

Assessing the Role of Electives Module in Shaping Career Choices of Medical Undergraduate Students

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ABSTRACT

Background

The introduction of elective postings in 2020 as part of the competency-based medical education (CBME) framework marked a significant advancement in the medical curriculum for undergraduate students. These electives provide crucial hands-on experience across various specialties, allowing students to tailor their education according to their interests. Objective: This study aims to assess the impact of the elective module on the career choices of medical undergraduate students.

Methods

A cross-sectional study was conducted at Sree Balaji Medical College and Hospital, Chennai, involving MBBS students from the 2019-2020 and 2020-2021 batches. A total of 298 students participated, providing informed consent. A pretested questionnaire with open and closed-ended questions was administered, focusing on students' elective choices, perceptions, and career interests. The "Electives Perception Indicator" (EPI) was measured using a 5-point Likert scale.

Results

The majority of students reported positive experiences in both Block I and Block II electives. Feedback indicated high satisfaction with faculty guidance and patient interactions. Approximately 29.9% of students strongly believed that elective postings should be mandatory, and a significant increase in clarity regarding career choices was observed post-elective. Despite some concerns about workload and the relevance of content, students recognized the value of electives in enhancing their clinical skills and confidence in specialty selection.

Conclusion

Elective postings are viewed as a valuable component of the medical curriculum, significantly influencing students' career decisions. Proactive engagement from students is essential to maximize these opportunities. Continued evaluation and adaptation of the elective program are recommended to better align with student needs and aspirations.

Keywords

Elective postings, medical education, career choices, competency-based education, student perceptions.

INTRODUCTION

Electives are introduced and implemented as per competency-based medical education (CBME) pattern from the year 2020 for the third phase of medical undergraduate students [1]. Elective postings play a critical role in medical education, offering students the opportunity to gain hands-on experience in various specialties. In the medical curriculum training program every student must undergo a set of mandatory trainings but electives is a subset where the students can select a course from the available options based on their interest [2]. Students are supposed to complete 2 months of elective posting in their third phase of medical education after the end of the first part and before the commencement of the second part of third phase of MBBS. It is a voluntary posting divided into two blocks. Students are offered various topics from preclinical, paraclinical, and clinical departments of the institution to choose for elective. The topics to be offered for elective

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will be according to guidelines of the national CBME pattern given by National Medical Commission of India [3]. The MBBS program plays a pivotal role in shaping medical students, helping them develop both professionally and personally. While addressing the demands of the healthcare profession and the nation, it also offers space for students to explore their future interests. Providing opportunities for students to engage in a specialty or project of their choice is essential in encouraging their passions and helping them thrive in their chosen fields. The extract from the Regulations on Graduate Medical Education (Amendment), 2019 has put forward the following objectives for the elective module; to provide the learner with opportunities: (a) for diverse learning experiences. (b) To engage in research or community projects that promotes inquiry, self-directed learning, experiential learning, and lateral thinking. Keeping this in mind we wanted to assess the impact of electives module in shaping career choices of medical undergraduate students [3, 4].

MATERIAL AND METHODS

This cross-sectional study was conducted at Sree Balaji Medical College and Hospital, Chennai, focusing on MBBS students from the 2019-2020 and 2020-2021 batches. Out of the eligible students, 298 participated in the study. Prior to data collection, the purpose of the study was explained to the participants, and verbal informed consent was obtained. A pretested, self-administered questionnaire was utilized, featuring both open and closed-ended questions. The questionnaire comprised 3 sections: The first section consisted of questions regarding the student's current branch, preferred branch, and gender. The second section contained questions which focused on the implementation and reasons for choosing a particular Block 1 and Block 2 electives. The third section of the questionnaire featured the "Electives perception indicator (EPI), this was assessed using a 5-point Likert scale. This indicator reveals the student's perception of their elective experiences. The response options ranged from "Strongly disagree, disagree, neutral to strongly agree and agree," with higher scores indicating more positive perceptions. The questions in this section evaluated various aspects, including awareness of objectives, clarity of learning outcomes, mental preparation, and excitement about participation, quality of supervision, hands-on experience, active participation, skill grasping and professional development. This section also centered

on student's perceptions regarding how their chosen electives influenced their specialty choices for post-graduation, future career options, workload perceptions, and engagement in appealing postings.

RESULTS

The cross sectional questionnaire study was conducted among 298 undergraduate medical students after getting consent and ethical clearance. The subjects included students who completed their elective posting in Block I and Block II. The sample population included 184 females and 114 males. Table 1 displays the general characteristics of the study population.

Table 1. General Characteristics of the Study Subjects

2019-20 Batch	141 (47.3%)
2020-21 Batch	157 (52.68%)
Male	114 (38.26%)
Female	184 (61.74%)
Age (18-20)	12 (4.03%)
Age (21-23)	286 (95.97%)

All the 298 students completed their block I and block II elective postings. 141 students are doing currently their CRRI postings and 157 students currently in the Phase IV

Fig 1. Represents the elective postings chosen by the undergraduate medical students included in the study. Equal percentage of students had chosen Block I elective postings like Clinical Pharmacology, Biomedical Waste Management and Hospital Infection control, Electro Physiology, Tissue Processing/ Histopathology. Fig 2 represents the elective postings chosen by the undergraduate medical students in the Block II. Less number of students was found to have chosen Neurology compared to the other electives. Figure 3 represents the response to the question, what were your primary reasons for choosing the preferred elective? 51.7 % of students chose the elective based on their interest in the field and 17 students mentioned any other reason apart from the listed reasons which included, Interest in the field, Personal experience, Career prospects and faculty recommendation. Any other reasons included financial and convenience as reasons.

A substantial increase in the number of students who could significantly clarify their interest in the particular career choice after they finish their elective can be seen (Table 2). While 29.9% of students strongly agree that the elective posting should be mandatory 51.6 % of students agree to it. About 1% of students feel it is not recommended and 17.5% is neutral to the opinion.

Around 85% of students was having more that 85% of attendance in both block I and Block II elective postings. Likert scale rating about the students experience on their elective posting in both Block 1 and Block II is represented in Figure 5 &6.

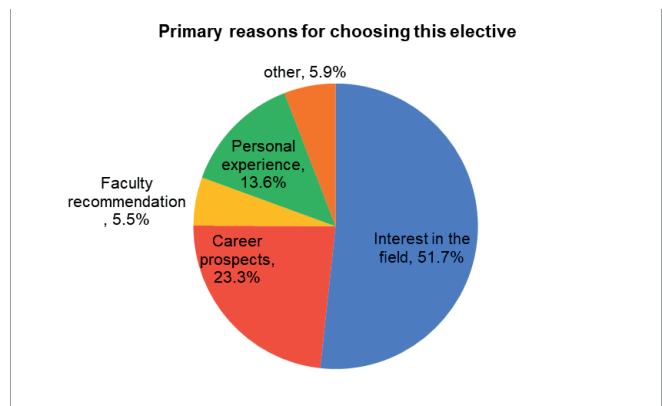


Figure 3: Reasons for choosing preferred Elective.

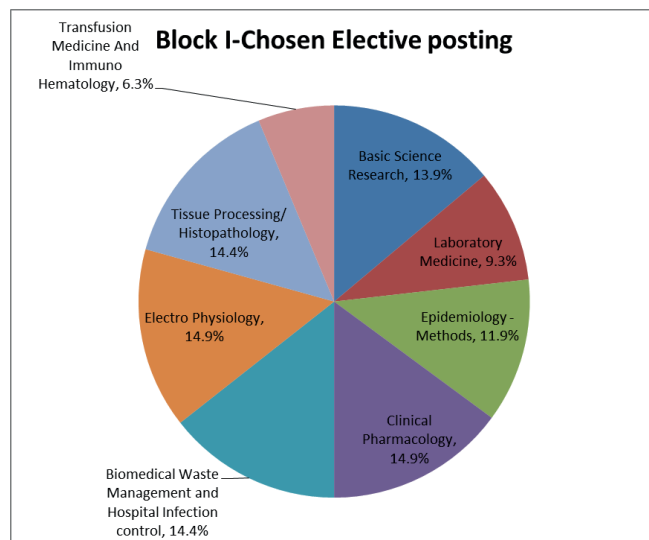


Figure 1: Elective Posting selected by the Undergraduate students in Block I

Table II: Perceptions of Students Regarding the Career choice before and after the elective postings

	Did the elective chosen by you enhance your interest in research / community projects.	Did the elective posting help you in clarifying your interest in a particular speciality?	elective posting change your initial career preference?	Did the elective posting aid in or kindle your interest in making career choice preferences
Yes ,significantly	83(27.9%)5	135(45.3%)	64(21.5%)	134(45%)
Yes ,somewhat	157(56%)	146(49%)	121(40.6%)	104(35.9%)
No	48(16.1%)	17(5.7%)	113(37.9%)	57(19.1%)

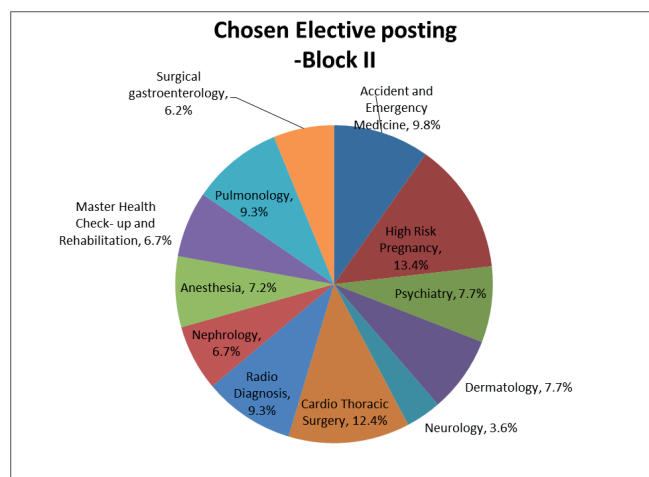


Figure 2: Elective Posting selected by the Undergraduate students in Block II

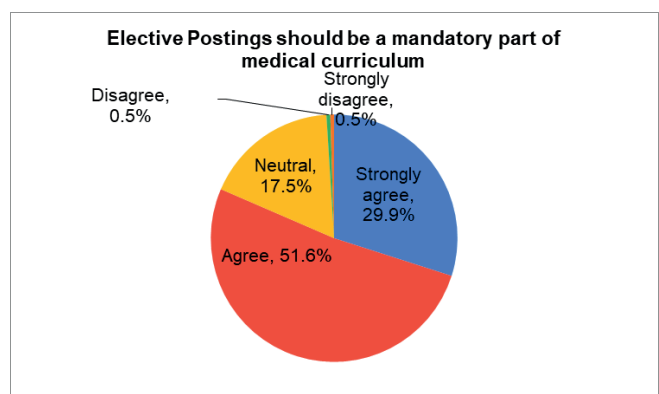


Figure 4: Perception of students regarding elective posting

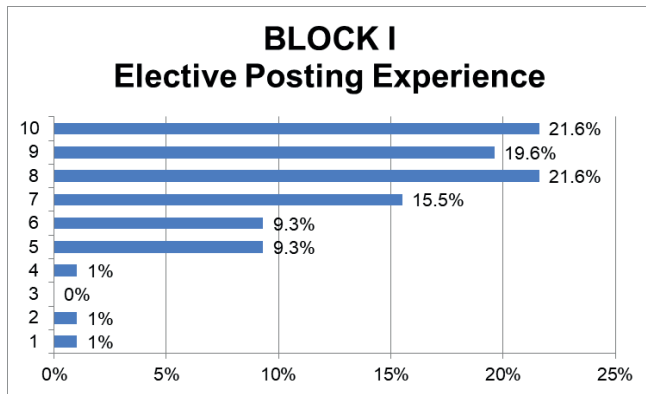


Figure 5: Rating students experience on Block 1 elective posting

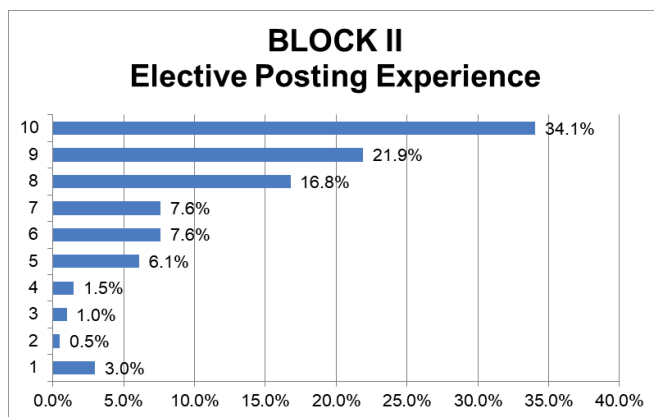


Figure 6: Rating students experience on Block II elective posting

Student Feedback on block 1 and II elective postings

The responses from students in Block 1 were overwhelmingly positive, with many expressing that the experience was highly beneficial. Nearly all students were satisfied with their preceptors and appreciated their teaching methods, particularly in explaining fundamental concepts, including the importance of basic medical sciences and the legal aspects of medicine. Students reported feeling enthusiastic about the support they received from faculty, highlighting specific areas such as ECG, FNAC, and hematology, which helped clarify many of their existing doubts. They noted that interacting with patients and participating in research significantly enriched their learning experience.

Similarly, Block 2 also received positive feedback from students. They felt that the guidance provided by faculty was adequate and valuable. Students enjoyed their interactions with real patients, which allowed them to

develop essential skills in clinical settings, including counseling and conducting preliminary examinations. Additionally, students appreciated the opportunity to deepen their knowledge in various fields, including neonatology, nephrology, endoscopy, colonoscopy, and audiology. Many also valued the instruction they received on surgical procedures and pre-operative preparations, as well as their exposure to the ICU. Overall, patient interaction emerged as a prominent theme in the feedback, with many students highlighting it as a key aspect of their learning experience.

DISCUSSION

This study highlights the significant influence of the electives module on the career choices of medical undergraduate students. Our findings indicate that students who actively participated in elective courses felt more confident in their specialty selections and reported a clearer understanding of their future career options. This aligns with prior research, which suggests that hands-on experiences and exposure to various medical fields effectively guide students' decisions Ajmi et al., and Khilnani et al. [5,6]. Furthermore, Van Zanten et al. [7] found that students who engaged in practical, immersive experiences reported higher satisfaction and clarity regarding their specialty interests, while Bynum et al. [8] noted that electives significantly shaped students' perceptions of readiness for residency and their career trajectories.

Several key factors emerged as influential in shaping students' perceptions. The clarity of objectives and expected learning outcomes within the electives played a crucial role, enhancing students' mental preparation and excitement about their chosen paths. Those who had positive experiences reported greater confidence and a higher likelihood of pursuing specialties aligned with their electives. Research by Tsingos et al. [9] supports this, indicating that when students understand the goals of an elective, they are more likely to engage actively and feel prepared, thereby enhancing their overall experience. Additionally, O'Brien et al [10] found that clearly defined learning outcomes significantly increased students' confidence in their skills and knowledge, leading to a greater likelihood of pursuing relevant specialties.

A systematic review by McKimm et al. [11] also emphasized the importance of structured feedback and supportive environments in fostering positive perceptions. Students who felt supported by faculty

and received constructive feedback were more likely to engage meaningfully and develop confidence in their chosen paths. Collectively, these findings suggest that clear objectives, supportive faculty, and structured learning experiences are crucial in encouraging students to explore and commit to specific medical specialties.

In our study, while there was no statistically significant difference in workload between the two elective blocks, students reported dedicating more time to their studies during Block 2. This increased study duration may be attributed to the greater demands associated with patient involvement in Block 2 electives. This aligns with findings from Khilnani et al. [6], which highlighted significant differences in the design and implementation of electives between preclinical and clinical subjects, with students reporting increased efforts during clinical electives.

Moreover, students indicated that engaging in compelling postings and hands-on experiences significantly influenced their perceptions of workload and program duration. A well-structured elective experience that balances academic rigor with practical exposure enriches students' learning and encourages exploration of diverse career options.

While many students expressed positive feedback, some raised concerns regarding the relevance and effectiveness of the electives. A notable number felt their time was not utilized efficiently and experienced unnecessary workloads alongside their already demanding core subjects. Some struggled to grasp advanced topics within the limited timeframe, suggesting that the program focused too heavily on theoretical aspects without sufficient practical application.

In Block 2, students reported feelings of exhaustion and disappointment due to a lack of structured guidance. They expressed a desire for more practical exposure and adequate time to explore their areas of interest. The intensive clinical hours often hindered their ability to clarify doubts, negatively affecting their overall learning experience. Despite these challenges, students valued unique opportunities, such as their initial encounters with endoscopy, bronchoscopy, and various surgical procedures, which were often highlighted as significant aspects of their elective experience.

Similar studies have documented concerns regarding the relevance and effectiveness of elective courses in medical education. For example, Burch et al. [12] found

that many students felt overwhelmed by the workload associated with electives, particularly when combined with their core curriculum, and expressed a desire for better integration of practical applications. Patel et al. [13] highlighted students' frustrations with the lack of structured guidance in elective programs, which led to feelings of exhaustion and limited opportunities for clarification on complex topics.

These findings stress the importance of designing elective programs that balance workload with meaningful practical experiences. Ensuring that students feel supported and able to clarify their doubts while maximizing learning opportunities is essential for their overall educational experience.

To enhance the program, students proposed several improvements. Many suggested spreading electives throughout the final year to alleviate stress and provide a more comprehensive learning experience. They also recommended transforming the program into an inter-college event to boost

interaction and engagement. Concerns about overcrowded sessions led some to advocate for limiting participant numbers to improve student-teacher interaction.

Advice for junior batches emphasized the importance of maximizing their elective experiences by making informed choices and being proactive. Students encouraged juniors to embrace the challenges associated with electives and view them as vital for skill development, highlighting the necessity of pre-reading to prepare for discussions and activities.

Feedback obtained from faculty who took the sessions in Block 1 and 2 electives had suggested that incorporating reflective writing into the elective course will serve as an effective assessment tool, enhancing student learning and offering valuable insights for course coordinators focused on ongoing improvement. Faculty were also of the opinion that in order to achieve better results, it is important to conduct focus group discussions (FGDs) with faculty members to validate the submitted course modules, this was similar to the approach used by Sidhu and Mahajan [14] in their institute.

When comparing our findings to previous studies, such as those by Ajmi et al. in Oman, we noted varying levels of satisfaction. While female students in Oman reported more positive experiences, our study did not find significant gender differences, suggesting that



discrepancies in satisfaction may stem from different elective structures and patterns in each context. As highlighted in various reviews, elective programs are generally perceived as beneficial, with students expressing enjoyment and enhanced learning when engaged in electives that align with their interests.

In light of these findings, it is crucial for medical schools to continuously evaluate and refine their electives curriculum. By providing diverse and meaningful elective opportunities, institutions can better support students in navigating their career paths and making informed choices about their futures in medicine. The electives module plays a pivotal role in shaping the professional identities of medical students, ultimately influencing the healthcare workforce as a whole.

Future research should focus on longitudinal studies to assess how these perceptions evolve over time and their long-term impact on career satisfaction and performance in chosen specialties.

Overall, most students supported the continuation of elective postings for future cohorts, recognizing their significance in providing clinical exposure and reinforcing their knowledge base. They viewed elective postings as an important bridge between theoretical learning and practical application, crucial for preparing them for future roles in medicine [15].

CONCLUSION

The implementation of elective postings has been positively received by the first batch of MBBS students, who see it as a valuable addition to the medical curriculum. However, students must take a proactive approach to maximize this opportunity.

Limitations

This study was conducted at a single medical college, resulting in a limited sample size. Therefore, the findings primarily represent the views of students from this specific institution.

Recommendations

Elective postings should be maintained for future cohorts, offering a diverse array of options for students in both Block 1 and Block 2. We also recommend that similar studies be conducted in the future to gain further insights into students' perspectives and to facilitate necessary adjustments over time.

AUTHORS' CONTRIBUTION

All authors contributed equally to this work.

Financial Support and Sponsorship

There was no financial support or sponsorship.

Conflict of Interest

The authors declare no conflicts of interest.

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