



**ORIGINAL RESEARCH PAPER**

**Pharmacology**

**“ELECTIVES IN UNDERGRADUATE MEDICAL CURRICULUM: A QUESTIONNAIRE-BASED SURVEY TO UNDERSTAND STUDENTS' AWARENESS, PERCEPTIONS AND PREFERENCES FOR ADEQUATE PLANNING AND IMPLEMENTATION IN INDIAN SETTING”**

**KEY WORDS:** Awareness, Electives, Medical, Perceptions

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**ABSTRACT**

**Background:** Medical electives in Indian undergraduate settings is still emerging. This curricular innovation offers in-depth learning experiences and diversified skill-development beyond curricular boundaries. To harness its untapped potential and for ensuring learner satisfaction and engagement, a student-centered approach in organization and planning is required. **Aims/Objective:** To evaluate awareness, perception, preferences and attitudes of medical-undergraduates regarding electives for developing modules as per students' felt-needs. **Study design:** A cross-sectional, descriptive, questionnaire-based study that utilized an electronic-survey form to gather information. **Materials & methods:** The pre-validated questionnaire included various sections to elicit responses regarding demographic details, awareness, perceptions and attitudes of undergraduate medicos regarding electives. On study completion, a sensitization programme was conducted. Descriptive statistics was used and categorical-data represented in the form of frequencies and proportions. **Results:** Out of the 100 participants, nearly 50% of students had a positive outlook towards electives. The most sought-after courses were research (56%), clinical (53%) & super-specialty electives (41%). Electives outside the institution was preferred by 65% of students. Grievances regarding mandatory attendance (47%), assessment and eligibility criteria (44%) for progression to the next phase were expressed. **Conclusions:** Tailoring electives to students' expectations is a crucial element for optimizing learning-experiences.

**INTRODUCTION:**

Ever since the publication of the Flexner Report in 1910, medical curriculum across the globe has undergone major transformations to achieve standardization<sup>1</sup>. The Competency Based Medical Education (CBME) in India incorporates various elements of Harden's SPICES model, of which electives is an important component<sup>2</sup>. The 'electives module' is a curricular innovation that provides opportunity for learners to explore, discover and experience areas or streams of interest. The students need to undergo a laboratory posting, or be part of a super-specialty care team or interact with patients in community or take active participation in research<sup>3</sup>. This mandatory learning program will be supervised, self-directed, providing students both experiential and immersive learning experiences<sup>4</sup>. Therefore, the electives program may not totally be free-choice, but a pick-and-choose program from the courses offered by Institutions, as per the local needs. Nevertheless, electives still offer medical students a 'chance to choose', fulfilling both professional & personal aspirations.

Initially the electives posting was scheduled for a period of two months, in Phase III-MBBS, immediately after completion of part-1. However, the Graduate Medical Education Regulation 2023, mandates a duration of 1 month for electives<sup>5</sup>. Medical institutions in India are required to make arrangements for proper implementation of the module. The National Medical Commission (NMC) has been sensitizing faculty and medical college administration through Curriculum Implementation Support Program (CISP) regarding rolling out of electives module. Students are a vital link in successful implementation of any curricular reforms. It would be worthwhile to understand their awareness levels and also their expectations from the module, so that electives postings could meet the students' individual needs and/or interests. In addition, student sensitization would render them more receptive as electives make their debut in the Indian undergraduate medical curriculum. Findings of the study would be vital to ensure effective planning and implementation of the module at Institutional levels in the Indian setting.

**OBJECTIVES:**

- To assess the awareness levels, perceptions & preferences of MBBS (Phase-III Part-1) students regarding electives
- To sensitize students about the NMC module on electives

**MATERIALS AND METHODS:**

**Study design & Methodology:**

This was a cross-sectional, descriptive, questionnaire-based study that included medical students in Phase-III MBBS part-1 conducted between June-July 2022. An electronic questionnaire was designed and was validated by experts in the field of medical education. A pilot run was conducted with ten random students to test for clarity and reliability of the tool and also to identify any technical glitches. The results of the pilot-run were not included in the study.

**Study Tools:**

The Google form included three sections; Section-1 included the consent form and demographic details. Section-2 included eight items to evaluate students' awareness about electives and Section-3 included eight items related to students' preferences, perceptions and attitudes towards electives. The Google form was circulated through participants' electronic mail.

**Ethical Considerations:**

The ethical principles of Declaration of Helsinki were followed and permission to conduct the study was obtained from Institutional Ethics Committee & an informed e-consent was obtained from all study participants.

**Statistical analysis:**

Responses were automatically recorded in a Microsoft-Excel sheet & the same was analysed using SPSS-22 version software. Categorical-data was represented in the form of frequencies and proportions. Graphical representation of data was processed using MS Excel and MS Word.

After the collection of e-questionnaire from participants, the students were sensitised to the module on electives proposed by NMC<sup>3</sup>. The scope of the presentation included the need, opportunities for learning, learning modules available, assessment format, regulatory requirements and benefits of the course. A verbal student feedback about the sensitization

program was elicited.

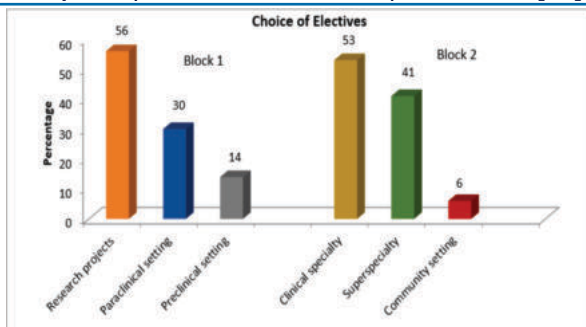
**RESULTS:**

A total of 100 students consented to participate in the study; of which 46 were males & 54 were females. On an average, 50% of the students were aware about the particulars related to electives module in CBME curriculum; namely the designated time of MBBS phase, number of blocks, duration of each block, the need for regular attendance and maintenance of logbooks (Table 1).

**Table 1: Students' awareness about Electives**

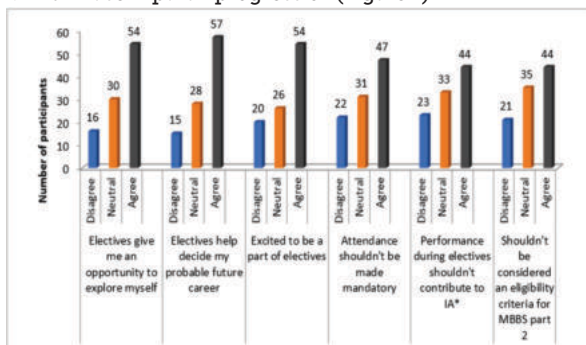
Sl No.	Item	Correct Answer (%)	Incorrect Answer (%)	Can't decide (%)
1.	Are electives compulsory in the CBME curriculum?	45	7	48
2.	As per the curriculum, when is the designated time for electives postings?	52	28	20
3.	How many blocks of electives should be completed?	43	43	14
4.	What is the duration of each elective block?	44	41	15
5.	Can elective postings be used to make up for missed clinical postings or shortage of attendance?	44	28	28
6.	Will regular clinical postings continue during Block 1 electives?	46	50	4
7.	Is submission of log book/ portfolio mandatory for MBBS Part 2 final exams eligibility?	74	10	16
8.	What is the minimum percentage of attendance required in electives postings for final MBBS exams eligibility?	52	38	9

Students expressed their interests in being a part of research projects and paraclinical settings during Block 1 postings. Clinical and super speciality settings were preferred for their Block 2 elective postings (Figure 1). Sixty-five percent of students preferred to be posted outside the Institution.



**Figure 1: Students' preferences for electives:**

Students' perceptions and attitudes about electives were a mix of enthusiasm and displeasure. More than 50% of the students were excited to be a part of electives and believed that electives can aid them in choosing future career options by offering a chance to explore their interests. However, >40% of the students expressed their dissatisfaction about the regulations associated with elective postings namely mandatory attendance, its contribution towards internal assessment and electives being an eligibility criteria for MBBS-Phase III part-2 progression (Figure 2).



**Figure 2: Students' perceptions and attitudes about electives**

\*IA – Internal Assessment

On completion of e-questionnaire, students had a brief synchronous session on electives module in India. A power-point presentation was prepared in accordance with the NMC module and was pre-validated by medical education experts. The sensitization program was well received by students.

**DISCUSSION:**

Numerous studies on electives worldwide have highlighted the enhanced learning opportunities associated with electives in both medical and other technical fields<sup>6-8</sup>. However, the concept of electives in the Indian undergraduate medical curriculum is still in the nascent stages.

Lumb & Eaton D (2014), have discussed the potential impact of resources, organisation, planning and faculty expertise on the quality of electives modules<sup>9</sup>. Nevertheless, the cornerstone of any elective program is the students' enthusiasm, interest and choices. Developing a teaching-learning programme based on students' interests will contribute to optimal utilization of resources and maximise learning.

In the present study, approximately half-the study participants were well-informed regarding the specificities of electives. This may be attributable to the foundation course and calendar of events provided at the point of course entry. According to a comprehensive review by Ting and Lee (2020), the choice of electives is influenced by a number of factors like level of interest, difficulty, choice of facilitators, assessment format, career choices and influence of family/friends<sup>6</sup>. The study participants looked forward to be a part of electives involving research, clinical and super speciality

settings. This finding hints at the mindset of medical students' who prefer electives that are directly related to their course; wanting to explore a specialty in depth, which they may have already encountered, or even a super-specialty setting that is not a part of their core curriculum. The above finding reiterates the popular notion of electives being a means for working towards a potential future career path<sup>7</sup>.

Electives outside the institution was preferred by 65% of students which is in stark contrast to the study by Daly and Last (2017), where in-programme electives were most frequently chosen. An outside elective can be associated with significant physical, psychological and even financial risks<sup>9</sup>. Tyagi et al in 2006, estimated the death rate to be as high as 1 in 340-430 from electives<sup>10</sup>. Hence the host institution should ensure appropriate and adequate student support by following standard practices like a partnership memorandum between institutions, pre-departure preparations (educational and health management, cultural differences & crisis handling and self-directed learning), support during placements and post-elective evaluation<sup>9</sup>.

Students' enthusiasm to undergo electives and their optimism about exploring their inherent skills and choosing future career path via electives were evident in their responses. These findings were in sync with the opinions expressed by medical students in studies conducted across the world<sup>1,7,11-14</sup>. However, few students opined that participation needs to be voluntary and attendance should not be forced to retain the essence of the 'electives' concept, similar to findings of Vidja KP et al (2023)<sup>11</sup>. Though electives have remained comparatively less well monitored, supervision whilst on placements is critical for warranting optimal learning and safety. A formal assessment with grading is required for progression in Indian medical schools, which was not welcomed by students in our study. Daly and Last, remarked that discounting the grading system may cause many to disengage as it may create a perception that electives are less important than the core subjects<sup>7</sup>. Sensitizing students regarding the course may dispel fears and myths, and thus lessen resistance to the program.

**Strengths and limitations:**

Electives need to be student-centered to realise its true educational potential. Students' preferences are thus vital to achieve learning objectives of the module. The current study gives an insight into students' expectations regarding electives and reiterates the need for systematic planning of program. One of the objectives of the study was to sensitize students regarding electives, and it wasn't just limited to eliciting responses. Further, evaluation of the program, student and faculty feedback will be the way forward in refining the elements of the elective program. Perhaps, a qualitative study could give more insights into the attitudes of students towards the elective course in India.

**CONCLUSION:**

Electives course in undergraduate medical curriculum has made its beginning in India, but its full potential needs to be tapped. A student-centered approach in planning and implementation of electives is crucial to maximize teaching-learning experience and promote professional development. The current study gives insights into students' perceptions and expectations from the course. Students' enthusiasm to be a part of electives course and their positive outlook is an impetus for successful implementation at the institutional level. Electives which were aligned with medical core curriculum and those skills which the learner perceived to be applicable in their future professional career, were the most-sought after streams. These findings reinforce their relevance in medical curriculum and also highlight the need for tailoring electives to students' expectations. Although students' dissatisfaction regarding mandatory attendance and grading of electives is a concern, the researchers feel that

attendance-free and grade-neutral electives may lead to disengagement. Therefore, student sensitization holds the key to attenuate student dissatisfaction and instil a sense of responsibility to create the learner's own educational path. The study findings add to the existing literature on electives and may be used by institutions to foresee the future choice of medical electives; thus, guiding the design of similar elective programmes.

**Conflict of Interest:** None to declare

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