

Perspectives on peer mentoring initiatives: Insights from first-year medical students

Phyu Hnin Pwint, MSc¹, Swe Kye Mon Min, PhD², Sin Shwe, PhD³, Kaur Avneet, MSc¹

¹Universiti Tunku Abdul Rahman, Malaysia, ²Newcastle University Medicine Malaysia, Johor, ³Universiti Tunku Abdul Rahman, Malaysia

ABSTRACT

Introduction : The transition into medical school represents a period of intense academic, social, and personal adjustment for students. Mentoring programmes have proven to be effective in enhancing students' academic, behavioural, emotional, and social well-being. Mentorship plays a crucial role in the success of a medical career, with growing evidence supporting the positive impacts of mentoring initiatives in undergraduate medical education. These initiatives significantly contribute to both professional and personal growth. Due to the limited research on peer mentoring programmes for new medical students, this study aimed to explore their perceptions of the Peer Mentoring Programme (PMP) at Universiti Tunku Abdul Rahman (UTAR).

Materials & Methods: A mixed-methods study was conducted, combining a cross-sectional survey with a qualitative focus group discussion among first-year medical students from the 2023/2024 academic year. Quantitative data were analysed using descriptive statistics in SPSS version 29, while qualitative data underwent thematic analysis according to Braun and Clarke's framework.

Results: A total of 37 students participated (90.24% response rate) in this study. The findings indicated a positive perception of the PMP with an overall mean score of $M=3.63$ ($SD=0.74$). Academic support was the primary reason for mentor meetings (83.8%). Also, thematic analysis revealed two major themes: 'Perceived Benefits of the Programme', which highlighted its role in academic guidance and social integration, and 'Suggestions for Improvement,' which called for better programme clarity, improvement in mentor matching, and increased peer interaction.

Conclusion: The findings indicated an overall positive perception of the peer mentoring programme among the students. While effective in providing academic and social support, its impact could be significantly increased by providing more structured enhancements, which can include formal mentor training, an improved matching process, and a continuous evaluation and monitoring system.

KEYWORDS:

Peer mentoring, perceptions, first-year medical students, academic and social development

INTRODUCTION

The transition into medical school represents a period of intense academic, social, and personal adjustment for students.^{1,2} Various factors, such as a challenging and demanding curriculum, a highly competitive environment, and high expectations, can lead to significant stress, making strong support systems essential for student well-being and success.^{1,3} Mentorship, in particular, has proven to be an integral component of undergraduate medical education, fostering both professional and personal growth.⁴ Among various mentoring models, peer mentoring—where experienced senior students guide and support their juniors—has gained significant attention for its unique advantages.⁵

Peer mentoring is especially well-suited for medical students, who, as adult learners, can benefit from educational approaches that are self-directed and relevant to their immediate challenges.⁶ This also aligns with the core principles of Adult Learning Theory, which posits that adults are most motivated to learn when they are actively involved in the learning process and can see the direct relevance of knowledge to solving real-world problems.^{6,7} Peer mentoring programmes create a supportive environment that uses these principles. They offer a platform for learning that is built on shared experiences and solves social challenges in a way that faculty-student mentoring cannot always replicate.^{3,8} This creates a comfortable, non-judgmental space for guidance on everything from study strategies to navigating campus life.^{5,9}

The benefits of peer mentoring in medical education consistently show that these programmes enhance academic development, provide psychosocial support, improve communication skills, and help reduce student anxiety.^{5,8,10} However, the effectiveness of such programmes is not guaranteed and often relies on practical experience rather than a strong evidence basis.¹¹ Many challenges exist, which include time management constraints, communication barriers, and mismatched mentor-mentee expectations.^{2,8,12} This creates a significant gap in the literature: a need for formal, mixed-methods evaluations of established mentoring programmes to understand the perceptions of participants and identify specific factors contributing to success or failure, especially within unique institutional settings.

At UTAR, the Peer Mentoring Programme (PMP) is available for students who are interested in becoming mentors. Interested students may register at the Department of Student Affairs office and are required to attend an interview session. Selected participants must subsequently complete

This article was accepted: 31 October 2025

Corresponding Author: Shwe Sin

Email: drshwesin@gmail.com

compulsory mentor training. This programme is one such initiative, designed to develop connections between senior and junior students and provide support for the transition into their demanding medical programme.

However, within the Faculty of Medicine, students generally do not participate in this PMP. Instead, mentoring for first-year medical students is informally organized by the class representative, with mentors randomly assigned from among Year 2 students. This informal arrangement lacks structured training, formal guidelines, and established meeting frequency.

Another motivation for this research is that, despite its long-standing implementation, the PMP at UTAR has not been formally evaluated to assess its impact and effectiveness from the students' perspective.¹³ Therefore, this study aims to investigate the perceptions of first-year medical students participating in the PMP at UTAR. Using a mixed-methods approach, this research aims to provide a comprehensive understanding of student experiences, thus contributing to the evidence on peer mentoring and providing practical recommendations to enhance this support program.

MATERIALS AND METHODS

Study design

A concurrent mixed-methods study design was used, which combined a quantitative cross-sectional survey with qualitative focus group discussions. This approach helped collect perceptual data and deepen the exploration of students' experiences related to the PMP.

Settings and Participants

The study was conducted among first-year Bachelor of Medicine and Bachelor of Surgery (MBBS) students from the 2023/2024 academic year at Universiti Tunku Abdul Rahman (UTAR), Malaysia. All first-year medical students from the 2023/2024 academic year were invited to participate voluntarily.

The inclusion criterion was being a first-year medical student who provided informed consent to participate. Students who declined to participate or submitted incomplete questionnaires were excluded.

Sample size calculation

$$n = N / (1 + N e^2)$$

$$N=41 \text{ (total number of year 1 students) , } e=0.05$$

$$n= 37$$

We have sent out request all the students to participate in the study and response rate is 90.24%

Study Period and Data Collection

The study was conducted during the final two weeks of the second semester of the 2023/2024 academic year, from (June 20, 2024, to June 28, 2024). Data was collected at this time to ensure that first-year students had participated in the PMP for a full academic year, allowing them to provide informed and comprehensive feedback based on their complete experience.

Survey Instrument

A self-administered questionnaire was developed following a review of existing literature on peer mentoring assessment to explore the perceptions of mentoring programme on the academic performance and social well-being of medical students. A total of 37 students completed the survey. The questionnaire comprised two sections: (I) general demographic information and (II) a series of 10 items or statements assessing perceptions of the peer mentoring program, rated on a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree.' Expert medical educationists assessed the content validity, and a pilot study was conducted with ten Year 2 medical students to assess the clarity and relevance of the items to ensure internal consistency, with the overall Cronbach's alpha coefficient meeting acceptable standards, Cronbach's alpha > 0.75.

Focus Group Discussion (FGD)

A purposive sample of eight volunteer students was recruited for one qualitative focus group discussion to explore their experiences in greater depth about the impact of mentorship programme on academic performance. The session was semi-structured, guided by an interview protocol questionnaire developed from the quantitative survey themes to facilitate a deeper exploration of student perceptions of peer mentoring programs. The discussion, conducted in English, the medium of instruction for the MBBS programme, lasted approximately 30 minutes and was recorded via Microsoft Teams with the participants' consent.

Data Analysis

Qualitative data from the FGD were analysed using thematic analysis, following the six-phase framework described by Braun and Clarke.¹⁴ The process involved: (1) data familiarization through repeated listening to the recording and reading the verbatim transcript; (2) generation of initial codes from the data; (3) searching for potential themes by collating related codes; (4) reviewing the themes against the coded data and the entire dataset; (5) defining and naming the final themes; and (6) producing the final report with illustrative quotes. To ensure reflexivity, two researchers independently coded the transcript, and any discrepancies were resolved through consensus discussion, ensuring a rigorous and unbiased interpretation of the data.

Ethical Considerations

This study was approved by the Institute of Postgraduate Studies and Research (IPSR), UTAR. (UTAR FM-IPSR-R&D-056(A) response ID 413). Each questionnaire included a consent form that provided a brief overview of the study and its objectives. Participants were informed that their information would be used exclusively for this study and kept confidential. Participation was voluntary, and students were informed of their right to withdraw at any time without penalty.

RESULTS

Quantitative Findings

There were 41 medical students in the 2023/2024 cohort, of whom 37 participated in the study, resulting in a 90.24% response rate. All participants were first-year medical students aged between 16 and 20 years. The majority of

Table I: Sociodemographic characteristics of the participants

	N	Percentage%
Gender		
Male	16	43.2%
Female	21	56.8%
Ethnicity		
Chinese	33	89.2%
Indian	3	8.1%
Others	1	2.7%
Is there any opportunity for students to choose their peer mentor/mentee?		
No	32	86.5%
Yes	5	13.5%
What is the most common reason for meeting with your peer mentor?		
Academic purpose	31	83.8%
Social purpose	5	13.5%
All of the above	1	2.7%
Is it difficult to get an appointment with your peer mentor?		
No	33	89.2%
Yes	4	10.8%
Commonly Discussed Topics in Mentorship Meetings		
Education in general	18	48.6%
Life as a medical student	14	37.8%
Work-life balance related	4	10.8%
Future career	1	2.7%

N = number

Table II: Mean perception scores of the students

No	Items	Mean	SD
Item 1	I enjoy the peer mentoring programme because it benefits me.	3.68	0.92
Item 2	The peer mentoring programme provides me with psychosocial and emotional support.	3.35	1.11
Item 3	My peer mentor is very helpful/ cooperative	3.97	1.00
Item 4	My peer mentor guided me well to understand my studies better and improved my study skills.	3.68	0.92
Item 5	The peer mentoring programme boosts my overall confidence level.	3.51	0.93
Item 6	The peer mentoring program provides information-sharing resources for knowledge transfer and learning.	3.89	0.81
Item 7	The peer mentoring programme helped me improve my communication and collaboration skills.	3.31	1.09
Item 8	The peer mentoring programme able to increase my social network in UTAR	3.70	0.81
Item 9	The peer mentoring programme can shape attitudes and behaviours in learning and personal development.	3.49	0.93
Item 10	The peer mentoring programme enhances medical students' overall well-being and mental health.	3.65	.857
	Overall	3.63	0.74

Table III: Summary table on qualitative themes with representative quotes

	Theme	Quotes
Theme 1	Perceived Benefits of the Programme	<p>"Very beneficial programme because it gives us chances to interact with medical students from different years so that we can learn from each other to improve ourselves and share learning skills and experience."</p> <p>"It was great. It helped me so far to cope with medical student life."</p> <p>"It is a good programme for first-year students, especially during the foundation where students might be lost at the start. Mentors can provide guidance and confidence, which helps the mentees to proceed."</p> <p>"The programme is useful as we get to communicate by looking into the problem faced and providing relevant solutions or advice."</p>
Theme 2	Suggestions for Improvement	<p>"A little bit not clear about the programme."</p> <p>"Some mentees are not happy with their mentors; perhaps every block, you can assign a new mentor to all the mentees."</p> <p>"Try to find a way that students won't feel like they are forced to join this programme. Mentors should be more friendly to their mentees so that they feel comfortable talking with them."</p> <p>"It should give chances for the mentee to choose a mentor because sometimes they feel uncomfortable with their mentor and are forced to talk to other seniors."</p>

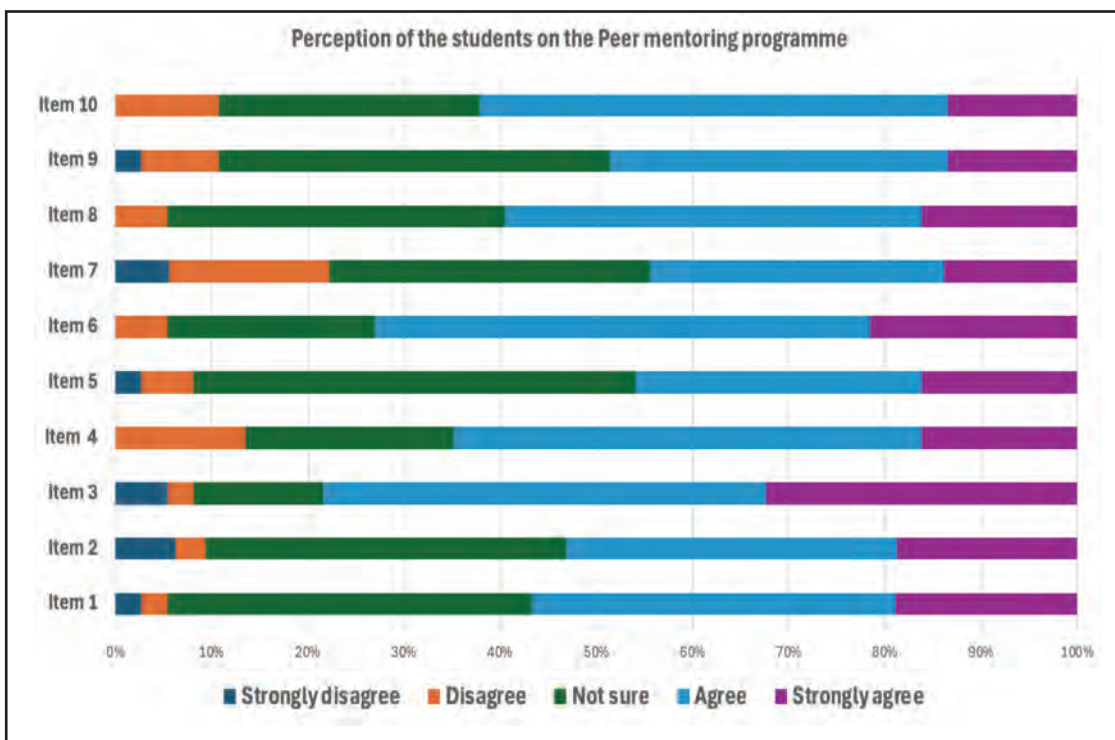


Fig. 1: Individual item perception scores

respondents were female (n=21, 56.8%) and of Chinese ethnicity (n=33, 89.2%).

The most common reason for meeting a peer mentor was academic purposes cited by 31 students (83.8%), followed by social purposes, 5 (n=5, 13.5%), with the remainder citing other reasons. Most students (n=33, 89.2%) reported no difficulty in arranging appointments with their mentors, though a minority (n=4, 10.8%) found the process complicated. Commonly discussed topics in mentorship meetings included general issues (n=18, 48.6%), life as a medical student (n=14, 37.8%), work-life balance-related matters (n=4, 10.8%), and future career discussions (n=1, 2.7%). The sociodemographic characteristics of the participants are shown in Table I.

The overall mean score for the 10 perception items was M=36.6 (SD=0.74), with individual item means ranging from 3.31 to 3.97, indicating a generally positive perception of the Peer Mentoring Programme (Table II).

In the individual item analysis for 10 perception items, the individual item (Item 3), "My peer mentor is invaluable/cooperative", scored the highest (M=3.97, SD=1.00). Also, Item 6, "Peer mentoring program provides information-sharing resources for knowledge transfer and learning," achieved the second highest score (M=3.89, SD=0.81). In contrast, Item 7, "The peer mentoring programme helped me improve my communication and collaboration skills," received the lowest score (M=3.31, SD=1.09) (Figure 1).

Qualitative Findings

The thematic analysis of the FGD data revealed two major themes: (1) Perceived Benefits of the Programme, and (2)

Suggestions for Improvement, supported by direct quotes from participants.

Perceived Benefits of the Program

Participants overwhelmingly found the mentoring programme as beneficial, emphasizing its role in fostering peer learning, guidance, and confidence-building during their transition to medical school. The opportunity to interact with senior students was seen as a key advantage. One student remarked, "Very beneficial programme because it gives us chances to interact with medical students from different years so that we can learn from each other to improve ourselves and share learning skills and experience." Another participant highlighted its impact on adapting to medical school life, stating, "It was great. It helped me so far to cope with medical student life."

Additionally, the programme was praised for its supportive role in helping students during the transition phase, with one participant noted, "It is a good programme for first-year students, especially during the foundation where students might be lost at the start. Mentors can provide guidance and confidence, which helps the mentees to proceed." The programme's problem-solving aspect was also appreciated, as reflected in the statement, "The programme is useful as we get to communicate by looking into the problem faced and providing relevant solutions or advice."

Suggestions for Improvement

While the programme was well-received, participants offered constructive feedback to enhance its effectiveness. A recurring point was a lack of clarity regarding the programme's structure and objectives, with one stating, "A little bit not

clear about the programme." Others suggested reassigning mentors periodically to address mismatches, as one participant explained, "Some mentees are not happy with their mentors; perhaps every block, you can assign a new mentor to all the mentees." The need for a more welcoming and voluntary approach was also highlighted: "Try to find a way that students won't feel like they are forced to join this programme. Mentors should be more friendly to their mentees so that they feel comfortable talking with them." Participants also highlighted the critical importance of the mentor-mentee relationship and suggested changes to the matching process. Dissatisfaction with an assigned mentor led to the recommendation for periodic reassignment or allowing mentees to choose their mentors to foster greater comfort and autonomy. One student explained: "It should give chances for the mentee to choose a mentor because sometimes they feel uncomfortable with their mentor and are forced to talk to other seniors." Finally, there was a clear desire for a more welcoming environment and increased opportunities for interaction, with suggestions for mentors to be more proactive and friendly to facilitate open communication.

The findings suggest that the mentoring programme is highly valued for its role in facilitating peer learning, providing guidance, and easing the transition into medical school. However, improvements programme clarity, mentor-mentee matching, and fostering a voluntary and friendly environment are needed to enhance participant satisfaction and engagement. These insights can inform targeted refinements to maximise the programme's impact on first-year medical students.

DISCUSSION

In many medical universities, mentorship programmes help mentors and mentees begin a shared journey of learning and personal growth.⁹ This study aimed to investigate the perceptions of first-year medical students participating in the PMP at UTAR. The findings reveal generally positive feedback, with students valuing the programme for its academic and social support. However, the results also highlight challenges and areas for a systematic and structured improvement. This discussion also helps interpret these findings within the context of Adult Learning Theory and the related literature and proposes suitable recommendations for programme improvement.

The study concept is based on Adult Learning Theory, which believes that adult learners are problem-centered and are motivated mainly by learning that is immediately relevant to their life tasks.⁶ The intense focus on academic support in this study, with 83.8% of students meeting their mentors for this purpose only, aligns perfectly with this theory. First-year medical students, who have to confront a demanding new life and a new curriculum, actively try to seek practical and actionable advice from their seniors who have recently navigated the same challenges. The significance placed on mentors being "helpful/cooperative" (Item 3, M=3.97) and providing "information-sharing resources" (Item 4, M=3.89) further confirms this desire for relevant, problem-solving support. This academic focus is not only applicable to UTAR;

it mirrors the same findings from another Malaysian institution where academic gain was the primary benefit and is consistent with studies from other parts of Asia as well.^{11,15}

While academic support was primary, the programme's social integration is also important for a successful university orientation.¹⁶ The qualitative findings showed the PMP helped students build relationships and expand their social network, as mentioned in recent literature.⁸ However, the fact that only 13.5% of the first-year students met primarily for social purposes suggests a potential imbalance. Improving the social integration aspect could further help students' overall holistic well-being and resilience, which is a key result of effective mentoring.¹⁰

The challenges identified by students can also be interpreted through the Adult Learning Theory framework. The desire for mentees to "choose their mentor" and for mentors to be more "friendly" confirms the adult learners' needs for self-direction and a psychologically safe environment.^{6,12} When mentees feel a lack of autonomy and psychological safety in the mentoring relationship, its effectiveness can also be reduced. Also, the challenges reported in this study, like scheduling difficulties (reported by 10.8% of students), mentor-mentee mismatch, and lack of programme clarity, are common across most of the peer mentoring programmes globally. A recent scoping review also identified logistical barriers and mentor workload as common issues, while other Asian studies indicated communication barriers and mismatched expectations.^{8,12} The scheduling complications at UTAR are quite similar to the challenge of poor time management reported at another Malaysian University, UNIMAS, thus establishing a similar pattern and need for best practices.⁹

Strengths and limitations of the study

The study has some limitations. As survey-based research conducted at a single institution, a single cohort of a small sample size and Chinese ethnic predominance (89%) limits the generalizability of the study. This demographic profile may not be representative of the broader medical student population in Malaysia, thus limiting the generalizability of the results.

The specific context of UTAR—its curriculum, institutional and academic culture, and student demographics—significantly influences student perceptions.¹⁶ For example, the stress on academic support may be a direct reflection of a particularly demanding first-year curriculum. Also, as the student participation was voluntary, the study may have self-selection bias, where students with strong opinions most likely participated in the study.¹⁷ The absence of subgroup or comparative analyses considered limitation of the study. For the qualitative part, one focus group discussion with 8 students may limit thematic saturation and transferability; minimal reflexivity and integration with quantitative data. However, a key strength of this study is the mixed-methods design, which includes quantitative survey data with rich qualitative insights, thus providing a deeper and better understanding of student experiences.

Based on our findings and previously established best practices, several recommendations can be made to improve

the UTAR's PMP in medical faculty. To address student feedback that the programme was "a little bit not clear," the PMP should establish clear goals and define a well-defined role for all participants.^{8,13} The need for "more support from senior mentors" and the low rating for improving communication skills require enhanced mentor training that should ideally include communication, boundary setting, and providing constructive feedback.⁸ The student's suggestion to allow mentees to choose their mentors should also be considered, as proper matching that is based on shared interests can improve rapport and effectiveness.^{12,13}

To further enhance the academic and social aspects, the program could be designed to improve social integration by organising informal social activities as suggested by students.¹⁶ Finally, the PMP should also implement a simple, ongoing evaluation process to guide continuous improvement.⁸

CONCLUSION

This mixed-methods study provides the information that the PMP at UTAR is an invaluable, albeit imperfect support system for first-year medical students facing the transition to higher education. This study also found that students perceive the programme positively, and that it provides essential, problem-focused academic support aligned with the principles of Adult Learning Theory. However, given the study's limitations, including its single institution focus and limited qualitative scope, these findings should be considered preliminary.

To improve this programme, it is extremely important to review the current mentoring system in the medical programme at UTAR and understand its ambiguities. Key recommendations that can help improve PMP include establishing a formal mentor training with clearer guidelines for participants, aligning the mentor-mentee matching process with student preferences, and increasing engagement through structured activities.^{8,13} A system of continuous evaluation is also required to ensure the program continues to evolve to meet student needs. Ultimately, this research also describes the vital role of peer mentoring in creating essential academic and personal values, building confidence, and reducing stress for all stakeholders. While improvements are necessary, the study also provides evidence that even with its imperfections, the PMP provides a net benefit to students, affirming that some mentoring is indeed better than no mentoring at all.^{17,18} This research helps with theory-driven evaluation and insights about a long-standing programme, while providing clear evidence that validates student experiences and suggests specific, actionable areas for improvement. Ultimately, investing in the evidence-based enhancement of such programme is a crucial commitment to promote the well-being, resilience, and professional identity of the next generation of physicians.

ACKNOWLEDGEMENT

We acknowledge first-year medical students of UTAR (2023-24) for their voluntary participation in this study.

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