiding, as reported by A Akrimi S et al. (2022) (10). The feedback from mentees, i.e., students, is essential, as research suggests that mentees regard mentorship as a necessary means to develop mentor-mentee relationships and enhance not only academics but also provide a boost for academic & scholarly study and help in academic progression (11, 12). NMC introduced mentorship programs for medical schools in India. More research is needed on the feedback provided by mentees. The perception of mentees is vital for the future enrichment of programs implemented across medical schools.

Successfully implemented mentorship programs help mentees enhance interpersonal and communication skills and acquire clinical knowledge, skills, and reasoning. It prepares them for future roles as doctors and thus has the potential to achieve the goal of transforming undergraduate MBBS into "Indian Medical Graduates," as advocated by NMC. The program requires comprehensive and continuous feedback and evaluation for better outcomes and continuous improvements (13). Feedback is essential to "quality assurance" to assess a program's success in achieving its goals (14, 15). The present study was undertaken to analyze the feedback the mentees gave about the mentorship program.

Material & Methods

Design and setting(s)

The present cross-sectional (retrospective) study was undertaken to evaluate the Student Mentorship Program (SMP) designed and implemented by the Medical Education Unit (MEU) of a government medical college in North India. The study duration was between January and March 2022. The mentors were assigned to the mentees for the entire duration of the MBBS undergraduate program, which is four and a half years, followed by a one-year compulsory internship. A descriptive and qualitative analysis of the responses to the feedback questionnaire provided to mentees was conducted. The objectives were to analyze the feedback provided by the MBBS undergraduate mentees regarding the mentorship program, identify the concerns and suggestions of the mentees, and suggest improvements or remedial measures.

Participants and sampling

Students of Bachelor of Medicine and Bachelor of Surgery (MBBS) batches 2016–2019 inducted in the SMP were included in the study. The number of students in each batch of MBBS admitted per year is one hundred and fifty. The students of each batch were further divided into small groups of 8–11 students, and each group constituted a mentee group, which was assigned to a teacher mentor from different specialties (pre-clinical, paraclinical, and clinical specialties). Thus, students of MBBS (batches 2016, 2017, 2018, and 2019) were divided into small groups and were inducted into the mentorship program for the entire duration of their MBBS program, i.e., for five years. Each mentee group (i.e., MBBS students) was allocated a teacher mentor for the entire duration of the MBBS program. The mentors and mentees interacted with each other at least once a month during the program. Mentees were provided guidance by the mentors regarding academic and co-curricular activities as per the objectives of the SMP. The feedback of each mentee was taken at the end of at least one and a half years of their induction and enrolment in the program, i.e., the feedback of each newly admitted batch was taken when they were in the middle of their second year in medical school (and it was the reason why the feedback of the 2018 and 2019 batches was not included for analysis as they were in the middle of their second year in 2020 and 2021, respectively, during which the pandemic affected offline classes). The informed consent was obtained, and the students were not supposed to disclose their identities while filling out the forms.

Tools/Instruments

Mentees were distributed a predesigned and pre-validated questionnaire (Cronbach’s alpha > 0.7)

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prepared by the MEU of the institution, and they were asked to give responses to open-ended and closed-ended questions in the questionnaire. There were five closed-ended questions, each containing further sub-questions(communication skills & approachability; active participation, counseling, & feedback; research, academics, and problem solving; networking, social skills, and extracurricular activities; and questions related to overall feedback about mentors and recommendations). The perception of mentees regarding the program was measured on a Likert scale of 1–5 using closed-ended questions (1 = strongly disagree, 2 = disagree, 3 = no response/neutral, 4 = agree, 5 = strongly agree). There were three open-ended questions (mentor-mentee relationship, personal growth, and improving the relationship with mentors). The general comments of mentees were also recorded. The feedback provided by the mentees was then analyzed.

Data collection methods

The questionnaire was distributed to mentees of the 2016–2019 MBBS batches. However, the 2018 and 2019 batch feedback was not analyzed due to the prevailing COVID-19 situation, lockdown, and online classes (only the feedback questionnaires of the students who participated in face-to-face mentoring were included). Thus, questionnaires from the 2016 and 2017 batches remained to be collected, out of which one hundred fifty duly completed and properly filled questionnaires were included for the final analysis. The incomplete feedback forms submitted by mentees were excluded.

Data analysis

Data collected was analyzed using Microsoft Excel and Statistical Package for Social Sciences software (SPSS 24.0 IBM).The data was represented as mean ± SD. The median score for the individual items of the feedback questions was done. The responses to open-ended questions were coded, and descriptive analysis was done.

Results

One hundred fifty forms were included for the final analysis. The output generated for close-ended questions is given in Table 1. The responses to open-ended questions are summarized in Tables 2-3. The general comments of mentees related to the mentorship program are given in Table 4. The agreement on likert scale varies from low to high with neutral in between i.e. one (strongly disagree), two (disagree), three (neutral), four (agree) and to five (strongly agree). Thus score between 4-5 means agreement in favor whereas score between 1-2 shows disagreement. The mean and median scores of the open ended questions show strong agreement for questions about active listening by mentors (mean 4.49 ± 0.56), mentors' attitude as examples of professionalism (mean 4.50 ± 0.54), and mentees learning at least a critical lesson from mentors related to personal (mean 4.69 ± 0.46) and professional life (mean 4.56 ± 0.49) with median score of five (i.e., strongly agree).

The feedback analysis showed that 58% of the participants agreed, and 34.67% agreed strongly that communication with mentors was easy, with 50.66% and 47.33% agreeing and strongly agreeing that their mentors communicated with them regularly. 44% (agreed) and 52.67%(strongly agreed) that their mentors listened actively to their problems, and a further 52 % and 48% agreed and agreed strongly that constructive feedback was provided to them by their mentors. 68.67 % and 56.67% agreed strongly that interaction with their mentors helped them learn important lessons about college/personal, career, and professional life, respectively. 71.33% of participants agreed that mentorship helped them improve their academic performance, and 60 % agreed that their mentors helped them develop a conceptual style of learning. 78.66 % of mentees agreed that their mentors encouraged them to achieve professional goals and also encouraged them to participate in research activities. 70 % agreed that their mentors helped them solve problems arising in their personal lives or as medical students.51.33 % agreed that their mentors helped them develop soft skills like communication and interpersonal relations and also helped them imbibe human values. 46.66% agreed, and 36% strongly agreed that their mentors encouraged them to participate in sports and extracurricular activities. 56.66% agreed that their mentors involved them in meetings and informal networking. 52 % of mentees agreed that their mentor's behavior and attitude were professional. 47.33 % agreed, and 45.34 % agreed strongly that their mentors benefited them. 46.67 % agreed strongly to recommend their mentors for personal and professional development programs to be undertaken in the future (Table 1).

The majority, in response to the open-ended questions (Table 2), 40.56%, regarded problem-solving as the most beneficial activity conducted with their mentors. 41.30 % felt that the most beneficial change they observed in themselves due to the mentorship program was self-discipline and sincerity. Aptitude for research was reported by 38.80 5 as the knowledge, attitude, or skill gained due to mentorship. Most mentees, i.e., 31.76 %,

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felt that clinical skills interest and participation in related activity was an activity they either planned or had done more due to the mentorship program.

In response to open-ended questions, 86.67% felt that regular meeting schedules and interactions help make the mentorship program more effective (Table 3). Analysis of the general comments provided by the mentees highlighted that the mentorship program is beneficial as it helps them cope, tackle stress and problems, and develop soft skills. The program was regarded as vital for the welfare of the students. Mentees also reported that daily academic and clinical activities leave little time for regular interaction with mentors, and thus, mentorship program activities need to be planned. Mentees also reported that to enhance the utility of the program, a dedicated time slot for interaction and problem-solving needs to be allotted, and 13.16% emphasized the usage of ICT for interaction and communication with mentors (Table 4).

Table 1. Descriptive data of responses given by mentees to close-ended questions

Questions	Responses								mean ± SD	Median
	Disagree		Neutral		Agree		Strongly agree			
	n	%	n	%	n	%	n	%		
1. Communication skills and approachability										
a. My mentor was easy to approach and talk with	-	-	11	7.33	87	58	52	34.67	4.27 ± 0.59	4
b. My mentor communicated regularly with me	-	-	03	2	76	50.66	71	47.33	4.45 ± 0.54	4
2. Active participation, counseling and feedback										
a. My mentor and I made guidelines to evaluate the success of the program based on my expectations and requirements	-	-	08	5.33	69	46	73	48.67	4.43 ± 0.59	4
b. My mentor actively listened to my problems	-	-	05	3.33	66	44	79	52.67	4.49 ± 0.56	5
c. My mentor provided me with constructive feedback	-	-	-	-	78	52	72	48	4.48 ± 0.50	4
d. I learnt at least one important lesson about college life , or life in general from my mentor	-	-	-	-	47	31.33	103	68.67	4.69 ± 0.46	5
e. I learned at least one important lesson about my career or professionalism from my mentor	-	-	-	-	65	43.33	85	56.67	4.56 ± 0.49	5
3. Research, academics and problem solving										
a. My mentor helped me build a conceptual learning style	02	1.33	01	0.66	90	60	57	38	4.34 ± 0.57	4
b. My mentor assisted me with improving my academic performance	01	0.66	05	3.33	107	71.33	37	24.67	4.20 ± 0.52	4
c. My mentor encouraged me to achieve my professional goals and carry out research activities	01	0.66	01	0.66	118	78.66	30	20	4.18 ± 0.45	4
d. My mentor helped me out with the problems related to personal goals and life as a medical student	03	3	02	1.33	105	70	40	26.67	4.21 ± 0.56	4
4. Networking, social skills and extracurricular activities										
a. My mentor helped me develop communication skills, interpersonal relations and inculcate human values	01	0.66	03	2	77	51.33	69	46	4.42 ± 0.57	4
b. My mentor also involved me in informal networking and meetings	01	0.66	09	6	85	56.66	55	36.67	4.29 ± 0.60	4
c. My mentor encouraged me to participate in the games and extracurricular activities	04	2.66	22	14.66	70	46.66	54	36	4.16 ± 0.77	4
5. Overall feedback about mentors and recommendation										
a. My mentor's behaviour and attitude is an example of professionalism	--	-	03	2	69	46	78	52	4.50 ± 0.54	5
b. Overall, my mentor was an asset and a benefit to me	01	0.66	10	6.66	71	47.33	68	45.34	4.37 ± 0.64	4
c. I recommend my mentor for future professional and personal development activities	02	1.33	14	9.33	64	42.66	70	46.67	4.34 ± 0.70	4

Note: There were no responses given as strongly disagree and thus not shown in the table. Responses were measured on a Likert scale ranging from 1 to 5, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree."
Abbreviations: SD, standard deviation; n, number of participants

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Table 2. Summary of responses to open –ended question related to mentor –mentee relationship and personal growth

Questions		Summary of responses	Response Code, themes	% Responders
Mentor –mentee relationship	What was the most beneficial developmental activity you did with your mentor?	*"Discussion about problems faced during MBBS/ personal problems".*	Problem solving	40.56
		"Provided counselling and guidance, problem-solving attitude".	Guidance & counselling	34.26
		"Approach toward exam and evaluation, time management".	Comprehension & understanding of subject	11.33
		"Approach towards the subject and ways to learn the fundamentals and acquire knowledge".	soft skill development	13.85
		"Confidence to participate in extra-curricular activities".		
		"Character development, professional approach, felt motivated".		
	What was the most beneficial change you identified in yourself as a result of mentorship program?	*"Disciplined, sincere, and regular in classes".*	Discipline & Sincerity	41.30
		"Focus more on studies & work-life balance".	Work life balance	27.88
		"The confidence gained improved the exam performance".	Attentive, focused and regular in class (attendance)	30.82
		"Being open about sharing the problems & gained confidence".		
		"Changed perspectives about problems related to curriculum".		
Personal growth	As a result of the mentorship program, I have gained the following knowledge, skill or attitude change:	*"Discipline & time management".*	Averse with technology/e-learning	30.80
		"Became more expressive".		
		"Learned the importance of sharing the problems".	Clinical application of subject	28.23
		"Use of social media & Internet to gain knowledge from relevant resources".	Aptitude for research	38.80
		"Relevance and importance of research".		
		"Communication skills were improved & learned how to present seminars effectively".		
		"I became more innovative and changed my outlook on exam".		
		"Application of Theory to the clinical scenario".		
		"Enlightened about the importance of guidance from an experienced person".		
	Something I planned to do or have done more of as a result of the mentorship program	*"Learn about the importance of practical, patient-based & conceptual learning".*	Socio cultural dimensions of health	21.90
		"Be more attentive during lectures, Listen to the teacher, and focus on academics".	Active and participatory learning	29.86
		"Practice communication with patients and focus on the importance of history taking & systemic examination".	Clinical skills	31.76
		"Interact and participate actively in various programs & become more culturally sensitive".	Extracurricular activities/ sports	16.48
		"Interact with faculty more".		
		"Participate in extra-curricular activities along with the course requirements".		

Note: Percentages are rounded to two decimal places. Response codes and themes were derived from the qualitative analysis of open-ended responses.

Table 3. Summary of responses to open –ended question related to improvements in mentor-mentee relationship

Question	Summary of responses	Response Codes, themes	% of responders
Ways, if any, in which our mentor –mentee relationship could be made more effective	*"It should be more organized, and meetings should be scheduled more regularly, effectively, and adequately. Field experience needs to be increased".*	meeting schedule and interactions	86.67
	"Face-to-face interaction regularly will improve the desired outcome".	field/ on hands experience	13.33
	"A busy schedule makes the conversations and interactions somewhat tricky. Thus time management and meeting hours need to be chalked out".		
	"Increase the number of interactive sessions and reduce the number of mentees allotted to mentors".		
	"Try to make the relationship between mentor-mentee more informal, which helps to share personal problems a lot".		

Note: Percentages are rounded to two decimal places. Response codes and themes were derived from the qualitative analysis of open-ended responses

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Table 4. Summary of general comments of mentees on the mentorship program

Question	Summary of responses	Themes	% Responders
General comments on the mentorship program	*"Good way of personality development".* *"A time slot needs to be allotted for interaction and problem-solving".* *"Involve dedicated faculty".* *"Helps cope with problems, tackling of stress, improves soft skills. The meaningful policy to student welfare".* *"Use of social media for interaction and contact with mentors".* *"Busy timetables and day-to-day academic and ward activities leave little time for mentor interaction. It should be scheduled appropriately".*	Soft skills Pros of the program Planning & implementation Use of Information and Communications Technology	13.85 50.43 22.56 13.16

Note: Percentages are rounded to two decimal places. Response codes and themes were derived from the qualitative analysis of open-ended responses

Discussion

The mentors in our study were assigned from across different specialties. Literature suggests that mentoring is a longitudinal relationship to enhance and achieve the mentees' academic, personal, and professional growth and development and proficiency in soft skills. Results of the study showed that final-year mentees considered mentoring vital for career development, whereas mentoring was critical for other professional-year students to boost a smooth transition to being a physician. Mentoring needs to evolve and change over the course of time, as emphasized in a previous study (16). According to a study done by Bhatnagar et al. (2020), mentoring influences career choices and fields of practice. The results also indicated that desired mentors were found at a conference outside the medical school. Mentorship provides an impetus for students to choose to pursue a field in the future, and an appropriate mentor from that particular field has a positive influence on making such choices. The feedback analysis done by Bhatnagar V et al. (2020), highlighted that some mentees pursued family medicine due to mentors and role models from that particular field. Respondents also emphasized the positive influence and motivation of having or seeing a specialty or trauma surgeon mentor (17). To avoid the potential conflict of interest, the mentors need not be the academic supervisor or the consultant in the field of mentor specialty (or, in our study, the Department of Posting of Mentors during Academics). Another reason for choosing mentors from different specialties is that clinical field mentors are often deemed to lack active listening skills as they interact with patients daily and are considered experts in their field of practice, which percolates to the mentoring, and such mentors may resort to advice and personal opinions rather than active listening (18), which may not always be generalized and is also not easy to estimate. In the background of the above discussion, the rationale for choosing mentors from different fields of specialization is explained.

Mentorship is vital for professional and personal growth, emotional support, counseling and guidance, and soft skill development, and it is instrumental in familiarizing the mentees with the learning environment (19, 20). In our study, respondents had positive attitudes towards the program, felt motivated, could plan studies and set academic and personal goals, and agreed that it was vital for interpersonal growth and professional development. The results conform with Verma et al. 2019 (21) results. Responders reported improved soft skills, which agrees with the results of previous studies (22–24).

In our study, a median score of 4 (i.e., agree on the Likert scale) was provided by mentees regarding "regular feedback," "encouragement to participate in extra-curricular activities," and "improvement in academic performance," and mentees also commented that the program is beneficial to "cope with stress and solve problems." Similar results were reported in a previous study (25). An easily accessible mentor is essential for a student's psychological well-being and helps combat stress (26, 27). In our study, 58 and 34.67% agreed and strongly agreed that their mentors were "easy to approach and talk with." 50.66 and 47.33% agreed and strongly agreed that mentors communicated regularly; 44 and 52.67% agreed and strongly agreed that mentors listened actively to their problems; and 52 and 48% agreed and strongly agreed that mentors provided constructive feedback. A sympathetic approach, interaction, and practical communication help develop a problem-solving attitude and boost the learning environment (28, 29).

Responders in our study opined positively about the utility of the program in "student welfare," "smart learning, conceptual learning, approach towards the examination," "study plans," "acquisition of knowledge," "counseling and guidance," and "better means of tackling and solving problems." Dalgaty et al. reported that mentoring bridges academic performance gaps, provides reassurance and emotional support, and boosts knowledge and skill development (30). Mentees also noted that the program is helpful "in the application of

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theory into clinical scenarios," "relevance and importance of history taking and systemic examination," "becoming regular in classrooms and being more attentive," and "helping in attaining work-life balance." The results are in agreement with previous studies (26, 31).

Suggested improvements by respondents were "schedule," "regular meetings," "time constraints," "informal relationships with mentors," "reducing the number of mentees allotted to mentors," "use of social media to interact with mentors," and "proper implementation." Time constraints, few contact hours and sessions, and the academic and hospital responsibilities of mentors are obstacles to successful mentor-mentee programs (1, 32). Thus, a proper schedule with specific time allocation is required to enhance productivity (32, 33). Mentors need to engage mentees in non-academic activities apart from academics, as reported in a previous study (33). There are conflicting reports on using ICT (online and social media platforms) in mentorship. Although e-mentoring lacks the essentials of mentoring, i.e., personal commitment and face-to-face interaction (1), its role cannot be ignored entirely in today's world and era of ICT. The size of the group on social media platforms depends on the specific goals of the mentoring. The mentor-mentee group needs to be small and large while focusing on personal growth and professional challenges, respectively (34). A prospective study to understand the role of the size of the group and its correlation with personal and professional achievements by mentees is required.

A brief discussion regarding the role of ICT in mentoring programs: A digital or online platform during the COVID-19 pandemic-related lockdown was a solution to ensure learning. However, literature suggests that access to online mediums doesn't guarantee that actual learning occurs. Lack of physical presence, especially in educational environments, negatively impacted understanding. The UNESCO report suggests that, apart from formal education, regular or soft skills-related education also took a hit due to a lack of face-to-face interaction during the pandemic. Lack of improper internet connectivity, lack of unlimited data access, or fast-speed internet affected online learning. Another issue is the availability of gadgets to access classes or online interaction. Social distancing also made it impossible to interact with peers or mentors. Research suggests that eye-to-eye contact and body language help mentors understand mentees' challenges and their specific requirements. Online platforms deprive mentors and mentees of such opportunities and thus pose a challenge. There is also a need for more motivation due to the longer screen time. In contrast to face-to-face interaction, digital platforms lack the development of interpersonal rapport between mentors and mentees (35). Lack of face-to-face interaction and the tendency to switch off the cameras and videos during online mentoring for the mentees were cited as challenges to fostering interpersonal relationships and communication between mentors and mentees. Another hurdle initially was unfamiliarity and the need for formal training in using the online platforms employed to continue education and mentoring online. Technology-related issues like connectivity and internet disruptions were also hurdles to imparting e-mentoring to a certain extent. Nevertheless, evidence suggests the utility of online sessions and their positive impact on providing motivation and counseling to students during the pandemic phase (36). Those who are well-versed in ICT are more likely to use it and communicate regularly with their mentors during online mentoring. Changes in technology and the requirement to reach out to a larger group of mentees resulted in the shift to e-tools (37). Using multiple e-tools and social platforms allows for flexibility in e-mentoring and helps with feedback. However, the literature suggests that e-mentoring fallacies mainly relate to a lack of facial expressions, face-to-face interaction, cyber security, and e-skills proficiency (38). Also, evidence suggests that e-mentoring is beneficial as it can cater to the individual needs of the mentees and can be devised as per their specific needs. E-mentoring helps personal and professional growth and helps develop networking (39). Research suggests that mentors could have been more apprehensive about sharing their issues and problems with mentors during online sessions, mainly due to a lack of privacy and cyber security issues. Most MBBS students who participated in a study done earlier did not consider online mentoring on par with face-to-face interaction. However, despite the problems and challenges, the online medium was the only platform to continue academic activities and mentoring and not compromise with social distancing deemed necessary during the pandemic. However, there are contradictory reports regarding its effectiveness and utility (40); thus, effective study designs are required in the future. Artificial intelligence can boost mentorship by providing an opportunity to interact and communicate with people from outside the institution, thus providing an

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opportunity for networking and sponsorship and enhancing and upgrading technical and non-technical skills. Telecommunication and social media appear to be the future of mentoring in various specialties (45). However, human reasoning, judgment, cognition, problem-solving skills, adaptability, intelligence, experience, and mentorship capabilities are second to none, and thus, the use of AI tools in mentoring needs to be researched as a pilot and implemented as an adjunct to and supportive of mentoring programs (46).

Importance of feedback and suggested improvements: Feedback enables mentors to act as catalysts in creating a healthy teaching and learning environment and helps mentees enhance active participatory learning. Feedback is essential to improving the quality of medical education and is an effective mode of communication, enabling mentors to take necessary remedial measures (41-43). The "Student Mentorship Program" running in our institution was analyzed for the first time based on the perceptions and feedback provided by the mentees. The results will help design further studies and improve the mentorship program. It will help MBBS students gain maximum benefits from the mentoring and help mentors evolve and improve. The analysis of the open-ended questions helps to identify the problem areas of the program and helps devise means to improve and enhance the quality of mentorship, which is vital for students. Table 5 shows the suggested solutions to the issues that were brought up by respondents to our study, along with the difficulties that are likely to arise when putting these solutions into action.

Table 5. Problems identified, suggested remedial measures and possible hurdles in implementation remedials

Problems identified (feedback of mentees)	Proposed recommendations	Challenges expected while implementing remedials
Time constraints (academic and hospital duties)	Meetings need to be scheduled (keeping in view the timetable of mentees and the academic, administrative, and hospital responsibilities of mentors).	The medical education unit needs to devise a timetable to incorporate mentorship hours without compromising the academic hours allotted to the MBBS program.
Size of the group	Make small groups. Involve more dedicated faculty or those voluntarily willing to take up the role of mentors.	Faculty's academic, hospital, and administrative duties must be re-assigned if they are involved in a mentorship program so that faculty can dedicate time to mentoring.
Use of e-mentoring	Pilot projects may be taken up and evaluated for possibilities and fallacies.	Post-pandemic, there are no exclusive online classes, and thus, such a pilot project is expected to meet hurdles, viz implementation, as dedicated time needs to be carved out from the busy schedule of mentors and mentees. Blended program may be implemented as a pilot project.
Field experience	It may be clubbed with a “family adoption program” (a program introduced by NMC and implemented in Institution) wherein the teacher takes the mentor role. Community Medicine to utilize field visits and visits to rural and urban health training centers as an opportunity to interact and mentor the learners.	Requires validated questionnaire to analyze the outcome of field visits. Also, time constraints and resources (available mentors) are expected to be another hurdle.
Regular meetings	Allocate more than one mentor to a group of mentees. The diversity of faculty will also ensure a multidisciplinary approach to the program.	Diversity of ideas, rapport between mentors, time constraints, and mentoring style may influence the outcome. Thus, training and formal interactions of mentors with one another with a common agenda (i.e., mentoring) are needed.

Note: The table includes problems identified by mentees, proposed recommendations, and anticipated challenges during the implementation of the recommended measures

Time constraints are an important area to be addressed. A previous study reported that pre-clinical mentors can devote more time to mentoring than their clinical counterparts (44). Also, retaining the same mentor assigned to each student throughout medical school, formal mentor training sessions, maintenance of the mentee database, student-as-mentor pilot projects, and regular evaluation of the program are other suggested improvements.

The evaluation of academic performance (regular analysis) needs to be included in the study. A prospective study is needed wherein the newly admitted MBBS students are enrolled in the mentorship program and the regular evaluation of variables like soft skills (personality, empathy, communication, and extra-curricular skills), academic performance (academic scores can be compared yearly), progress, professional and personal growth (participation in conferences and submission of projects), and mentors as role models. Mentees' feedback regarding mentors as role models, guides, and motivators needs to be evaluated in a prospective long-term study.

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The present study analyzed the "Student Mentorship Program" implemented and running in the institution for the first time. The results will help to formulate further studies to evaluate the SMP for the newly inducted batches. The analysis of the open-ended questions helps identify the problem areas and loopholes in the program and devise ways to improve and enhance the quality of mentorship, which is vital for students.

However, the results of the study are based on the perceptions of the mentees and thus may not be free from bias. Furthermore, the qualitative nature of the study makes generalizing the findings a limitation. The analysis of the mentor's feedback would have enhanced the results.

Conclusion

Mentoring is essential for personal and professional development as it helps mentees evolve, develop soft skills, enhance academics, and become disciplined. Constructive feedback, counseling and guidance, and interactive sessions help develop a problem-solving attitude. Issues like time constraints, lesser interaction, and lack of field experience must be addressed in future programs.

Ethical considerations

The Institutional Ethics Committee approved the study (Reference Number: IECJNMC/574).

Artificial intelligence utilization for article writing

Usage of Grammarly for Grammar Punctuation and Correction.

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Conflict of interest statement

None.

Author contributions

Shah Mohammad Abbas Wassem, Ali Jafar Abedi, and Syed Haider Mehdi Husaini: study design and conception, data collection, analysis and interpretation of the results. Shah Mohammad Abbas Waseem: Manuscript preparation, Literature search, Corresponding Author. All authors analyzed the final draft and approved the final version.

Data availability statement

The outline of the student mentorship program running in the institution where the present study was conducted is available online at https://amu.ac.in/faculties/faculty-of-medicine/students-mentorship-programme.

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