

## ORIGINAL RESEARCH

# A cross-sectional study on perception of Indian medical students and faculty about introduction of foundation course for entry level MBBS students

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### ABSTRACT

**Background and Objectives:** A one-month Foundation Course (FC) has been introduced for first-year MBBS students in medical institutions across India since 2019, in accordance with the guidelines of the National Medical Commission (NMC). In order to assess the program's efficacy, the perceptions of both students and faculty members regarding its effectiveness were evaluated. **Materials and Methods:** The FC consisted of six modules in accordance with the guidelines of the NMC. Feedback was collected at the end of each module as well as at the end of entire course from 187 students and 27 teachers using a pre-validated semi-structured questionnaire. Quantitative results were presented as frequencies and percentages, while qualitative observations were analyzed thematically. **Results:** The one-month long FC received positive feedback from both students and faculty. The course successfully met its defined objectives, with the majority of students (95%) and a significant proportion of faculty (80%) acknowledging its effectiveness. Students found the course beneficial in preparing them for the formal MBBS curriculum and expanding their knowledge and skills. Thematic analysis of student and faculty reflections revealed strengths and weaknesses of the program. **Conclusion:** The one-month-long FC helped newly enrolled students in adapting to higher education systems. Addressing challenges and implementing appropriate remedial measures for subsequent batches will ensure a seamless and effective implementation of the program.

**Key words:** Foundation course, medical student, perception, orientation, India

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### INTRODUCTION

The field of medical education in India is undergoing a profound transformation through the implementation of the "Competency-based undergraduate curriculum" for Indian Medical Graduates (IMG) <sup>1</sup>. This introduction signifies a notable departure from the conventional teacher-centered approach towards a student-centered learning model. The new curriculum places a strong emphasis on practical application, skill development, the integration of medical ethics, and the cultivation of improved doctor-patient relationships. The recently updated curriculum emphasizes the implementation of a one-month FC at the commencement of the MBBS program. This course

aims to sensitize and equip newly enrolled medical students with the essential knowledge and skills necessary to adapt and become familiar with the professional environment. As outlined by the Medical Council of India (MCI), the desired attributes of an IMG include being a competent clinician, a lifelong learner, a leader, an effective communicator, and a professional <sup>2</sup>.

The FC plays a crucial role in providing students with an overview of the MBBS curriculum and facilitating effective learning in medicine to attain the desired attributes <sup>3</sup>. The primary objectives of the FC are as follows:

- To familiarize students with all facets of the medical college environment.
- To equip them with essential skills for patient care, while enhancing their communication, language, computer and learning abilities.
- To foster peer and faculty interactions, and promote a comprehensive understanding of diverse learning methodologies<sup>4</sup>.

Learner satisfaction and ongoing quality improvement are fundamental prerequisites for the success of any program. Consequently, regulatory bodies mandate colleges to engage in program evaluation and development. In line with this, the current study aimed to assess the FC at an Indian Medical College, from the perspectives of both students and faculty members.

### MATERIALS AND METHODS

The research encompassed a cohort of 200 first-year medical undergraduate students who were part of the 2020 batch. Also, the study included the invaluable input from a group of 27 faculty members (comprising 17 males and 10 females) who were actively involved in the organization and execution of the FC. These faculty coordinators played a pivotal role in managing the logistical aspects of the different sessions and closely observed the proceedings in order to furnish constructive feedback. Both student and teacher participation in the study was voluntary and ethical clearance was obtained from the Institutional Ethics Committee to ensure adherence to ethical guidelines<sup>5</sup>. In collaboration with the preclinical departments, the Medical Education Unit (MEU) of our college implemented a one-month long FC in accordance with

the guidelines set forth by the National Medical Commission (NMC)<sup>6</sup>. To ensure efficient implementation and seamless operation, a dedicated FCCommittee was established.

The Faculty Development Course (FC) comprised six distinct sections, namely Orientation, Skill Module, Field Visit to Community Health Centre, Professional Development (including Ethics), Sports and Extracurricular Activities, Computer Skills and Language Enhancement Program. The coordination of the program was efficiently carried out by faculty members from both the preclinical and para-clinical departments. The FC spanned a total of 180 hours, which were dedicated to the effective implementation and execution of the course.

A well-structured timetable was devised to incorporate all the modules of the FC. In order to provide comprehensive knowledge and expertise, resource persons from various disciplines including medicine, nursing, allied health sciences, Yoga, library sciences, physical education, and humanities were identified. To ensure optimal utilization of time, the students were divided into smaller groups, facilitating active learning within the designated timeframe.

The teaching-learning activities employed during the FC encompassed a range of methods. These included small group teaching, field visits, interactive lectures supplemented with handouts, video clips, discussions, question and answer (Q&A) sessions, think-pair-share exercises, demonstrations, role plays, flip charts, reflections, quizzing and games. Furthermore, students were encouraged to maintain a logbook to document their reflections on the FC experiences. Details of the modules of FC are given Table 1.

**Table 1: Objectives of modules of FC**

Module	Teaching Hours	Objectives
Orientation	35	Introduction to institution, campus & facilities, The role of doctors in the society, History of Medicine and alternate systems, IMG roles, overview of MBBS curriculum, various career pathways, principles of family practice.
Skill Module	35	First Aid, BLS, Universal precautions, Waste management, Immunization, an Documentation occupies.
Field visit to the community health center	8	National Health goals and policies/ health Care systems/community health and interactions with patients and families.
Professionalism and Ethics	40	The concept of Professionalism and Ethics, Whitecoat Ceremony, Professional behavior, and altruistic behavior, Working in a health care team, Disability competencies, Cultural competence, Stress management, Time management, Interpersonal relationship.
Sports and extracurricular activities	22	To engage students various Sports and extracurricular activities.
Enhancement of language/computer skills	40	Communication, Local Language training, English Language Training and Computer Skills training.
Total teaching hours	180	

A questionnaire was employed to gather feedback from both the students and faculty members regarding the FC. The questionnaire was prepared based on previous studies (7-11). The feedback was obtained at two time points. Module-wise feedback was obtained

from the students and teachers at the end of each module. Participants were asked to rate each module using the options "excellent", "very good", "good", "fair" or "poor". At the conclusion of the one-month long FC, a validated questionnaire was administered to

obtain overall feedback on the program as a whole. The questionnaire consisted of questions aimed at assessing the perceived usefulness of the sessions. Both students and faculty utilized a five-point Likert scale to provide their feedback, ranging from "strongly disagree" to "strongly agree". Additionally, the questionnaire included a section with open-ended questions, allowing the students and faculty to reflect on their teaching-learning experiences and provide their perspectives on the effectiveness of each module. A total of 187 responses were included for data analysis (13 students were absent during one or more sessions). The quantitative data collected during the study were recorded and analyzed using SPSS version

20 (SPSS Inc., Chicago, IL). The results were presented in terms of frequencies and percentages to provide a comprehensive overview. Regarding the qualitative data obtained from the written observations provided by the students and faculty members regarding the effectiveness of each module, a thematic analysis approach was employed. The authors meticulously read and re-read the reflections, systematically coding the information. The codes were then examined to identify patterns, and themes and sub-themes were subsequently identified based on the coded data. This process allowed for a thorough exploration of the qualitative insights provided by the participants.

**Table 2: Perception of students about different modules of FC**

	N (%)				
	Excellent	Above average	Average	Below average	Poor
Orientation Module	99 (53)	64 (34)	20 (11)	2 (1)	2 (1)
Skill Module	76 (41)	101 (54)	8 (4)	0 (0)	2 (1)
Field visit to the community health center and community orientation	101 (54)	71 (38)	6 (3)	5 (3)	4 (2)
Professionalism and Ethics	50 (27)	105 (56)	29 (16)	2 (1)	1 (1)
Sports and extracurricular activities	107 (57)	52 (28)	27 (14)	1 (1)	0 (0)

**Table 3: Perception of Faculty about different modules of FC**

	N (%)				
	Excellent	Above average	Average	Below average	Poor
Orientation Module	12 (44)	10 (5)	4 (2)	1 (4)	0 (0)
Skill Module	10 (5)	11 (41)	5 (19)	0 (0)	1 (4)
Field visit to the community health center and community orientation	11 (41)	11 (41)	5 (19)	0 (0)	0 (0)
Professionalism and Ethics	13 (48)	9 (33)	4 (15)	0 (0)	1 (4)
Sports and extracurricular activities	12 (44)	10 (37)	5 (19)	0 (0)	0 (0)

**Table 4: Perception of students about overall effectiveness of FC**

	N (%)				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Objectives of the FC were clearly explained to me	63 (34)	110 (59)	10 (5)	2 (1)	2 (1)
The lecture sessions and workshops were meticulously organized	70 (37)	107 (57)	8 (4)	0 (0)	2 (1)
The lecture sessions and workshops were easy to comprehend	95 (51)	75 (40)	10 (5)	5 (3)	2 (1)
The teaching aids were effectively used	101 (54)	71 (38)	6 (3)	5 (3)	4 (2)
The distributed course material was adequate	107 (57)	52 (28)	27 (14)	1 (1)	0 (0)
The faculty actively encouraged interaction among participants	52 (28)	107 (57)	27 (14)	0 (0)	1 (1)
The faculty were readily available to help	98 (52)	55 (29)	31 (17)	2 (1)	1 (1)
I encountered new perspectives, insights and information that expanded my understanding	50 (27)	105 (56)	29 (16)	2 (1)	1 (1)
I am filled with confidence as I prepare to embark on the formal MBBS course	53 (28)	107 (57)	26 (14)	1 (1)	0 (0)
Overall, the level of FC was satisfactory	102 (55)	57 (30)	29 (16)	0 (0)	0 (0)

**Table 5: Perception of faculty about overall effectiveness of FC**

	N (%)				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Objectives of the FC were clearly explained to me	12 (44)	10 (37)	5 (19)	0 (0)	0 (0)
The lecture sessions and workshops were meticulously organized	13 (48)	9 (33)	4 (15)	1 (4)	0 (0)
The lecture sessions and workshops were easy to comprehend	9 (33)	14 (52)	4 (15)	0 (0)	0 (0)
The teaching aids were effectively used	11 (41)	11 (41)	5 (19)	0 (0)	0 (0)
The distributed course material was adequate	8 (30)	12 (44)	6 (22)	0 (0)	1 (4)
The faculty actively encouraged interaction among participants	13 (48)	9 (33)	4 (15)	1 (4)	0 (0)
The faculty were readily available to help	8 (30)	12 (44)	6 (22)	0 (0)	1 (4)
I encountered new perspectives, insights, and information that expanded my understanding	9 (33)	14 (52)	3 (11)	0 (0)	1 (4)
Overall, the level of FC was satisfactory	12 (44)	10 (37)	5 (19)	0 (0)	0 (0)

**Table 6: Salient qualitative feedback by students and faculty about FC:**

	Student feedback	Faculty feedback
Strengths of FC	<p>The sessions were highly informative and motivated us to further explore about the healthcare delivery systems in India. (A student on 'healthcare delivery systems in India' session under community orientation module). We were provided with the opportunity to witness firsthand the interaction between doctors and patients, which was an exhilarating experience!" (A student on Professionalism and Ethics module).</p> <p>We actively engaged in the sessions, and were enthusiastic and eager to learn. We liked the "Role play" activity the most. (A student on 'working in health care team' session)</p> <p>The sports activities were both enjoyable and beneficial for our personal development. Without competition, we could freely participate and try different events, fostering interaction and camaraderie with our peers and seniors. (A student on sports and extracurricular activities module).</p>	<p>The sight was truly captivating! The students, filled with pride and gratitude, took the Oath with beaming smiles. The memorable occasion was further enhanced by the parents. It was a moment of pure joy and happiness that resonated within their hearts. (A faculty on Whitecoat ceremony).</p> <p>The students displayed great eagerness in learning about the different methods of medical documentation and recognized its significance in their professional practice. (A Faculty speaks on 'documentation' session of the Skills module).</p>
Weaknesses of FC	<p>The duration of the one-month long foundation course was very long and tiring. (A student on overall program feedback).</p> <p>The large number of students in group discussions, field trips, and community visits was very challenging in terms of effective participation. (A student on community orientation modules).</p> <p>Not all of us had the opportunity for hands-on exposure with computer skills. (A student on enhancement of computer skills).</p> <p>As I am from other state, it was difficult to learn an entirely new language (local language) in a short duration" (A student on enhancement of local language skills).</p>	<p>The process of conducting sessions for three consecutive days to teach nearly 200 students in smaller groups was a big logistical challenge, cumbersome and tiring. (A Faculty on 'first-aid' session under the skills module).</p> <p>Providing hands-on training to every student on the mannequin for CPR was logistically challenging and tiring. (Faculty on 'BLS' under the skills module).</p>

## RESULTS

The study included the participation of 200 newly admitted first-year medical undergraduate students from the 2020 batch who had completed the one-month FC. Out of the total sample, 187 students (comprising 88 males and 99 females) voluntarily responded to the questionnaires. Also, 27 faculty

members (consisting of 17 males and 10 females) with teaching experience ranging from 4 to 21 years, who were involved in the implementation of the course, also provided their opinions for the study.

Module wise feedback of students and faculty is shown in Tables 2 and 3. respectively. Every module was rated above average by most of the students and

faculty. Among all the modules, the community visit module received highest rating by the students marking it as 'excellent' (54%) whereas Professionalism and Ethics module received the least (27%) 'Excellent' rating by students. According to faculty, Professionalism and Ethics module received the highest (48%) 'excellent' rating while skill module received the least (5%) 'Excellent' rating.

Tables 4 and 5 present the feedback received from students and faculty members respectively regarding the overall effectiveness of the FC. In response to the question whether the defined objectives of the one-month long FC were achieved, 173 students (93%) agreed that the objectives were met, while four students (2%) expressed disagreement. Among the faculty members, 22 (81%) agreed that the objectives were met, and none disagreed with this statement. 159 (85%) students and 22 (81%) faculty agreed that overall the FC was effective.

Table 6 shows important qualitative feedback received about the strengths and weaknesses of the FC which is mentioned in their own words.

## DISCUSSION

The primary objective of implementing a one-month long FC was to sensitize newly enrolled medical students to the essential knowledge and skills necessary for their transition into the professional medical environment. The FC aimed to prepare students for the rigorous preclinical curriculum, which includes the study of Anatomy, Physiology, Biochemistry, Humanities, and Community Medicine during the first year. By providing this foundational course, students were equipped with the necessary tools to navigate and excel in their intensive preclinical studies<sup>12</sup>.

Previous research studies have demonstrated the positive impact of implementing a FC for MBBS students<sup>13-16</sup>. These programs have proven beneficial in helping students familiarize themselves with the campus and learning environment, as well as building their confidence to tackle the challenges of the medical curriculum<sup>13</sup>. However, these previous programs were relatively shorter in duration<sup>15-16</sup>. The effectiveness of a one-month long FC is a relatively new area of exploration, with limited research conducted thus far. Therefore, this study aimed to examine the perceptions of students and faculty regarding the implementation of a one-month long FC and its potential usefulness.

The FC was well appreciated by the students, as indicated by the feedback. Majority of the students and faculty expressed that the desired objectives from the course were addressed during various sessions. The denial by a small percentage of the population maybe due to the challenges faced during the conduct of the FC. The challenges have been duly noted and would be suitably addressed in the future sessions of the FC for the subsequent batches. Similar results were reported by previous studies<sup>7</sup>.

Some students and faculty members expressed their concerns about the extended duration of the one-month long FC, indicating the need to reassess the challenges and identify areas for improvement. It is crucial to address these shortcomings and redesign the program to meet the expectations of both students and faculty. The Medical Education Unit (MEU) of our college is committed to addressing these challenges and ensuring that future batches of medical undergraduates have a more fulfilling experience during the FC.

**LIMITATIONS OF THE STUDY:** The present study surveyed a limited number of students, and conducting a similar investigation on a larger student sample nationwide would provide more comprehensive and reliable insights into the perceptions of both students and faculty regarding the FC. Considering the vast geographical and cultural diversity across India, a broader study involving a larger student population and faculty members is warranted. This would allow for a more detailed examination of the effectiveness of the FC and its impact across diverse settings, thereby enhancing the generalizability and applicability of the findings.

Future studies can enhance our understanding of perceptions regarding the FC by using in-depth interviews and focused group discussions. This will allow for a deeper exploration of their perceptions, facilitating a deeper understanding of the strengths, challenges, and potential improvements related to the FC. By incorporating such qualitative methods, future studies can provide a richer and more comprehensive analysis of the perceptions of both resource faculty and students.

## CONCLUSIONS

The FC is instrumental in building a strong foundation for the development of competent IMGs. The FC provides students with an opportunity to familiarize themselves with the campus, program, peers, and faculty. It facilitated adjustment to the new environment, improved peer interactions, and fostered the acquisition of essential knowledge, skills, and attitudes for effective learning in the Competency-Based Undergraduate Curriculum (CBUC) training. Addressing challenges and implementing remedial measures will ensure a smooth FC for future batches, enhancing the program's effectiveness.

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