

Evaluation of the Educational Impact of the Foundation Course for MBBS Undergraduate Entrants in a Medical College in Uttarakhand, India

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Abstract

Introduction: A new entrant to medical school is fresh from school and entering a different world of professional college. Students are often ill-prepared for the changes and challenges that lie ahead. The National Medical Commission (NMC) foundation course is purposively designed to include various relevant issues that are important to lay a solid foundation for budding professionals. All aspects necessary to cultivate the character of an academic medical graduate and prepare students for the expected challenges have been included in the course material. This study aimed to evaluate the educational impact of the foundation course on MBBS students.

Methods: This study was conducted on 150 students in a medical college in Dehradun, Uttarakhand. The programme evaluation was done with structured feedback from the students, with the faculty engaged in the delivery, focusing on the educational impact on the students.

Results: Modules where students responded positively that had an educational impact were the role of doctor in society, Indian Medical Graduate (IMG) roles and goals, Basic Life Support (BLS), first aid, universal precautions, and biomedical waste management. Most students agreed strongly that the module on the role of doctors in society and professionalism and ethics had the most educational impact and motivated them the most.

Conclusion: The foundation course was perceived as a welcome addition to the MBBS program and has covered many important areas which have a definite educational impact on the students.

Keywords: Foundation course, CBME, Evaluation of new curriculum

Introduction

The strength and character of a professional lie in the strength and nature of the individual's foundation. The competency-based medical education program initiated by the National Medical Commission, India has been a 180-degree paradigm shift from traditional medical education.

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Initiated all over India in 2019, the change is now five years old, and there is a need to look back and evaluate the impact of the key changes envisioned. One of the most important and much-needed additions to undergraduate medical education is the foundation course for undergraduates at the entry level (Medical Council of India, Graduate Medical Regulations 2019).

A new entrant to medical school is fresh from school and entering a different world of professional college. The students are ill-prepared for the changes and challenges ahead and have little idea of the changes in



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the course material and teaching-learning methods. They do not know about the nature of working in a hospital, dealing and working in groups, let alone the campus discipline and expected professional behavior.

The NMC foundation course is purposefully designed to include various relevant issues that are necessary to lay a solid foundation for budding professionals. All aspects that are necessary to cultivate the character of an academic medical graduate and prepare students for the expected challenges have been included in the course material. There are six main components in the foundation course, each divided into several sub-areas. Starting from an orientation module to sports activities it encompasses the entire gamut of activities are designed to serve as a preparatory phase and build up an overall development (Medical Council of India, Foundation Course for the Undergraduate Medical Education Program, 2019).

The orientation module introduces students to the campus, helps them understand the role of a doctor in society, the history of medicine and alternative medicine, and acquaints them with the roles expected of an Indian Medical Graduate. The skill module is expertly formulated to include, first aid, basic life support (BLS), universal precautions, immunizations of health care professionals, and biomedical waste management. They are also geared to develop professional behavior, and the ability to work in teams and are given tips on time and stress management. Placed strategically at the beginning of the professional phase I, the foundation course is well-equipped to inculcate the necessary elements into young minds to make the journey through the rigorous training of medical schools easier.

With this background, the current study endeavored to assess the foundation course for its usefulness and relevance, with the main focus on the perceived educational impact (EI) of each component module and to understand the module's delivery quality by the faculty and students' satisfaction level.

Methods

The present descriptive survey study was conducted on twelve faculty members involved in the implementation of the foundation course and 150 students of the MBBS 2023 batch admitted to Shri Guru Ram Institute of Medical and Health Sciences, Dehradun, Uttarakhand. The study was conducted after approval from the institutional research and ethical committees vide letter number SGRR/IEC/11/23 dated 15th July 2023.

Participants were sensitized about the study, and informed consent was taken before the study. The participants were advised to give free and fair feedback from the start of the program as a whole and for each component of the course.

The foundation course for the new MBBS entrants was designed as per the NMC guidelines, with 15 days of continuous sessions from 8 am to 12 pm and 1 pm to 4 pm daily with lunch hour from 12 pm to 1 pm. Some modules were spread over the next six months as extra afternoon sessions. Extra sessions were conducted for students who joined late and had missed out on certain modules. Different teaching-learning methods were used and included: interactive lectures, brainstorming, videos, creative activities, and role plays. We used the game of crossing the river for the sessions on group dynamics, a panel discussion for the session on career pathways in Medicine, and time management was taught through group activities. After each session and at the end of the day, feedbacks for the sessions were obtained. Formative assessments were done by reflections, logbook entries, and MCQs wherever relevant. Some activities, like Yoga and sports, were carried out in the evening, spread over time.

A pre-validated structured feedback form was developed for the program evaluation. The questionnaire included all 28 modules of the foundation course on five levels: usefulness, relevance, educational impact, content delivery, and satisfaction. The responses to feedback forms were designed on a five-point Likert scale. These feedback forms were

shared with students to fill at the end of each session through a Google form format. A WhatsApp group of the entire batch was created, through which the link of each Google form was shared and data was collected.

Additionally, feedback from the faculty involved in teaching the course was also collected to understand their perspective on the course, regarding the utility, relevance, and feasibility of the delivery of the course content.

Apart from Google Form feedback, casual group discussions centered around activities of the day and acceptability of the session with students took place. Discussions with faculty members about logistics challenges and feasibility were also undertaken. An attempt was made to gather information on what else could be included or excluded from the course content through a casual, non-threatening group discussions (this was an observational study of course content and not a scientific study).

Data was tabulated and analyzed using Microsoft Excel for the statistical evaluation. The numerical data were presented as frequency, mean, Standard Deviation, and percentages.

Results

150 students of the academic year of 2023 of the MBBS batch participated in the study and submitted their feedback forms. Out of 150 students, 57(38%) were male and 93(62%) were female students. The mean age was 19.5 ± 2.5 years. Amongst the participants, 37/150(24.6%) were from rural backgrounds and 113/150(75%) were urban dwellers. When the influencing factors in choosing the medical profession were observed, it was found that 109/150(74%) students claimed to have close relatives in the medical profession, while 41/150(27.33%) had none. When the preference for the specific choice of medical discipline the students wish to specialize in was assessed it was observed that

72/150(48%) showed interest in the medicine and allied branches, 36/150(24%) were inclined to the surgical and allied branches while 29/150(19.33%) were for obstetrics and gynecology and 13/150(8.66%) were undecided. None of the students wished to pursue their careers in phase I (comprising of Anatomy, Physiology and Biochemistry) or phase II (comprising of Pathology, Microbiology and Pharmacology) or phase III (comprising of Community Medicine and Forensic Medicine and Toxicology) subjects.

In the x-axis of all the figures usefulness, relevance, educational impact, content delivery and duration of delivery of the module is depicted. In the introductory modules the utility of the module was agreed strongly by 96%, 64% & 67% in Introduction to the Campus (Figure 1), Roles of IMG, Goals and Career path (Figure 2), and Role of Doctor in Society (Figure 3) respectively but felt a low-level of utility to the history of medicine and family practice. In the skill modules, the first aid (Figure 4), BLS (Figure 5), and immunization modules were chosen as the most useful, relevant, and with an educational impact by the majority of students, while most students had neutral responses for the universal precautions and computer and language skills.

The majority of the students were neutral about the need for altruistic behavior but they agreed that the module on professional behavior was useful and relevant. Only a few had responded on the concept of working in a team but around 40-50% agreed on the utility and relevance of disability competency and stress management. The responses on the time management module were favorable for utility and relevance but most were neutral on the module for interpersonal relationships on all five elements of evaluation.

The feedback by the faculty engaged in the foundation course was also obtained through a structured Google form and most agreed that all component modules on orientation and skills were relevant and useful.

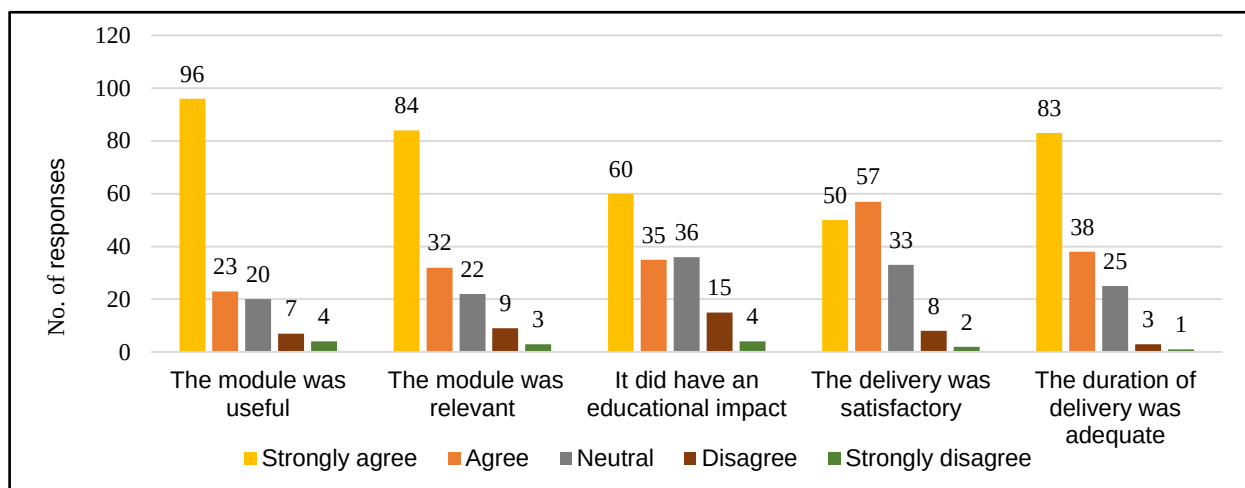


Figure 1: Module: Introduction to campus/facility

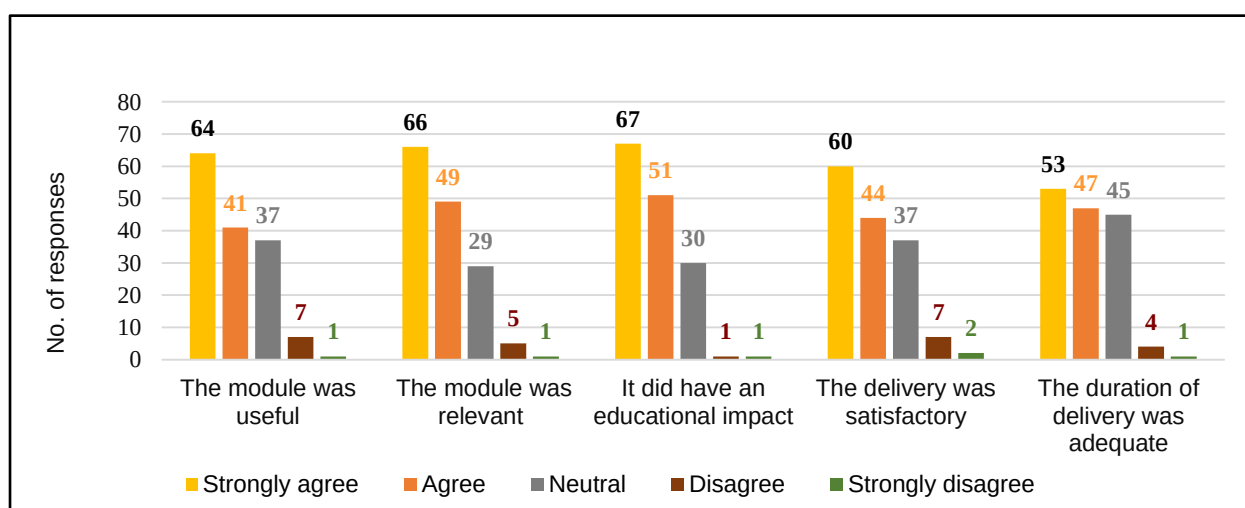


Figure 2: Module: Roles of IMG, Goals and Career path

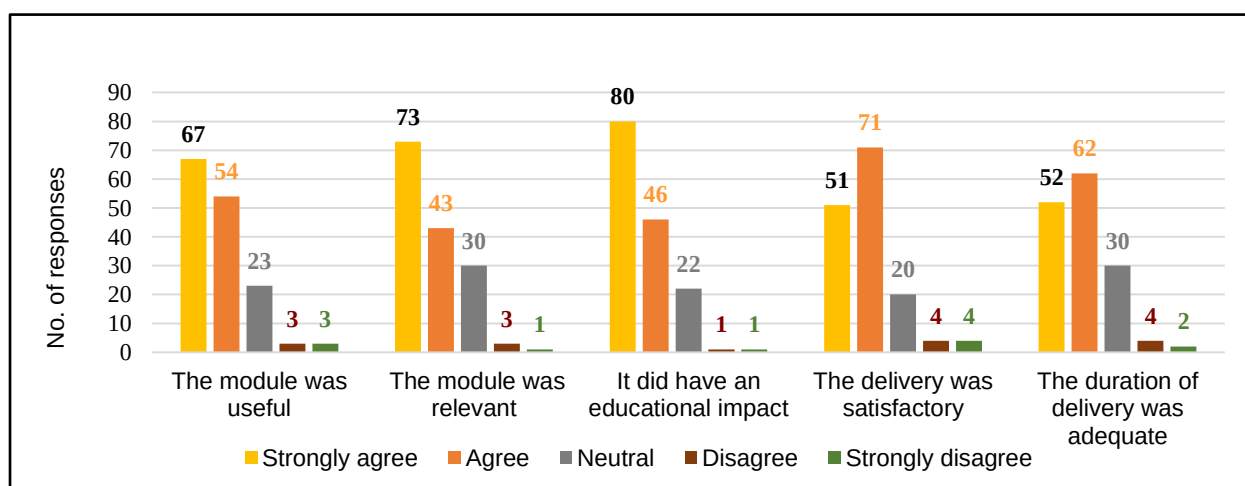


Figure 3: Module: Role of doctors in society

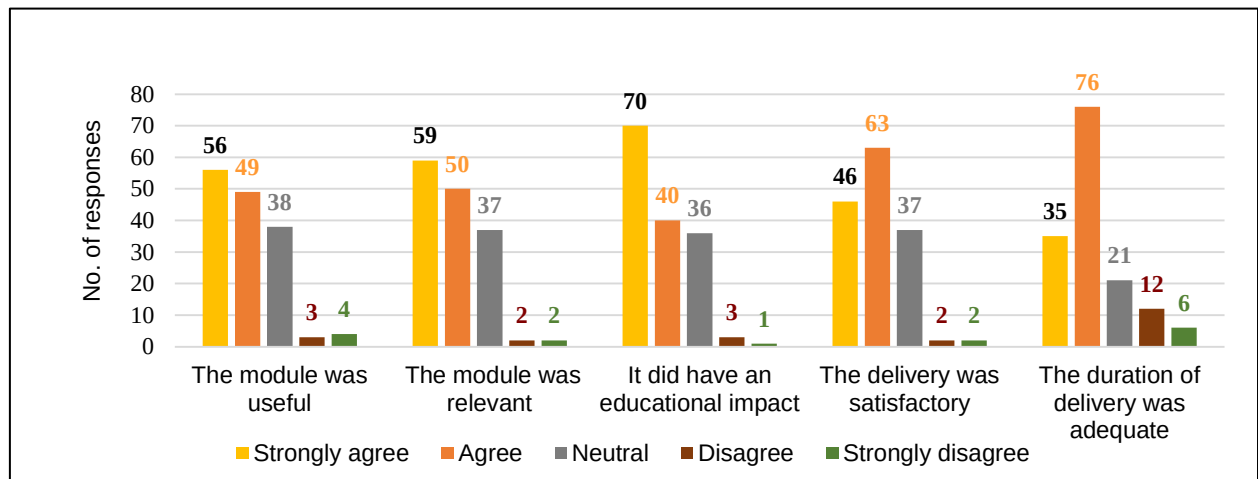


Figure 4: Module: First Aid

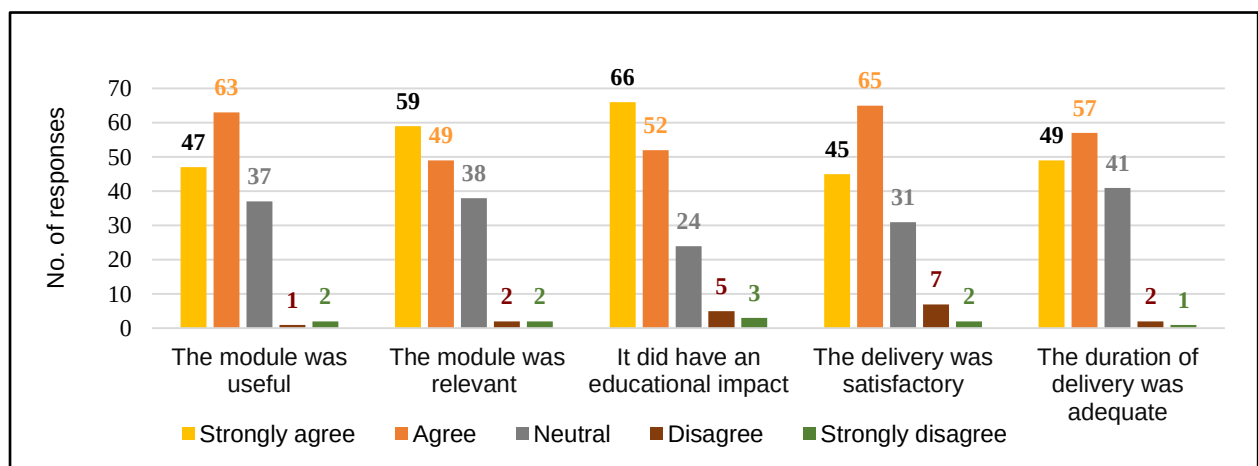


Figure 5: Module: Basic Life support

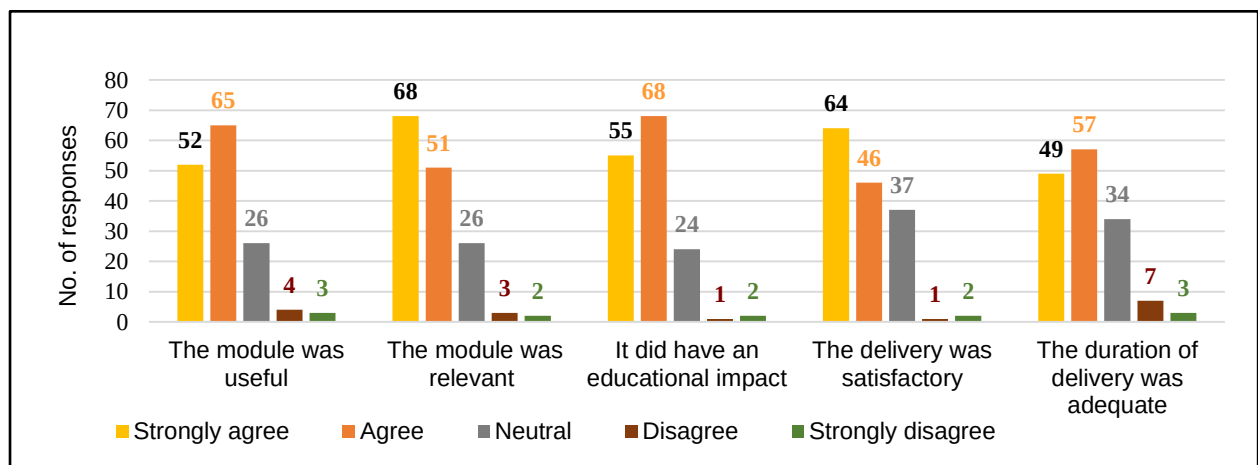


Figure 6: Module: Universal Precautions

Discussion

Implementation of the foundation course from 2019 onwards helps in the transition of undergraduate students from school life to college life in the new workplace and to some extent gives them a peep into the future. A variety of aspects of medical education are introduced to the students during their initial first year for sensitization. The Foundation course designed for the CBME format is comprehensive and aims at the overall development of students. It focuses on many areas of the life of a medical student that are necessary to prepare them for rigorous training and the professional life they would have to face.

Our institute has complied with Competency-Based Medical Education since it was launched country-wide in 2019. We have been conducting the foundation course at entry level for MBBS students since its inception.

The basic intention of this exercise was to understand the utility, relevance, and educational impact of the foundation course modules for the students. This was also an attempt to understand the fault lines and areas to improve upon the content and delivery of the modules. The most useful and relevant modules were the campus orientation, role of a doctor in society, and the career path. About 60-70% agreed on the relevance and 70% agreed on the educational impact (EI) of the introduction module (Figure 1 and 3).

The skills module, consisting of training on first aid, BLS, and universal precautions, was more readily accepted as useful and relevant. In a similar study of feedback on a foundation course done in Hyderabad in 2022 on 250 students, they found that the most favorable module, where the majority agreed strongly, was professionalism (98%), followed by the module on ethics (59%) (Padmavathi *et al*, 2022).

Most modules where the students responded positively to the educational impact were the role of a doctor in society, roles of IMG, goals and career path (Figure 2), BLS, first aid,

universal precautions, and biomedical waste management (Figure 4,5, and 6). Most students agreed strongly that the module on the role of doctors in society and professionalism, and ethics had the most educational impact, and it inspired them the most. Khilnani and colleagues in a similar exercise assessed students' feedback on modules of the foundation course, and their students reported that the most important topics were BLS, biomedical waste management, and communications, while the least important topics were computer and language skills. This was an observation similar to ours (Khilnani *et al*, 2019).

There were some modules about which many students had neutral perceptions related to educational impact, like disability competency, computer and language skills, stress management, and interpersonal relationships. This could be because, at the beginning of the MBBS course, students had little idea that the quality of interpersonal relationships would matter and that they would need the means to manage the stress of studies and campus life. At entry level, they do not have clinical exposure, which was perhaps the reason for their neutral stand on educational impact of the disability module. The same reason probably applied to the low student responses regarding the module on working in a healthcare team. This suggests that there is a role for obtaining course-ending feedback from the students to assess whether the topics learned in the foundation course had any utility as far as the educational impact is concerned. However, the casual and unstructured nature of discussions may have created some bias in this study.

It is suggested by the faculty members that topics like stress management and interpersonal relationships may be taught to the students during Phase III where students would grasp the relevance better. Suggestions also came for a sensitization program on finance management and taxation.

Shyma and colleagues studied the feedback to the foundation course using a fourteen-question, 'yes' or 'no' format feedback form among 147 MBBS students. They found that

92.3% of students agreed positively that the objectives of the course were clearly stated, and 94% agreed that the information was clear and informative (Shyma *et al*, 2022).

During the course, when we enquired of the students about changes in the content of the course, many students wanted topics on financial management to be included.

We found that the placement of the foundation course before starting the MBBS professional subjects had a positive impact on the students and prepared them for the training ahead. This was also an area wherein the students learned basic and useful skills like first aid, BLS, universal precautions, and communication skills.

This exercise of conducting a two-month foundation course is not a new concept and was taken by Singh *et al*. in 2007. The authors conducted a seven-day program titled 'foundation course' which gave the students at the entry level to MBBS different experiences to develop their knowledge and attitude towards making of a medical professional. The program was assessed as successful, and it was recommended that such a course be made mandatory at the MBBS entry level. Another medical college did a feasibility study for the course in Tamil Nadu in 2014, four years before the implementation of the new curricular change (Singh 2007; Srimathi 2014).

The feasibility problem faced in the present study was that there was a predefined time for beginning the foundation course when counseling was still ongoing, and all students had not yet joined. We had to conduct the course in a staggered manner over the next six months during after-work hours, and feedback was taken after the module. At faculty level, the logistics of arranging sessions after hours was difficult. The faculty's opinions were also sought, and all agreed on the utility, feasibility, and positive educational impact of the foundation course on the students.

We also solicited suggestions from students regarding any other areas of professional courses that would be useful for them and can be included in the foundation course. Although

many students needed information on financial management, they were satisfied with the contents of the course. Many students needed clarity about the attendance requirement for examinations, internal assessments, and logbooks. Few students felt the need for insight and expectations from them regarding the mentor-mentee program.

Entry of a young person, fresh from school, into a professional college can be overwhelming for the students. Gradual induction into the study course by a foundation-level course taken in an informal, non-threatening, and friendly atmosphere can serve the function of ice-breaking. This is also an opportunity to sync up on some areas of professional development useful for students, but not included in the curriculum. This also introduced them to the campus life and rigorous discipline of medical school. A reflection of the senior batches of MBBS students since the initiation of the foundation course also suggested that the foundation course material was essential for them to prepare for the course.

Conclusion

The foundation course is a welcome addition to the MBBS program and has covered many important areas which have a definite educational impact on the students. Feedback from the students and faculty indicated that the foundation course was well received by the students and was found useful and relevant. Components from the skill module had an educational impact and motivated the students about the upcoming course. This is also an opportunity for the faculty to interact with newly inducted students and kindle an interest in the medical field.

Acknowledgement

The investigators of this study are grateful to the faculty members and MBBS students of the academic year of 2023 for their wholehearted participation in this study.

Conflict of interest

None

Ethical Clearance

The study was approved by the Institutional Ethics Committee vide letter number SGRR/IEC/11/23 dated 15th July 2023.

Data Accessibility

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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