

Access this article online
Quick Response Code:

Website: www.jehp.net
DOI: 10.4103/jehp.jehp_294_20

Analysis of feedback from first-year undergraduate medical students who attended foundation course at a teaching institution in South India

Tinju James, Thekkuttuparambil Ananthanarayanan Ajith¹, Donia Joson, Betsy Thomas²

Abstract:

BACKGROUND: Medical Council of India has suggested competency-based curriculum for undergraduate students to make it learner centric. One-month "Foundation course" was introduced at the beginning of the course to promote better adaptation to the new curriculum. A cross-sectional study was conducted to analyze the feedback from students who attended the foundation course.

MATERIALS AND METHODS: All first-year Bachelor of Medicine and Bachelor of Surgery students who underwent 1-month foundation course were included in the study. The course was conducted in six modules. All the sessions were handled by efficient resource people and conducted in an interactive manner. A form in which response against each topic/talk was graded as average, good, or excellent was used to obtain the feedback. Data were analyzed using Statistical Package for Social Sciences 16 software. Responses among various modules were subjected to Chi-square two-sided test with Yates's correction.

RESULTS: A total of 98 students (32 males and 66 females) attended the foundation course of 21 days. Among the modules conducted, basic skill training module was scored excellent (67%) remarks, followed by sports and extracurricular activities (64.6%) ($P = 0.8806$). Among the skill training module, both basic life support training and first aid on medicine/pediatrics achieved 92% excellent score. One of the orientation module sessions, research methodology, scored least. The descending order of excellent remarks was skill module > sports and extracurricular activities > field visit to the community and primary health center > orientation modules > enhancement of language.

CONCLUSION: Attention should be given to include more topics concerned to the modules of skill training and extracurricular activities in upcoming years. Foundation courses can increase the confidence and better adaptability of the students toward a new environment.

Keywords:

Basic life support, competency, first aids, Indian Medical Graduate, skill

Department of Physiology, Amala Institute of Medical Sciences, Thrissur, Kerala, India, ¹Department of Biochemistry, Amala Institute of Medical Sciences, Thrissur, Kerala, India, ²Department of Obstetrics and Gynecology, Amala Institute of Medical Sciences, Thrissur, Kerala, India

Address for correspondence:

Dr. Tinju James,
Department of Physiology,
Amala Institute of Medical
Sciences, Amala Nagar,
Thrissur - 680 555, Kerala,
India.
E-mail: tinjuabel@gmail.com

Received: 01-04-2020
Accepted: 01-10-2020
Published: 28-01-2021

Introduction

Medical Council of India (MCI) has revised the curriculum for undergraduate medical education program. The aim of the present curriculum is to address the competencies as well as to make it learner centric.^[1] Training of a wide spectrum of domains needs to be

included which demands great commitment such as exposure to human interactions as well as interpersonal relationships in hospitals, communities, and clinics. This learning should be continued lifelong with resilience and dedication.^[2] The students in India enter the medical education at a relatively younger age, mostly <18 years of age. Since the students are coming from different socioeconomic and cultural

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: James T, Ajith TA, Joson D, Thomas B. Analysis of feedback from first-year undergraduate medical students who attended foundation course at a teaching institution in South India. *J Edu Health Promot* 2021;10:8.

backgrounds, they have difficulties in coping up with the curriculum. Previous studies were concluded the need for the foundation program at the entry level to adapt the academic challenges in the medical profession.^[3,4] In addition to this, the need for an orientation program for interns in medical education is also emphasized.^[5-7]

Psychological factors such as homesickness, parental pressures, language problems, adjustments to hostel life, and food may contribute a significant level of stressors. Furthermore, many students who join the course are overburdened with the expectations of family, relatives, friends, and society.^[8] Considering all these, a period of adaptation to the new environment is needed. Hence, the foundation course should be conducted at the beginning of the course to make a smooth transition of students from education at the school level to professional college to get the right orientation. Therefore, MCI recommends a foundation course for the undergraduate medical education program.^[2] One-month "Foundation course" at the beginning of the undergraduate medical courses aimed to orient and sensitize the students to learn about effective communication, language, and computer and also to provide time for interacting with faculties and peers.^[2] Since the MCI has recommended a foundation course associated with the competency-based medical curriculum for the Indian Medical Graduates, analysis of the feedback from the students will be a welcome addition to its improvisation in the coming years. Hence, the present study aimed to look at the feedback of students on the foundation course.

Materials and Methods

Study design and procedure

A cross-sectional study was conducted among the first-year Bachelor of Medicine and Bachelor of Surgery (MBBS) students of 2019 batch of a private medical college, Kerala, South India. All the students who joined the course before August 1 were included in the study. Students who joined course but later migrated to other colleges as a part of their higher options and those who joined after the foundation course were excluded from the study. The study was done according to the guidelines of the institutional research committee. Since the study was based on a feedback analysis, it was not subjected to the institutional ethics committee approval. The course was conducted August 2019 and the 1-month course was organized by Medical Education Unit of the institution. Six sessions were conducted per day as four sessions in the forenoon for topics of the modules other than the sports and extracurricular activities which were conducted in the afternoon session. Each topic in the forenoon session was conducted for a duration

of a maximum 50 min, followed by a 10-min open discussion. The total duration of the course was 121 h to complete the topics (excluding inauguration and white coat ceremony). Seventy-one resource people who were not below the rank of assistant professor were invited for delivering as well as demonstrating the sessions. The course was coordinated by faculties of preclinical departments. All the resource people were informed about the purpose of the course and directed to conduct the sessions on an interactive basis. The major components of the foundation course were suggested by the MCI.^[2] They were as follows:

1. Orientation program meant to orient the students to the medical profession and MBBS program.
2. Basic skill module sessions such as basic life support (BLS), first aid, universal precautions, biomedical waste, and safety management
3. Field visit to Community and Primary Health Centre to promote orientation to the health-care delivery system and the interaction with health-care workers, patients, and their families
4. Professional development including ethics to provide a better understanding about clinical competency, communication skills, and sound ethical principles that is needed for the effective medical care
5. Sports and extracurricular activities were included to demonstrate the significance of work-life balance in a demanding profession and also to provide an opportunity for students to have compulsory physical activity and to express their talents
6. Enhancement of language/computer skills/learning skills which provide an opportunity for the students to learn the language and computer skills, and also to be involved in various learning methodologies such as small group discussions, skills laboratory, simulation, and concept of self-directed learning.

Details of topics under each module are given in Table 1. A feedback form was designed with grading such as average, good, and excellent against each topic. Students were directed to mark their response against each topic as average, good, or excellent in the feedback form based on the overall presentation of the topic as they felt. The responses were collected immediately after the completion of each session. The number of response was calculated in percent for each topic. The overall response against each module was calculated as the average of responses obtained for all the topics under that module.

Statistical analysis

Data were expressed as percent and analyzed using Statistical Package for the Social Sciences (v16, IBM, Chicago, Illinois, US) software. Good and excellent responses among various modules were subjected to Chi-square two-sided test with Yates's correction. $P < 0.05$ was considered significant.

Table 1: Details of topics under each module conducted for the foundation course

1. Orientation module	2. Skill module
Introduction to Institution/rules and regulations/facilities/campus	Demonstration on basic life support
Facility visit of Preclinical departments	First aid in orthopedics
History and evolution of medical profession	Demonstration on first aid in medicine/pediatrics
Expectations of society from doctors, expectations of patients from doctors, and expectations of doctors from colleagues	Demonstration on first aid in surgery
Role of family physician: Concept and principles of family practice	Concept of immunization and vaccinations required for health-care professionals
Introduction to MBBS curriculum and university regulations of first-year course	Universal work precautions
Field visit to Community Health Centre	Demonstration of proper handwashing and use of personnel protective equipments
Introduction to Ayurveda and Homeopathy	Proper method of documentation in patients care
Research in Medical field	Simulation-based learning, skill laboratory, and virtual reality in medical field
	Biowaste management
3. Community orientation module	4. Professional development and Ethics module
Discussion on National Health Policies	Gender sensitivity in etiquettes and manner
Interactive session on introduction to noncommunicable diseases and maintaining healthy lifestyle	Working as a part of health-care team
Role play on communication with patients and bystanders	Maintaining honesty, integrity, and respect in interpersonal relationships within a health-care team
	Medical ethics, attitude, and communication
	Symposium on stress management
	Assessment-driven learning
	Concept of professionalism and ethics
	Disability competency
	Interactive session on learning strategies
	Introduction and relevance of AETCOM module
	Interactive session on self-directed learning
	Striking a balance between professional life, personnel life, and expenditures/economic life
5. Enhancement of language and computer skill	6. Sports and extracurricular activities
Mastering of English	Yoga
Mastering in regional language	Zumba
Explaining disease to a patient in regional language	Badminton
Enhancement of computer skill	Meditation
	Photography
	Bringing out leader in you
	General knowledge quiz
	Road safety
	Music as meditation
	Responsible and mature handling of social media

Results

A total of 98 students (32 males and 66 females) attended the foundation course of 21 days. A total of 71 resource people were included in the study. Responses against each module were rated as average, good, and excellent. All the students who had attended the session were marked their responses in the feedback form. The details of the responses to the six modules are given in Table 2. The overall average, good, and excellent responses for the orientation program module were 7.1%, 36.7%, and 56.1%, respectively, whereas skill session module scored 67.3% excellent remarks and 32.6% good remarks. No statistically significant difference ($P = 0.8806$) was found between the excellent remarks of skill session module from others. Fifty-eight percent of the students

gave excellent remarks for professional development including ethics and enhancement of language, computer skills, and learning skills.

Of the six modules, basic skill sessions scored a maximum percentage of excellent remark (67.3%), followed by sports and extracurricular activities which scored an excellent remark of about 64.6%. Among the first aid-based topics, first aid in orthopedics, surgery, and medicine and Pediatric were covered. Among these topics, the excellent responses were 76%, 89%, and 92% [Figure 1]. The excellent response obtained for first aid in medicine and pediatric was statistically significant ($P = 0.0027$) difference from other first aid sessions. However, no statistically significant difference ($P = 0.4356$) was found between the good and

Table 2: Overall students' responses against six main modules of the foundation course

Module	Average (%)	Good (%)	Excellent (%)
Orientation program	7.0 (7.1)	36.0 (36.7)	55.0 (56.1)
Basic skill module sessions	1.0 (1.0)	32.0 (32.6)	66.0 (67.3)
Field visit to Community and Primary Health Centre	5.0 (5.1)	39.0 (39.7)	54.0 (55.1)
Professional development including ethics	7.0 (7.1)	34.0 (34.6)	57.0 (58.1)
Sports and Extracurricular activities	3.0 (3.4)	31.5 (32.0)	63.5 (64.6)
Enhancement of Language/Computer skills/Learning Skills	5.0 (5.1)	37.0 (37.7)	55.5 (56.6)

n=98, Chi-square test=0.022, *P*=0.8806, no statistically significant difference found between excellent/good response in basic skill module and sports and extracurricular activities sessions

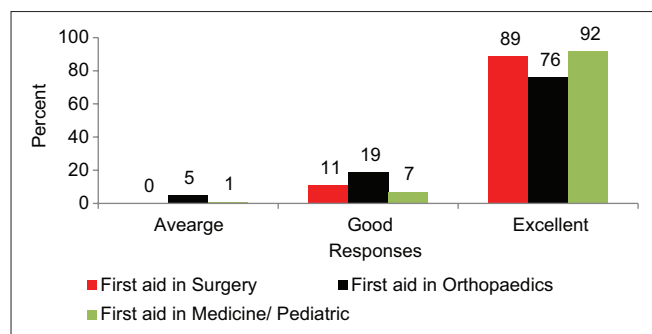


Figure 1: Distribution of students' responses against major sessions on first aid. Chi-square test 9.023, *P* = 0.0027, statistically significant difference found between excellent/good response in first aid in medicine/pediatric and other first aid sessions

excellent remarks among the BLS session from the first aid session. Demonstration on BLS gained 92% excellent opinion. The other sessions that received excellent remarks above 90% were role-play and interactive session on maintaining honesty, integrity, and respect in interpersonal relationships within a health-care team (96%); role-play and lecture on group dynamics and working as a part of health-care team (90%); interactive session on introduction to noncommunicable disease and maintaining healthy lifestyle (96%); and interactive session on striking a balance between professional life, personnel life, and expenditures/economic life (92%).

Among the orientation module topics, introduction to research methodology and scientific temper (15%) and how to write a research paper (24%) were scored less excellent remarks. Similarly, acts related to medical practice which scored only an excellent opinion of 10%. General knowledge quiz, bringing out the leader in you, and photography and Zumba were the extracurricular activities that scored excellent remarks [Figure 2]. There was a statistically significant difference (*P* = 0.0459) found between the good and excellent responses among the general knowledge quiz session from others.

Discussion

The results of this study revealed that the basic skill module sessions were attracted the first-year medical students very well, as evidenced by the excellent remarks obtained in the feedback. Followed by the basic skill

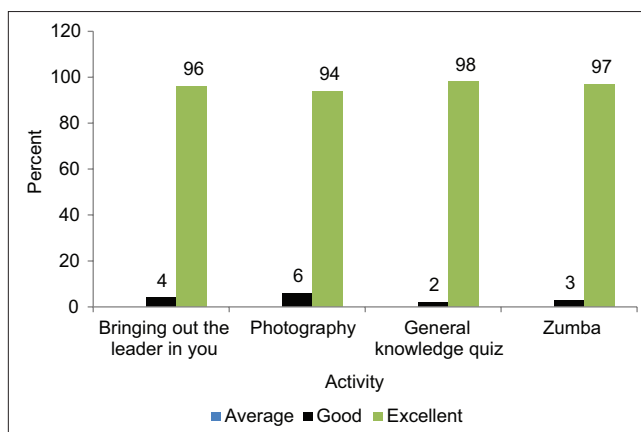


Figure 2: Distribution of students' responses against major sessions on sports and extracurricular activities. Chi-square test 3.984, *P* = 0.0459, statistically significant difference found between the good and excellent response among the general knowledge quiz session from others

module, sports and extracurricular activities scored excellent remarks. This may probably due to the attitude and age of students who join the medical course after the school environment. Among the total students, 92% marked sessions on BLS and first aid as excellent. The results of a cross-sectional study among the medical professionals in South India concluded that awareness of BLS such as recognition of signs of sudden cardiac arrest, cardiopulmonary resuscitation, and foreign-body airway obstruction is very poor.^[9]

The maximum number of students marked skill module sessions as excellent as they got a chance to visualize and understand the concepts. Furthermore, they could able to clarify their doubts there itself. Their responses suggested that as a beginner of medical profession, all were highly motivated in understanding the concepts related to basic skill module sessions. The finding was consistent with the results of a recent study, in which 66% first-year medical students gave excellent remarks in their feedback for the skill development.^[10,11] Medical students throughout their study are expected to acquire skills, knowledge, and professional attitudes.^[12] Therefore, exposing to skill development training at the very beginning of the course is a convenient method to enhance the efficacy to address the clinical problems.^[13,14]

Among the module of extracurricular activity, all the sessions scored >90% excellent remarks as they could interact with their peers. Zumba and photography were graded as excellent by 97% and 94% students, respectively. This raises the importance of physical as well as mind-relaxing activities during the academic life. The balance between extracurricular and curricular activities was found to provide good impact on academic performance.^[15,16] A positive correlation was reported between physical activity and academic achievement among the medical students in Saudi.^[17] In addition to the association of physical activity with cognitive function and academic achievement, it provides a viable approach to improve fitness and body mass index.^[18] Studies were reported the effect of yoga in decreasing mental distress and increase of well-being among medical students.^[19-21] Most of the topics were conducted in such a way that an effective and active participation of all students was ensured. Problem-based learning, a student-centered learning program rather than a traditional teacher-directed one, was recognized as a strategic learning system across the world.^[22,23]

The students were enthusiastically participated in the sessions, and chances were given to them for expressing their ideas. Majority of the students graded other topics in the foundation course as good. Despite all the sessions were interactive, topics in the orientation or professional development including ethics module were limited to work as a team or to express their knowledge due to relatively different topics to them. More than 80% of the students labeled the interactive sessions on expectations of society from doctors, expectations of patients from doctors, and expectations from colleagues. This emphasizes that the students who selected medical profession are enthusiastic to know their roles and responsibilities to the society at the beginning itself. Medical profession is a very challenging field that requires a lot of knowledge, skill, and ethics. Peer-learning activities could be essential to providing high-quality medical training.^[24] Hence, the basic orientation course should be given to the MBBS as they need to understand the role of an Indian Medical Graduate from the very beginning itself. Mittal *et al.* concluded after evaluating the importance of orientation course among the second-year MBBS students that the orientation course will lay a strong foundation for better understanding and learning of undergraduate courses.^[25] Kommula and Rao in their evaluation of the orientation program for first-year MBBS students concluded that the program is useful to acquire basic knowledge and skills required for all the subsequent phases in MBBS course.^[26]

Although there were variations in the feedback collected on six modules, the foundation course is better for the adaptation of the students to the new environment and

to orient them to the medical profession. The need of obtaining clinical skill, knowledge about professional ethics, health-care delivery system, and even the importance of physical activity in work-life balance were emphasized to the students at the earliest. In addition to intellectual ability, medical professionals are committed a lifelong to service to the society.^[27] Hence, it is necessary to propose the medical professionals during their course about the ethical qualities inherent in their professional development which will help them to incorporate the ethical qualities.^[28] Considering the module of professional development including ethics, the responses recommend that they need more time to understand the concepts related to it and the classes should be continued over the subsequent years of medical education to obtain a full benefit. Similarly, regular updates and simulation training in cardiopulmonary resuscitation skills also required for medical professional people to remain competent and knowledgeable.^[29]

Despite all the selected speakers were excellent in their field of expertise, the topics they presented did not get excellent grading. This may probably due to poor presentation or week interaction with the students. This highlighted the need for a well-planned session in which all the students should have adequate interaction with each other. Further, field visits should be designed to cater the minimum essential need of a medical student who joins the course after the school education. In the feedback form, only three levels of grading were included as average, good, and excellent which could be one of the limitations of the study. Furthermore, no topic-based evaluation questionnaire was implemented to know the knowledge gain in each topic before and after the course.

Conclusion

Skill module and sports and extracurricular activities module were attracted to medical students. Therefore, attention should be given to include more topics concerned to the modules of skill training and extracurricular activities in upcoming years. Foundation course conducted at the beginning of the new MBBS curriculum has a positive role in a smooth transition from school to professional college as it can increase the confidence and better adaptability of the student toward the new environment.

Acknowledgments

The authors acknowledge members of the institutional curriculum committee for designing and implementing the foundation course.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Competency Based Undergraduate Curriculum. Available from: <https://www.mciindia.org/CMS/information-desk/for-colleges/ug-curriculum>. [Last accessed on 2019 Apr 16].
2. Medical Council of India. Foundation Course for the Undergraduate Medical Education Program. Medical Council of India; 2019. p. 1-46. Available from: https://www.mciindia.org/CMS/wp-content/uploads/2019/08/foundation-new_compressed.pdf. [Last accessed on 2019 Jul 28].
3. Singh S, Ghosh S, Pandya H. Foundation program for MBBS students at entry level: Experience at an Indian medical school. *South East Asian J Med Educ*. 2007;1:33-7.
4. David MA. Foundational orientation program for medical students. *Educ Med J* 2013;5:140.
5. Hannon FB. A national medical education needs' assessment of interns and the development of an intern education and training programme. *Med Educ* 2000;34:275-84.
6. Goel A, Venkat R, Kumar A, Adkoli BV, Sood R. Structured internship orientation program for undergraduate students: Easy transition to clinical work. *Natl Med J India* 2010;23:160-2.
7. Bansal RK. Need for strengthening of internship (rotatory housemanship) training in India. *Educ Health (Abingdon)* 2004;17:332-8.
8. Devi NJ, Kumari AS, Murty DS. The impact of orientation program for first M.B.B.S students in the transformation of perceptual learning into experiential learning – An insight. *Int Dent Med Sci* 2016;15:40-5.
9. Chandrasekaran S, Kumar S, Bhat SA, Saravanakumar, Shabbir PM, Chandrasekaran V. Awareness of basic life support among medical, dental, nursing students and doctors. *Indian J Anaesth* 2010;54:121-6.
10. Anant C, Sayantani M, Arijit D. A study on impact of orientation program and foundation course at entry level on first-year MBBS students. *Global J Res Analysis* 2020;9:62-5.
11. Bauml R, Benbassat J. Current trends in the educational approach for teaching interviewing skills to medical students. *Isr Med Assoc J* 2008;10:552-5.
12. Pangaro L. A new vocabulary and other innovations for improving descriptive in-training evaluations. *Acad Med* 1999;74:1203-7.
13. Taylor D, Mifflin B. Problem-based learning: Where are we now? *Med Teach* 2008;30:742-63.
14. Shankar P, Karki B, Thapa T, Singh N. Orientation Program for undergraduate medical students: Knowledge, attitudes and perceptions. *Educ Med J* 2012;4:57-63.
15. Lumley S, Ward P, Roberts L, Mann JP. Self-reported extracurricular activity, academic success, and quality of life in UK medical students. *Int J Med Educ* 2015;6:111-7.
16. Slade AN, Kies SM. The relationship between academic performance and recreation use among first-year medical students. *Med Educ Online* 2015;20:25105.
17. Al-Drees A, Abdulghani H, Irshad M, Baqays AA, Al-Zhrani AA, Alshammari SA, et al. Physical activity and academic achievement among the medical students: A cross-sectional study. *Med Teach* 2016;38 Suppl 1:S66-72.
18. Donnelly JE, Lambourne K. Classroom-based physical activity, cognition, and academic achievement. *Prev Med* 2011;52 Suppl 1:S36-42.
19. Malathi A, Damodaran A. Stress due to exams in medical students-role of yoga. *Indian J Physiol Pharmacol* 1999;43:218-24.
20. Simard AA, Henry M. Impact of a short yoga intervention on medical students' health: A pilot study. *Med Teach* 2009;31:950-2.
21. Fares J, Fares Y. The Role of Yoga in Relieving Medical Student Anxiety and Stress. *N Am J Med Sci* 2016;8:202-4.
22. Gwee MC. Problem-based learning: A strategic learning system design for the education of healthcare professionals in the 21st century. *Kaohsiung J Med Sci* 2009;25:231-9.
23. Gwee MC, Tan CH. Problem-based learning in medical education: The Singapore hybrid. *Ann Acad Med Singapore* 2001;30:356-62.
24. Field M, Burke JM, McAllister D, Lloyd DM. Peer-assisted learning: A novel approach to clinical skills learning for medical students. *Med Educ* 2007;41:411-8.
25. Mittal R, Mahajan R, Mittal N. Foundation programme: A student's perspective. *Int J Appl Basic Med Res* 2013;3:52-4.
26. Kommula VM, Rao AS. Evaluation of orientation program for the first year undergraduate medical students. *Natl J Med Dent Res* 2017;5:271-3.
27. Hulsman RL, van der Ende JS, Oort FJ, Michels RP, Casteelen G, Griffioen FM. Effectiveness of selection in medical school admissions: Evaluation of the outcomes among freshmen. *Med Educ* 2007;41:369-77.
28. Sandovala LY, Rodríguez-Sedanob A, Ecimac I. Ethical qualities of professional development of the educator a humanistic perspective needed to manage a new way to see the quality of education. *Procedia Soc Behav Sci* 2010;2:2589-93.
29. Perkins GD, Hulme J, Bion JF. Peer-led resuscitation training for healthcare students: A randomised controlled study. *Intensive Care Med* 2002;28:698-700.