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Original Article

A STUDY TO EVALUATE MEDICAL UNDERGRADUATES' PERSPECTIVE ON THE ELECTIVE MODULE: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: To evaluate the medical undergraduates' perception of the newly introduced electives by using a questionnaire.

Methods: A cross-sectional study was conducted among 150 medical undergraduates who were 1st batch for the electives in a medical college, Belagavi after completion of the third Bachelor of Medicine, Bachelor of surgery (MBBS) part 1. Approval and clearance were taken from Institutional Ethical Committee prior to the study. The informed consent and the data were collected by using a pre-designed questionnaire via google forms. The data collected was entered in the excel sheet, analysed and expressed in percentage.

Results: The average attendance maintained by the students was around 91%. All students had maintained a log book during electives. Nearly 49% of the students strongly agreed that the faculty were supportive, helpful and reachable to clear their doubts. 61.2% of students felt it was experiential learning, 19.7% felt it was supervised learning and 16.3% termed electives as immersive learning. 39% of students strongly agreed that electives are essential in the undergraduate curriculum.

Conclusion: This study, on the newly introduced module in Competency-Based Medical Education (CBME) curriculum helps to overcome the difficulties experienced by students and to improve the module effectively. Students felt that the implementation was good, but still, it requires more orientation within departments, increased time duration along with a standardized protocol. They also felt that it was more clinically oriented rather than a normal teaching technique, which boosted their interest in the concerned subject.

Keywords: Curriculum, Education, Medical, Perception, Undergraduates

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INTRODUCTION

Competency-Based Medical Education was first proposed by McGhahie in 1978. It includes structure-based competencies to improve the student's knowledge and focus on definable activities [1]. So, the conventional undergraduates medical curriculum has been changed by the National Medical Council (NMC) into a course that focuses on skill-based learning. Thus, for medical graduates in India, CBME has been adopted in the curriculum in 2019. It provides an opportunity to acquire skills that are necessary for practicing medicine [2, 3]. It is characterized as an outcome-based strategy to develop, implement, test and evaluate students based on creating a framework of competencies, which is in contrast to the traditional model, in which educational objectives heavily rely on established skills [4]. According to the new standard by the government of India it is compulsory for medical undergraduates to be a part of laboratory and super specialty teams, interact with patients in the community and participate in research [5].

So, electives modules are adopted. According to the revised new Graduate Medical Education Regulation (GMER) 2019 guidelines, electives were introduced in the curriculum. The objective of electives is to provide the learner the chance to explore, discover, get involved in areas of their interest and also get involved in self-directed, experiential learning with improved lateral thinking. It is one such module that can help mold MBBS graduates to be a future scholar, researchers, specialists and scientists [5].

By documenting the student's feedback of the newly introduced elective module it will provide valuable insights for its improvement in module effectiveness. It will also create encouraging and beneficial learning experience for the future students to get more involved in these activities. The ultimate aim is to evaluate the medical undergraduate's perception of electives by using questionnaires.

MATERIALS AND METHODS

This is a cross-sectional study that was conducted through online survey. Approval and clearance were taken from the Institutional Ethical Committee with approval number BIMS-IEC/254/2023-24 dated 16/08/2023 prior to the study. The informed consent was taken via google forms from all the students willing to participate in the study.

All the medical undergraduates of 2019 batch, BIMS College, Belagavi were included in our study after completing their electives posting (at the end of III MBBS part 1). Among 150 total students, 3 students didn't give consent to participate so they were excluded from the study. A total of 147 undergraduates actively took part in the study. Electives were conducted in 2 blocks. Block 1 included preclinical or para-clinical or ongoing research activities while Block 2 included clinical departments or rural or urban community clinic.

The data was collected in the period between September to October 2023 by using a predesigned questionnaire after literature review [5, 6]. The self-made structured questionnaire had 30 questions, of which questions 1 to 4 were general and informative, and questions 5 to 9 were closed questions of 'yes or no' type. Questions 10 to 23 are based on a 5-point Likert scaling for agreement, awareness and satisfaction of the electives module. Questions 24 to 26 are multiple-choice questions (MCQ), 27 and 28 are descriptive questions, and 29 and 30 are overall ratings of electives. All the 30 questions were considered as variables. The data collected was compiled in Microsoft Excel. Descriptive statistics was used to present the data. Collected data was expressed as percentages and graphs.

Since all the students of the 2019 batch were included in the study, there was no selection bias. But, three students were excluded since they were not willing to give informed consent. However, there might be response bias.

RESULTS

In our study, the total number of students was 150, of which 103 (70%) were male and 44 (30%) were girls who actively participated in the study. 3 students did not give consent so they were excluded.

Electives were conducted with prior preparation and planning for implementation as mandated by NMC. It was for 1 mo duration as block 1 and block 2 for 2 w each. Questions 1 to 4 were short descriptive type. Students were allocated to the departments based on merits and choice. The elective topics of both blocks conducted in the departments are summarized (table 1). The average attendance of the students attending electives was 91%. During electives students were assessed by presentations in the form of seminars, case presentations, small group discussions, writing the manuscript – abstract, viva voce and demonstration of the procedures.

Table 1: Showing electives topics

S. No.	Department	Topics
Block 1		
1.	Anatomy	Karyotyping and genetics
2.	Biochemistry	Orientation and special clinical diagnosis in biochemistry laboratory
3.	Physiology	Yoga
4.	Microbiology	Serology and bacteriology, laboratory workup
5.	Pathology	Cytopathology, blood bank, haematology, Fine Needle Aspiration Cytology
6.	Pharmacology	Fixed dose combination and pharmacovigilance
7.	Forensic medicine	Medicolegal autopsy and bone identification
8.	Community medicine	Research methodology and biostatistics, biomedical waste management, public health nutrition
Block 2		
9.	Community medicine	Rural and Urban community clinic, National Urban health mission
10.	Ophthalmology	Direct ophthalmoscopy and Diabetic retinopathy
11.	ENT	Audiometry
12.	Medicine	Intensive Care Unit, Non-communicable Disease clinics, Dialysis
13.	Orthopaedics	Trauma management in casualty
14.	Surgery	Suturing, Upper Gastrointestinal Endoscopy
15.	Paediatrics	Immunization
16.	Obstetrics and Gynaecology	Pap smear
17.	Radiology	Basics of radiological diagnosis
18.	Psychiatry	Overview of psychiatric illness
19.	Dermatology	Phototherapy, Skin Lesions, Chemical Peeling, Laser

Questions from 5 to 9 were close-ended questions; all the students had maintained a log book during electives and it was a part of the assessment. 55% of the students felt prerequisites were required for the electives. An average of 39% of the students got experience outside the college, while 18% of students got experience outside the city. 23% of the students were involved in research activities like writing abstracts, using biostatistics in writing a synopsis and preparing manuscripts.

Student's views of electives are summarized (table 2). Nearly 49% of the students strongly agreed that faculties were supportive, helpful, and reachable to clear doubts. Awareness regarding the new module is depicted in fig. 1. Around 88% of the undergraduates were aware of the rules and regulations of the electives.

The satisfaction of the students is shown (table 3). 86% of the students were satisfied with their performance while 69% were satisfied with organization and implementation by the institute.

Table 2: Showing perception on agreement for questions 10 to 20

Questions	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
Objective of the electives were met	47 (32)	83 (56)	15 (10)	1 (1)	1 (1)
List of activities to be done was given prior	51 (35)	76 (52)	16 (11)	4 (3)	0 (0)
Faculties were supportive, helpful and reachable to clear the doubts	73 (49)	62 (42)	10 (7)	1 (1)	1 (1)
It was more clinical-oriented	58 (40)	69 (47)	16 (11)	2 (1)	2 (1)
Knowledge about the subject improved	51 (35)	77 (52)	16 (11)	3 (2)	0 (0)
Learned new skill or improved your skill	51 (35)	75 (51)	18 (12)	2 (1)	1 (1)
End of final year part 1 is the appropriate time	44 (30)	69 (47)	21 (14)	10 (7)	3 (2)
Time duration was enough	34 (23)	60 (41)	28 (19)	21 (14)	4 (3)
Blocks allocated according to choice preference	42 (28)	79 (54)	17 (12)	3 (2)	6 (4)
Allocation was done in advance	45 (31)	78 (53)	19 (13)	5 (3)	0 (0)
Electives are necessary in UG curriculum	57 (39)	60 (41)	20 (13)	7 (5)	3 (2)

Table 3: Showing student's perception on satisfaction for questions 22 and 23

Questions	Very satisfied n (%)	Satisfied n (%)	Neither satisfied/dissatisfied n (%)	Dissatisfied n (%)	Very dissatisfied n (%)
Satisfied with your performance	32 (22)	95 (64)	16 (11)	4 (3)	0 (0)
Satisfied with structure, organization, implementation of elective	25 (17)	77 (52)	38 (26)	6 (4)	1 (1)

In MCQ type of questions from 24 to 26 student's opinions regarding the usefulness of electives is depicted in fig. 2. It states that 38.8% of students have described electives to know the area of their interest in-depth, 24.5% felt that it improved their academic interest, and 17.7% had an idea about their preference in career.

Fig. 3 shows that 61.2% students felt electives was experiential learning, 19.7% felt it was supervised learning while 16.3% termed electives as immersive learning.

A comparison of blocks is seen in fig. 4 showing that 41.5% felt both blocks 1 and 2 were equally good.

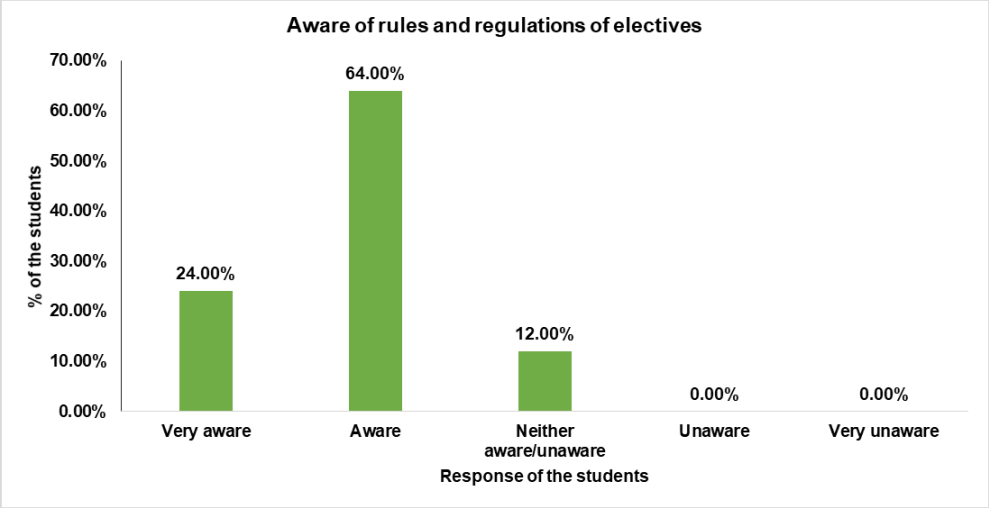

Fig. 1: Showing students awareness regarding the new module rules and regulations asked in question 21 of the questionnaire using a 5-point likert scale

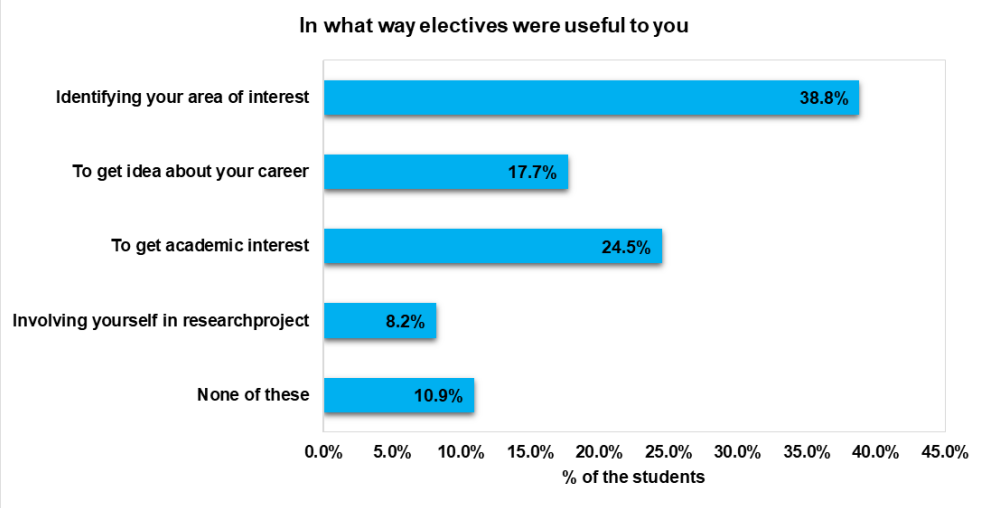

Fig. 2: Shows the response to question 24 regarding the electives objective met by the students

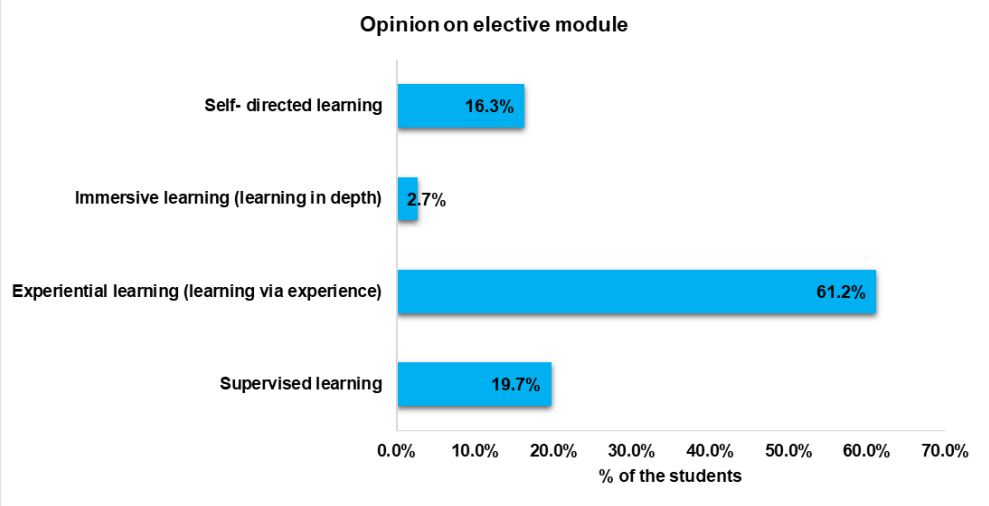

Fig. 3: The method of learning in electives module is shown here that is asked in question 25

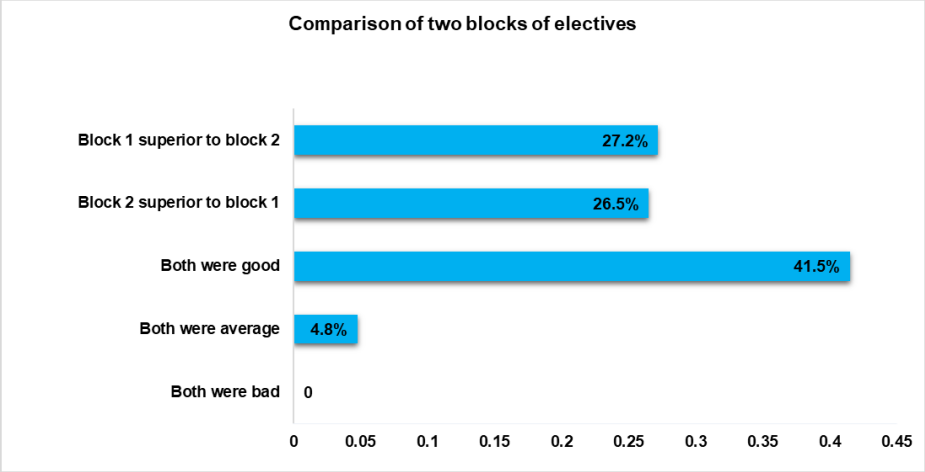

Fig. 4: Shows Block 1 and 2 comparison

In descriptive questions 27 and 28, when asked about areas for the betterment of electives, some of the students were happy with the implementation while a few of the students suggested having a longer duration, increasing the manpower, suggested to go according to the objectives, having a standard plan, they wanted to get more exposure to learning outside the college, to have a better allocation method. They also suggested including topics like sports medicine and neurology and wanted the experience in every department. Since electives were more clinically oriented and had more chance for hands-on training it improved their clinical knowledge and, in this way, it differs from regular teaching methods. A few students have also commented that they learned the subject in depth, and also improved their communication skills.

Question 29 was regarding overall participation in the electives and the student's response is given in fig. 5.

Many of the students responded it was good. The final question gives the participants inference regarding electives and it is shown in fig. 6.

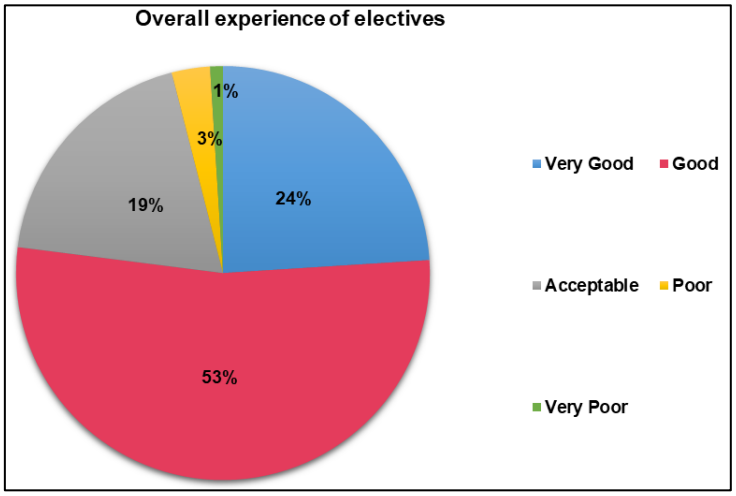

Fig. 5: Showing the student's experience on newly introduced electives module

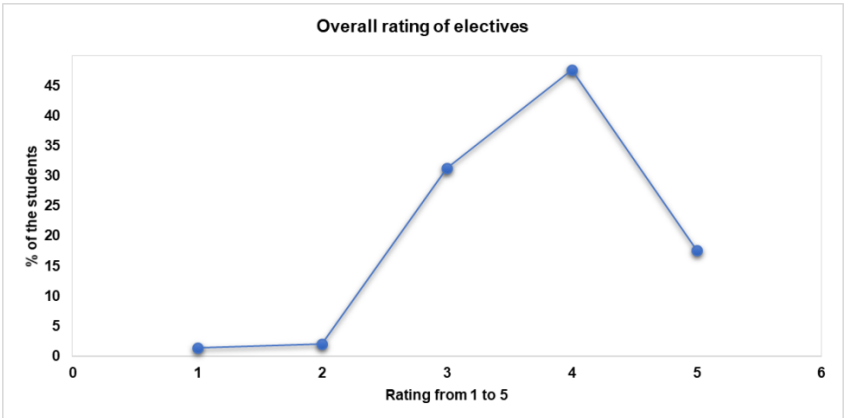

Fig. 6: Shows overall rating of electives ranging between 1 to 5

DISCUSSION

Our study aimed to evaluate the student's perception of the electives. Nearly 77% had given a positive response to the new module stating that it improved their clinical knowledge, lateral thinking and communication skills and also helped to develop an interest in clinical research. Students also felt electives were more of learning via experience which boosted their confidence.

The electives module was recently introduced in the MBBS curriculum in our country and was thus implemented in our institution. So, we planned to know the perception regarding the implementation of this module among the first batch of students. Though the students were happy with the implementation, they also suggested having a longer duration of electives, with an increase in manpower, improvement of topics, standardizing the plan for teachers, being oriented in more departments, more research-oriented and also implementation in the mid-third year. Students felt that electives were way different from normal teaching in being more clinically oriented and more interactive, with hands on training and improved skill-based learning.

A study conducted by Ahsin and Saeed in Pakistan stated that students actively took part in elective module. They mentioned that electives were helpful in choosing their future career, improved their communication skills, betterment in professionalism and improved in medical knowledge, which was in accordance with our study [7]. A survey conducted by Sidhu and Mahajan, suggested for allocation of electives based on their merit list with a wide range of electives topics [8]. In our institute the students were also allocated based on their merits and with choice preference.

Students have mentioned that electives are more useful for gaining experience by means of patient exposure, involvement in research work, and improvement in skill and also felt it is more clinically oriented. Students also mentioned that they were exposed to new areas of interest, were inquisitive to do research, improved communication skills, understood the subject better, and knew the subject in depth; since the number was small in each electives, it helped them for effective interaction and also developed leadership qualities. Similar findings were given by Ramalho *et al.*, Harvey *et al.* [9, 10].

Students in our study and other studies mentioned it enhanced their clinical knowledge, they gained experience by direct exposure to patients and laboratory skills, and their perception towards preclinical subjects was changed as they were involved in research work. Overall, the students felt it was more clinically oriented [6].

CONCLUSION

Implementation of electives was for the first time in our institution, electives module has been welcomed by the undergraduates. The majority of the students were satisfied with the implementation and organization; they also suggested that allocation should be based on interest instead of merit-based, students should be oriented prior to the electives, a proper schedule must be put to make it more organised along with more time duration. All these suggestions would help us to improve the electives module for the upcoming batches.

LIMITATIONS

This study was conducted only among 1st batch (2019 batch) students of electives. This study could have been extended to other batches to know the improvement to be done in later batches and could have been compared. Faculty's opinion regarding the electives would add more value to the study.

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AUTHORS CONTRIBUTIONS

Dr. Justina Princess. G**:** Conceptualization, Data collection and analysis, Methodology, Project administration, Writing-original draft, Writing-review and editing, Dr. Aruna Bhushan: Conceptualization, Methodology, Writing-review and editing.

CONFLICT OF INTERESTS

No potential conflict of interest relevant to this article was reported

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