

## Electives in Community Medicine: An Experience Share

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### Abstract

As per the revised Regulations on Graduate Medical Education 2019, integration of electives in the MBBS program has emerged as a promising strategy to enrich the learning experiences for the students. Electives are allotted at the end of Third year part I MBBS training in two settings: 1) In the basic sciences or research 2) In the clinical sciences or community. Epidemiological and community surveys was offered as an elective to sensitize the students by the Department of Community Medicine. A detailed plan was prepared and implemented ensuring smooth process during the elective period which included a) Framing and finalising the research question, b) Literature review c) Understanding study designs d) Sample size calculation e) Designing the study tool f) Addressing ethical issues g) Data collection process h) Data entry in the master chart i) Analysing the results with discussion and j) Manuscript writing. Through this exercise of electives, students got an opportunity to develop a protocol for estimating the proportion of blindness due to cataract among elderly people in the field practice area of Rural Health and Training Centre, Mandur which is a treatable cause and assessed the social pathology behind cataract induced blindness.

**Keywords:** Electives, Epidemiological surveys, IMRaD

### Introduction

Medical education has witnessed significant transformations in recent years, with a shift towards Competency Based Medical Education (CBME) models. The CBME curriculum for the undergraduate medical training was introduced in the year 2019 in India. This approach mainly stresses on the development of specific competencies and skills that are essential for the students to emerge as a future scholar, specialist, researcher and scientist.

As per the revised Regulations on Graduate Medical Education 2019, opportunities have been created in the MBBS program providing students options to undergo electives. This concept of electives had started as early as 1819 when it was first introduced by Virginia University in the United States of America. Further, it was introduced in Harvard in 1826. The full potential of electives in health professions training started being recognized in the late 1990s. Now a days, web-based or online

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elective courses are increasingly being delivered in health professions education.<sup>1</sup>Hence, integration of electives has emerged as a promising strategy to enrich the learning experiences that will provide the learner with an opportunity to gain immersive experience of a career stream, discipline or research project. It also provides an opportunity to allow them to tailor their learning to align with their interests, career aspirations and evolving health care needs.<sup>2</sup> In this context, electives play an important role in medical student's education by increasing medical's student knowledge in areas outside of the traditional curriculum, teaching medical student's useful skills, increasing student's wellness, and impacting eventual career choices.<sup>2</sup> At the end of Third year part I MBBS training, two months of elective time, one each in the basic sciences or research and other in the clinical sciences or community clinics have been created with the objective of providing the learner with opportunities for diverse learning experiences, to do research/community projects that will stimulate enquiry, self-directed, experiential learning and lateral thinking.

As per the GMER 2019 guidelines<sup>3</sup>, the electives are conducted in two blocks: Block 1 and Block 2 of four weeks duration each. Block 1 is conducted in a pre-selected preclinical or para-clinical or other basic sciences laboratory OR under a researcher in an ongoing research project while Block 2 is conducted in a clinical department including specialties, super specialties, ICUs, blood bank and casualty from a list of electives developed and available in the institution OR as a supervised learning experience at a rural or urban community clinic.<sup>4</sup>

In this research paper, we attempt to share our experience of the 1<sup>st</sup> batch of Block 1 electives conducted among MBBS students of our institute at the end of Third year part I training under the framework of CBME guidelines.

## Methodology

**At the Institutional level:** An electives committee was constituted and elective topics were invited from all departments and a final list of elective topics was prepared. The entire batch of 180 students was divided into 18 groups, each consisting of ten students and topics were allotted to each group by drawing of lots.

**At Departmental Level:** Community and epidemiological surveys was offered as an Elective to sensitize the students by the Department of Community Medicine about the process of planning and implementation of research.

**At Electives Team Level:** At the onset, there was a meeting held among all the mentors, a team of four faculties and two post graduate students from the Department of Community Medicine, where they brainstormed on the road map for electives keeping in mind the main objective of providing hands on training with immense and experiential learning components on nuances of research.

A consensus was reached and a detailed day wise plan was prepared for the electives carving a smooth process during the allotted period which included a) Framing and finalising the research question, b) Literature review c) Understanding study designs d) Sample size calculation e) Designing the study tool f) Addressing ethical issues g) Data collection process h) Data entry in the master chart i) analysing the results with discussion and j) manuscript writing.

Before proceeding with the elective session, all students were given an orientation class in terms of expected outcome and expectations from the students were clearly spelt out by the mentors and provided with reading materials like research articles, tutorials on PUBMED etc. Expectations of the students from the electives were also elicited.

A brief introduction on what is the importance of conducting research whether experimental and observational and how it can help the decision makers in implementing various strategies based on the findings of the study marked the beginning of the electives.

Next step was to suggest various research topics and frame research questions for the same where the mentors gave a detailed overview regarding what are the points one needs to keep in mind before finalising the research questions and the topic. They were sensitized with the concept of 'FINER' criteria in choosing the topic which highlights that the research topic needs to be feasible, interesting, novel, ethical and relevant.

Based on this knowledge, each student came up with one research topic as per their individual thought process. Each topic was individually discussed using the 'FINER' criteria and accordingly one topic which fulfilled the required criteria was finalized by the students consensually: "A cross sectional study to estimate the burden of blindness due to cataract in the study population and the barriers to seeking treatment"

Students were taught and guided individually on how to conduct a literature review using PUBMED search and Boolean operators using their laptops. Their queries were solved by the mentors at every step.

Students were then oriented on how to frame a questionnaire for data collection. This included an appropriate way to frame the questions and include them in the study tool. They were also explained the concept of qualitative and quantitative data in research and how to select appropriate study design depending on the research question. The students got a clear idea about how a questionnaire is to be structured in order to obtain the desired data from the subjects. This was followed by reviewing and improving the questionnaire which included changes like using first and last name together as one single question, asking age instead of date of birth, having options for occupation instead of keeping it as open ended question.

Various sampling techniques and how to calculate sample size using various available formulae was then explained to the students.

After refining the questions in the study tool, students were asked to make a google form version of the questionnaire. An option of collecting data manually was also kept open. Students voted for both options for their own experience. Attention was drawn to ethical issues which need to be considered before proceeding with the research studies with an emphasis on the importance of informed consent, confidentiality, anonymity, beneficence, keeping the

collected data records confidential, non-maleficence, justice etc.

Before proceeding for the data collection in the field practice area of rural Health and Training Centre, Mandur, mentors conducted role plays based on the questionnaire so that students were sensitized on how to approach the study participants and interview them while they were in the field for data collection. They were also sensitized on various hurdles which they could face and how they should tackle it.

With the administrative, academic and logistic support like printing the questionnaires, arrangement of transport and provision of field staff visits to the community were initiated.

Students were divided into groups and were accompanied by the field staff and mentors for data collection. Students had a great experience while interviewing and examining the participants as it was the first time they were doing such an exercise. They also got to learn various practical difficulties that one could face like non willingness to participate in the study, language barriers, interference with daily routine, hesitating in sharing some information etc. which made them realise that building a good rapport with the study participants is of utmost importance.

After the data collection process was done, next step was to enter the collected data in the SPSS software and analyse the findings. They were taught how to code each response in the questionnaire before entering the data in SPSS. Mentors supervised each student in entering 2 forms in the software. Transforming the available numerical data into easily understandable tables and self-explanatory illustrations like graphs, charts seemed magical to the students.

Finally, the students penned the research paper in the following IMRaD (Introduction, Methods and Results) format.

### Results

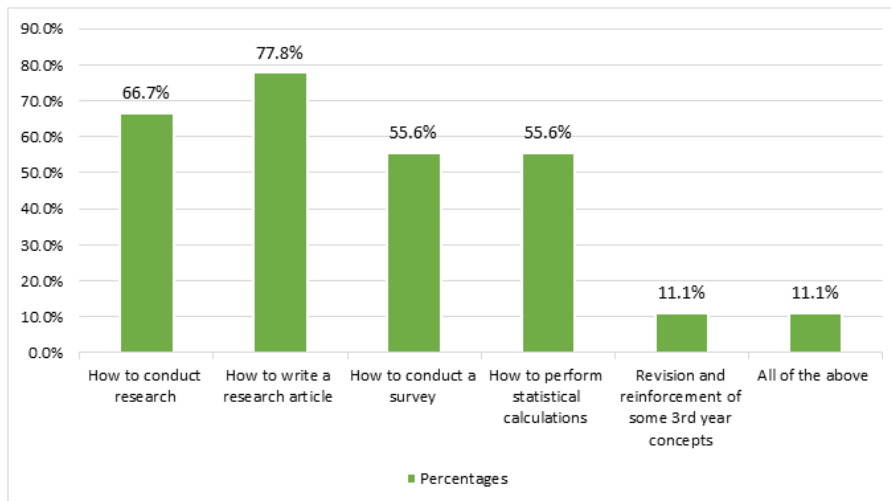


Figure 1: Distribution of study participants as per their learning experience

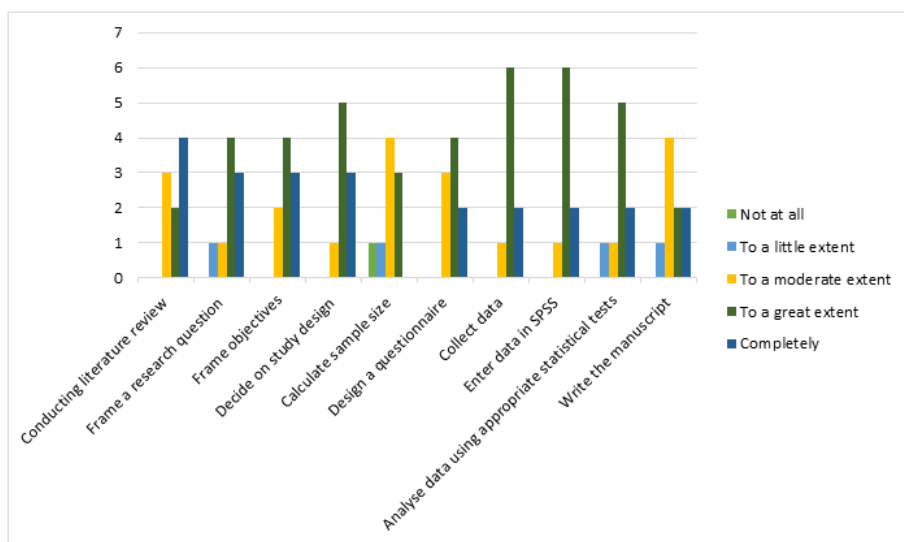


Figure 2: Distribution of study participants as per meeting their expectations on various components of the course

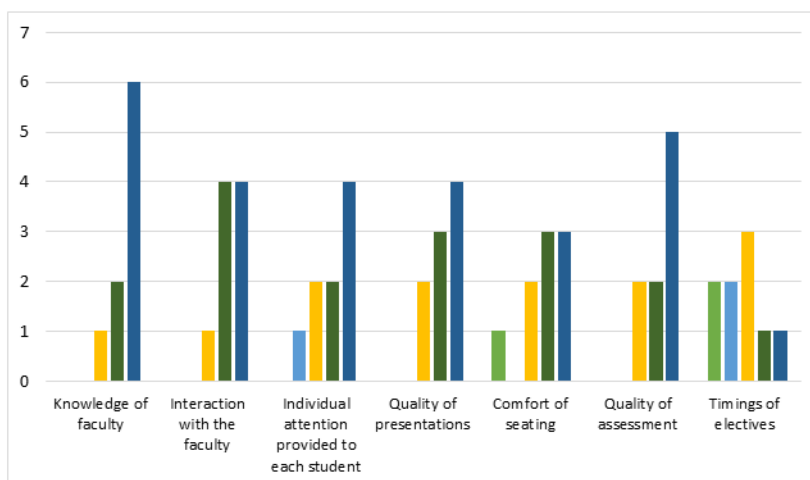


Figure 3: Distribution of study participants as per their perception of various components of electives

## Feedback

Students were requested to provide daily feedback to make necessary changes in addition to overall feedback for consideration for subsequent batches. Positive feedback was received from the students which are quoted below:

“The session was very useful as it gave us the basic knowledge needed while undertaking any research study. We learnt about what points we should keep in mind while choosing our research topic and how to effectively perform literature review for the same. And, since the session was interactive it made the concept easier to understand”

“We learnt how to properly frame appropriate questions for the questionnaire and how to calculate for the adequate sample size using the  $4pq/d^2$  formula and refine our questionnaire”

“Role plays by the faculties was very useful as we got to know an ideal way of asking questions to the people. It helped us better understand what considerations to keep in mind while asking questions to people. This knowledge will be very helpful in practice of medicine in future.”

“It was a good learning experience overall. We interacted with the members of the community, we got to know about the actual problems the people were facing due to Cataract and also while seeking treatment.”

“We got hands on experience on how to enter data. This knowledge will help us in the future while conducting research studies”

“It was a good immersive learning experience into the field of data analysis which will help us in future analytical endeavours”

Through this exercise, students got an opportunity to develop a protocol for estimating the proportion of elderly people in the field practice area of Rural Health and Training Centre, Mandur who are blind due to cataract which is a treatable cause of blindness and assessed the social pathology behind cataract induced blindness.

## What went well?

- a) Team approach of the mentor faculty at all times

- b) Breaking the entire process into smaller doable bits
- c) Enthusiastic and efficient faculty
- d) A continuous Receiving and Giving feedback process
- e) Student led the learning process and derived concepts at each step
- f) Provision of conducive non-threatening learning environment
- g) Role Plays/Simulations

## What could have been better?

- a) Topic for electives could be allotted by choice instead of draw of lots
- b) More community visits
- c) More time allotment for electives
- d) The departments can consider the evaluation of electives in the form of strengths, weakness, opportunities, and threats (SWOT) for the students.

According to Mathur et al, SWOT analysis of electives will help in understanding: Strengths of the particular elective, how it will help in achieving the goal of competent Indian Medical Graduate, what all Weaknesses it might have like related to implementation, the learning objectives which could be non-achievable, Opportunities like learning prospects for students during MBBS, and Threats like electives could be taken as holidays by the students.<sup>5</sup>

## Conclusion

Since the expectation of the students were elicited prior to the initiation of the electives, it helped design a program in sync with the expectations. Team works among the facilitators served as an important cohesive factor to keep the momentum on along with continuous on-going feedback with necessary course correction. A well-planned elective program with a conducive learning environment provides a very intense, immersive, experiential learning process in which outcomes are met resulting in a long-term learning, with a lasting impact and thirst for further enhancement.

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**Reference number:** GMCIEC/2023/204

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