ORIGINAL RESEARCH PAPER

Medical Education

KEY WORDS:

EVALUATING THE EFFECTIVENESS OF TWO-WEEK FOUNDATION COURSE EXPERIENCE: INSIGHT FROM FIRST –YEAR MEDICAL STUDENTS.

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INTRODUCTION

The foundation course in medical education plays a crucial role in preparing first-year MBBS students for their academic and professional journey. Its primary aim is to introduce students to the curriculum's content, methodologies, and assessment strategies while fostering essential skills for effective learning. The National medical council revamped the undergraduate curriculum to align with the national goal of "health for all," emphasizing the production of competent health professionals equipped to address community health needs.[1]

Many students face challenges while transitioning from high school to professional medical college .To ease this adjustment, a structured orientation program at the entry level of the MBBS course is essential. It helps students adjust to the campus environment, understand the academic expectations, and develop skills to manage the extensive knowledge required in the dynamic healthcare landscape. The foundation course aims to bridge gaps for students from diverse educational and linguistic backgrounds, equipping them with communication, technical, and professional skills.[1]

Key components of the orientation module includes exposure to professional ethics, skill-building workshops, community health visits, and activities to promote physical and mental well-being. These elements ensure a holistic foundation, enabling students to thrive in their medical education journey. Initially conceived and implemented for one month period for the first few years, then it was spread over a period of 6 months and finally it was revised and cut down to two weeks in the latest CBMER 2024 based on feedback from stakeholders.[2]

The aim of the study was 1) to evaluate the student's perception towards the content of foundation course in two weeks and 2) to evaluate the effectiveness of the revised two-week foundation course. Since two-week foundation course was implemented for the very first time, the study will help to identify the strengths and lacunae of the program and rectified for the subsequent academic years.

MATERIALS AND METHODS:

This program evaluation study was carried out among first year MBBS students admitted at the Himalayan Institute of Medical Sciences, Dehradun, Uttarakhand, India, from October 14th to 26th, 2024. Out of 150 students admitted in MBBS 2024 batch ,126 students were included in study who had attendance more than 80% and have not missed any of the modules of foundation course. Since this study was on program evaluation, there was a waiver of ethical clearance. As no personal details were involved, written informed consent was not taken.

The foundation course committee, chaired by the principal of the college, was responsible for planning and implementation. The planning phase involved preparing a skeletal framework of topics, sensitization of faculty, allocation of topics and brainstorming was done. In the implementation phase the faculties were encouraged to use diverse teaching–learning methods to make sessions engaging. These included interactive sessions, role plays, small group discussions, demonstrations, panel discussions, quizzes, debates, and video clips from news and movies to teach various modules.

The foundation course covered multiple modules mentioned in the latest CBMER 2024
- Orientation module
- Skills module
- Community orientation module
- Professional development and ethics
- Enhancement of language and computer skills
- Sports and extracurricular activities

At the end of each session, feedback was collected from students using a pre-designed questionnaire based on a five-point Likert scale, with the following response options:

- Dissatisfied = 1
- Somewhat dissatisfied = 2
- Neutral = 3
- Satisfied = 4
- Highly satisfied = 5

Higher scores indicated greater satisfaction with the sessions. The online feedback questionnaire included items related to topics covered in the foundation course modules. In addition to the quantitative feedback, students provided written reflections on each session to offer qualitative insights for future course improvements.

Statistical Analysis:

The data collected was entered in SPSS version 20. Analysis of the for quantitative data were done using frequency, percentage, and graphical representation.

RESULTS:

All the students (126 students) who participated in the study responded to the feedback questionnaire.

Table 1 - Feedback Of Students On The Orientation Module (n=126)

Session Title	Dissatisfied n (%)	Somewhat dissatisfied n (%)	Neutral n (%)	Satisfied n (%)	Highly satisfied n (%)	Mean Rating
Introduction and administration of Charak shapath	0(0)	1(0.8)	8(6.3)	37(29.4)	80(63.5)	4.56

Role of Doctors in Society	0(0)	1(0.8)	5(4)	28(22.2)	92(73)	4.67
Campus Orientation	1(0.8)	1(0.8)	6(4.8)	23(18.3)	95(75.4)	4.67
Career Pathways in Medical Field	0(0)	0(0)	7(5.6)	29(23)	90(71.4)	4.66
History of Medicine	1(0.8)	3(2.4)	6(4.8)	24(19)	92(73)	4.61
Principles of Family Practice	0(0)	1(0.8)	8(6.3)	34(27)	83(65.9)	4.58
Expectations of Society, Institute, Peers, Seniors from MBBS students	1(0.8)	1(0.8)	8(6.3)	31(24.6)	85(67.5)	4.57
Orientation to ICMR-STS projects	1(0.8)	2(1.6)	6(4.8)	33(26.2)	84(66.7)	4.56
Alternate health systems- Philosophy of Ayurveda & Visit to Ayurveda Centre	0(0)	3(2.4)	9(7.1)	31(24.6)	83(65.9)	4.54
Sensitization to Competency Based MBBS Curriculum	2(1.6)	1(0.8)	8(6.3)	34(27)	81(64.3)	4.52
Alternate health systems- Philosophy of Yoga	2(1.6)	5(4)	11(8.7)	30(23.8)	78(61.9)	4.40
History of outbreaks, epidemics & Pandemics	0(0)	5(4)	16(12.7)	29(23)	76(60.3)	4.40

Table I shows that the Orientation module successfully introduced students to the medical profession, ethics, history, and career pathways, receiving overall positive feedback. Highly rated sessions such as Role of Doctors in Society, Campus Orientation, and Career Pathways in the Medical Field were valued for their insights into professional responsibilities and institutional familiarization.

Topics such as Alternate Health Systems – Ayurveda, Alternate Health Systems – Yoga, and Sensitization to CBME Curriculum had slightly lower ratings, indicating varied student interest and possible gaps in engagement. The sessions of History of Outbreaks, Epidemics & Pandemics and Philosophy of Yoga , received lower ratings suggest that students may have found these topics less engaging.

Table II - Feedback Of The Students On Skills Module (n=126)

Session Title	Dissatisfied n (%)	Somewhat dissatisfied n (%)	Neutral n (%)	Satisfied n (%)	Highly satisfied n (%)	Mean Rating
Universal Precautions & Hand Hygiene Practices	0(0)	1(0.8)	2(1.6)	24(19)	99(78.6)	4.75
Quality Healthcare and Patient safety	0(0)	0(0)	5(4)	29(23)	92(73)	4.69
Immunization requirements of health care professionals	0(0)	0(0)	5(4)	31(24.6)	90(71.4)	4.67
Visit to Skill Lab and Simulation Center and orientation to Basic Life Support (BLS)	0(0)	0(0)	1(0.8)	14(11.1)	111(88.1)	4.87
Biomedical Waste Management	0(0)	0(0)	0(0)	22(17.5)	104(82.5)	4.83
Needle/ scalpel stick injuries	0(0)	0(0)	4(3.2)	31(24.6)	91(72.2)	4.69

Table II depicts that the Skills module was among the highest-rated sections, emphasizing hands-on training sessions. The "Visit to Skill Lab and Simulation Center with BLS" was the most appreciated session, highlighting the value of experiential learning. "Biomedical Waste Management and Universal Precautions & Hand Hygiene also received strong feedback, reinforcing the importance of maintaining hygiene and safety in medical practice.

Overall, this module could effectively strengthen clinical preparedness. Future improvements could focus on expanding interactive learning methods using real-world clinical scenarios.

Table III – Feedback of the students on Community Orientation Module (n=126)

Session Title	Dissatisfied n (%)	Somewhat dissatisfied n(%)	Neutral n (%)	Satisfied n (%)	Highly satisfied n(%)	Mean Rating
Visit to Primary and Community Health Centers	0(0)	1(0.8)	6(4.8)	16(12.7)	103(81.7)	4.75
Health care system and its delivery	0(0)	0(0)	10(7.9)	29(23)	87(69)	4.61
Panel Discussion: National health programmes and policies	0(0)	4(3.2)	10(7.9)	25(19.8)	87(69)	4.55

Table III shows that the Community module was well-received, providing valuable insights into primary healthcare and public health systems. The "Visit to Primary and Community Health Centres" was the most appreciated session, highlighting the importance of hands-on exposure to community healthcare.

Table IV - Feedback Of The Students On Professional Development And Ethics Module (n=126)

Session Title	Dissatisfied n (%)	Somewhat dissatisfied n (%)	Neutral n (%)	Satisfied n (%)	Highly satisfied n (%)	Mean Rating
White Coat Ceremony"	0(0)	0(0)	1(0.8)	5(4)	120(95.2)	4.94
Time management and prioritization skills	0(0)	1(0.8)	4(3.2)	20(15.9)	101(80.2)	4.75
Working as a "team" in healthcare delivery system	0(0)	1(0.8)	3(2.4)	24(19)	98(77.8)	4.74
Behaviour and communication with teachers, peers, and seniors	0(0)	2(1.6)	4(3.3)	22(17.5)	98(77.8)	4.71
Ethical vs unethical behaviour and consequences:	0(0)	0(0)	8(6.3)	26(20.6)	92(73)	4.67
Stress management	0(0)	0(0)	4(3.2)	34(27)	88(69.8)	4.67
Code of conduct	0(0)	1(0.8)	8(6.3)	25(19.8)	92(73)	4.65
Balancing personal & professional life	0(0)	0(0)	10(7.9)	24(19)	92(73)	4.65
How to remember: Memory Hacks	1(0.8)	0(0)	6(4.8)	32(25.4)	87(69)	4.62
Professional ethics	0(0)	0(0)	11(8.7)	27(21.4)	88(69.8)	4.61
Ragging Vs healthy interaction with seniors:	0(0)	3(2.4)	9(7.1)	28(22.2)	86(68.3)	4.56
Sleep Hygiene	0(0)	2(1.6)	10(7.9)	30(23.8)	84(66.7)	4.56

The art of Introspection on strengths & weaknesses	0(0)	2(1.6)	8(6.3)	38(30.2)	78(61.9)	4.52
Mentorship programme	1(0.8)	0(0)	9(7.1)	41(32.5)	75(59.5)	4.50
Challenges of the present generation	0(0)	4(3.2)	10(7.9)	33(26.2)	79(62.7)	4.48
Gender Sensitization	3(2.4)	8(6.3)	13(10.3)	31(24.6)	71(56.3)	4.26

Table IV describes that the Professional development and ethics module was very well appreciated by the students, emphasizing professional identity, ethics, and interpersonal skills. The "White Coat Ceremony" had the highest satisfaction, reinforcing its symbolic significance. Sessions on Time Management & Prioritization, Teamwork in Healthcare, and Communication with Teachers, Peers, and Seniors were also highly rated.

Moderately rated sessions such as Introspection on Strengths & Weaknesses, and Challenges of the Present Generation and Gender Sensitization indicate room for improvement through better engaging sessions.

Table V - Feedback Of The Students On Enhancement Of Language And Computer Skills Module (n=126)

Session Title	Dissatisfied n (%)	Somewhat dissatisfied n (%)	Neutral n (%)	Satisfied n (%)	Highly satisfied n (%)	Mean Rating
Computer skills: Mastering PowerPoint presentation	5 (4)	6 (4.8)	19 (15.1)	28 (22.2)	68 (54)	4.17
Communication Skills	2 (1.6)	4 (3.2)	7 (5.6)	30 (23.8)	83 (65.9)	4.49

Table V shows that in computer skills module, the PowerPoint presentation session received moderate rating likely due to prior exposure in school. Enhancing hands-on practice and advanced features could improve engagement.

Table VI - Feedback Of The Students On Sports And Extracurricular Activities Module (n=126)

Session Title	Dissatisfied n (%)	Somewhat dissatisfied n (%)	Neutral n (%)	Satisfied n (%)	Highly satisfied n (%)	Mean Rating
Sports activities	0(0)	2(1.6)	6(4.8)	7(5.6)	111(88.1)	4.80
Yoga sessions	4(3.2)	4(3.2)	9(7.1)	22(17.5)	87(69)	4.46

Table VI describes that The Sports and extracurricular activities module, which aimed at promoting physical well-being and stress management, received positive feedback. Sports activities were highly rated, with 88.1% of students expressing high satisfaction, likely due to their dynamic and engaging nature. Yoga sessions were rated slightly lower, possibly due to differences in engagement levels and prior familiarity with sports.

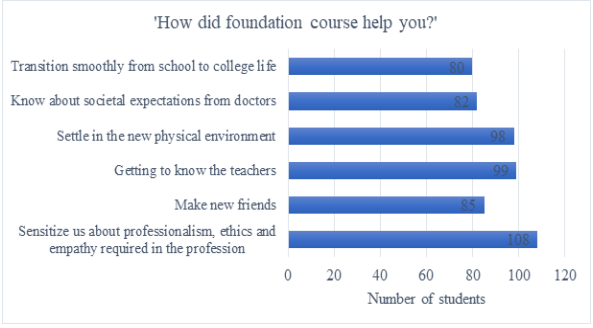

Figure-I: How Did The Foundation Course Helped The Students.

Figure 1 shows that maximum students were able to get sensitized about the various professional aspects of medical field.

DISCUSSION

The foundation course played a crucial role in facilitating the smooth transition of newly admitted MBBS students into medical education. Through structured sessions, students were provided with essential knowledge, skills, and orientation, ensuring a seamless adaptation to their new academic environment. The feedback received highlighted the effectiveness of interactive teaching-learning methods, which significantly enhanced engagement and learning outcomes.

Among all components, the **White Coat Ceremony** emerged as the most highly appreciated session, receiving the highest feedback scores. Students valued the symbolic significance of donning their white coats in the presence of senior doctors, which instilled a sense of pride, motivation, and professional identity among the students. A study conducted by Ganesh et al. also highlighted the conduct of white coat ceremony in which the students were able to express the understanding and impression of the white coat.[3]

Previous studies on the one-month foundation course highlight both benefits and challenges. Garg et al. noted its role in easing student transitions but reported redundancy and repetition of topics due to its lengthy structure.[4] Deepika et al. found that a shorter duration could be more effective, as per faculty perspectives.[5]

A common finding across all studies, including ours, was that interactive and hands-on sessions such as Skill Lab visits and BLS training. Active learning sessions were highly appreciated by students, indicating their effectiveness in stimulating the learning process.[4-6] The Baruah et al. study also noted that interactive teaching methods enhanced student participation, while the Deepika et al. study specifically recommended reducing teacher-centered approaches in favor of student-driven learning.[5,6]

Overall, the course was well-received, with all sessions scoring above **4 on a 5-point scale**. Students particularly appreciated sessions that involved hands-on learning and active participation, such as: **Visit to the Skill Lab and Simulation Center, Basic Life Support (BLS) Training, Biomedical Waste Management, Universal Precautions & Hand Hygiene Practices, Time Management & Prioritization Skills, Sports Activities, Visits to Primary and Community Health Centres.**

These sessions facilitated small group discussions, team-building activities, hands-on training, and interactive learning, all of which encouraged students to actively participate in their education. higher-order thinking. The interactive and engaging nature of these sessions encouraged critical analysis, problem-solving, and active participation, enhancing overall learning outcomes.

Some sessions, including **Challenges of the Present Generation, Yoga Sessions, Alternate Health Systems - Philosophy of Yoga, History of Outbreaks, Epidemics & Pandemics, Gender Sensitization, and Computer Skills (PowerPoint Presentations),** were identified as areas which needs improvement. Students reported that these sessions were more teacher-centred and less interactive. Future iterations should incorporate more real-world case discussions, technology-driven learning, and interactive

teaching strategies to improve engagement.

Our study observed that sessions on Microsoft Word and PowerPoint felt too basic very similar to the observation made by Deepika et al., This highlights the need to incorporate AI and advanced technology sessions to meet student requirements.[5]

In our study, repetitive topics such as professional ethics and code of conduct were a common concern.

Additionally, some students noted **repetition in topics such as the Code of Conduct, Professional Ethics, and Expectations from MBBS Students**. Future sessions should be planned to streamline content delivery, reducing overlap while maintaining core learning objectives. Further suggestions included **sessions on sexual and reproductive health, cybersecurity, and additional activities to improve peer interactions**.

A key strength of the program was its **successful implementation and evaluation** for all 126 students who enrolled before the start of the course. The participation rate was 100%, with every student completing the feedback questionnaire. The success of the program was largely attributed to **effective teamwork, meticulous planning, and strong faculty collaboration**.

Our evaluation highlighted both the advantages and challenges of implementing a structured foundation course. The **14-day execution of the foundation course was highly successful**, with strong student satisfaction, demonstrating that a well-planned and effectively delivered program can meet learning objectives even within a shorter duration. The revised **80-hour curriculum** was efficiently executed, ensuring faculty coordination, eliminating redundancy, and keeping students engaged.

Since the **National Medical Commission (NMC) has mandated a two-week foundation course across all medical colleges in India**, our experience provides valuable insights for other institutions on **planning, implementation, and evaluation**. While following NMC guidelines, colleges can make **contextual modifications** to optimize student engagement.

Ongoing evaluation and feedback incorporation will be essential for **enhancing future foundation courses**, ultimately ensuring a **more effective and engaging** learning experience for incoming medical students.

Ethical and professional development modules were well received across all studies. In our study, the White Coat Ceremony was the highest-rated session, reinforcing students' sense of professional identity. The Dibrugarh study also noted that professional behavior and ethical awareness significantly improved post-course, similar to the findings of the Deepika et al. study, which emphasized the importance of integrating real-world ethical case discussions to enhance student understanding.[5,6]

Across all studies, the foundation course was recognized as an essential intervention for first year MBBS students.

Our study demonstrated that a well-structured two-week foundation course is sufficient to meet learning objectives, aligning with national trends while allowing flexibility for future refinements based on student needs.

CONCLUSION:

Based on these findings, a two weeks foundation course emerges as an optimal duration, balancing comprehensive coverage with efficient execution, ensuring a smooth transition into medical education.The students were sensitized to the competencies and objectives of the Indian Medical Graduate (IMG) from the beginning of their profession. Most of the students gained knowledge, skills as well as confidence. Moving forward, follow-up studies should be conducted to assess the long-term impact of the foundation course on students' behavior and performance in real-world clinical settings.

Suggestions For Future Course By The Students:

1. Incorporating AI –powered tools and advanced technologies into foundation course modules, can create more interactive and effective learning environment. 2. Introduction of interactive sessions on finance management, stress management techniques, and reproductive health education can help students to navigate life challenges with confidence.

Disclosure:

The authors declare no conflict of interest. No funding was received for this study.

Acknowledgement:

We acknowledge the continuous support and guidance of our principal, Dr. A K Deorari for providing valuable feedback and suggestions for revising the course contents.

Conflict Of Interest: None

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