

Impact of Early Clinical Exposure on First-year Medical Undergraduates: Student's Perspective

Kusum Singla¹, Manju Chenicherry², Bishamber D Toora³, Ritu Sharma⁴

Received on: 26 April 2023; Accepted on: 30 September 2023; Published on: 30 December 2023

ABSTRACT

Introduction: Early clinical exposure (ECE) as a teaching method is a very significant element of competency-based medical education (CBME) introduced by the Medical Council of India (MCI) in 2019. In the traditional curriculum, teacher-centered classes with a vast syllabus covered in a short period in the first year without any clinical correlation make the subject dry and uninteresting. ECE helped the students recollect their relevant basic science knowledge and establish the bridge between the basic concepts and the clinical knowledge. Also helps in improving learning and recollecting knowledge, which is very important to transform medical students into competent physicians of first contact. ECE sessions improve their academic strength and help improve both communicable and clinical skills that help make the undergraduates more confident.

Aim: To evaluate the first-year MBBS students' perception of the impact of ECE on their overall academic improvement and learning process.

Results and discussion: A total of 74.2% of students think that more and more topics should be included in the ECE for better understanding and retention of the topic as 83% find ECE very useful in the first year and an important part of their education. However, 73.9% of students also commented that ECE should be conducted in a hospital setup compared to the classroom or community setup.

Conclusion: From the present study, we can conclude that ECE is a better learning tool for learners compared to a traditional curriculum. Students enjoy the ECE part as it makes their basic subjects more interesting and relevant, although further research on the large number of students can be useful.

Keywords: ECE, Medical students, Undergraduates.

Journal of Medical Academics (2023): 10.5005/jp-journals-11003-0131

INTRODUCTION

Early clinical exposure (ECE) is a teaching method in a new curriculum, competency-based medical education (CBME), introduced by the National Medical Commission in 2019.¹ In ECE, students get exposed to the clinical environment and the patient as early as in the first year of MBBS.² ECE has been adopted by many medical colleges all over the world. It helps in bridging the gap between the early preclinical subjects and the clinical side.³ Entrance exam for medical education is entirely based on the student's academic performance, and that is also theoretical.⁴ In the traditional curriculum, long study hours in the classroom, voluminous syllabus, new vocabulary, and mainly theoretical facts without any exposure to the clinical setup are some of the challenges faced by the students in their very first year.⁵ Teacher-centered classes with a vast syllabus covered in a short period in the first year without any clinical correlation make the subject dry and uninteresting.⁶ Students could not recollect the relevant knowledge of basic science during their clinical postings and could not correlate.^{7,8} So ECE has been introduced as an important part of the CBME by the Medical Council of India (MCI) and is now followed by all the colleges and universities. ECE helped the students recollect their relevant basic science knowledge and establish the bridge between the basic concepts and the clinical knowledge.^{9,10} ECE has a wide-ranging definition that includes community contact, early student-patient contact, and ECE, which makes the students motivated and more interested in basic science subjects.¹¹ It also helps in improving learning and recollecting knowledge, which is very important to transform medical students into competent physicians of first contact.¹² ECE sessions improve their academic

^{1,3}Department of Biochemistry, Army College of Medical Sciences, Delhi, India

^{2,4}Department of Physiology, Army College of Medical Sciences, Delhi, India

Corresponding Author: Ritu Sharma, Department of Physiology, Army College of Medical Sciences, Delhi, India, Phone: +91 9717438306, e-mail: drritusharma2021@gmail.com

How to cite this article: Singla K, Chenicherry M, Toora BD, *et al.* Impact of Early Clinical Exposure on First-year Medical Undergraduates: Student's Perspective. *J Med Acad* 2023;6(2):46–48.

Source of support: Nil

Conflict of interest: Dr Ritu Sharma is associated as the Co-Executive Editor of this journal and this manuscript was subjected to this journal's standard review procedures, with this peer review handled independently of this editorial board member and her research group.

strength and help in improving both communications as well as clinical skills that help in making the undergraduates more confident.^{2,13} Planning of ECE can be done in different settings like classroom settings,^{14,15} where the direct arrangement of the patient can be made or clinical case scenarios can be discussed using photographs or videos. X-rays or reports can be discussed. Secondly, in hospital-based settings,^{15,16} the learner comes in direct contact with the patient and can observe doctor-patient communication, relationship, and patient empathy. Third is the community setting, which helps to understand the problems of the community and the influence of living conditions on health.

Table 1: Perception of the students for the impact of ECE with a five-point Likert scale

S. no.	Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Relates basic subjects to clinics	–	–	18.2%	54.5%	27.3%
2	Makes the topic more interesting	1.1%	1.1%	10.2%	55.7%	31.8%
3	Better retention of the topic	–	2.3%	14.8%	58%	25%
4	Increases self-motivation	–	2.3%	17%	52.3%	28.4%
5	Makes the students familiar with the hospital setup	1.2%	2.3%	4.5%	59.1%	33%
6	Motivate for self-study	1.1%	5.7%	21.6%	47.7%	23.9%
7	Helps to learn the duties of a doctor	1.1%	1.1%	14.8%	60.2%	22.7%
8	Improves academics	1.1%	3.4%	21.6%	53.4%	20.5%
9	Improves communication skills	1.1%	1.1%	11.4%	51.1%	35.2%
10	A better understanding of the topic	–	–	11.4%	68.2%	20.5%
11	Encourage them to study more	–	1.1%	26.1%	54.5%	18.2%
12	Makes you feel proud to be a doctor	–	–	12.5%	48.9%	38.6%

Thus, the present study is carried out with the aim of evaluating the first-year MBBS students' perception of the impact of ECE on their overall academic improvement and learning process.

MATERIALS AND METHODS

The present study was conducted among the first-year MBBS students of the Army College of Medical Sciences, Delhi Cantt, New Delhi. The online survey was done using a pretested, self-designed questionnaire. A total of 100 students of first-year MBBS who have already spent 5–6 months in their first year and are sensitized to ECE were voluntarily included in the study, but only 88 responded.

The aims and objectives of the study were explained, and prior informed consent was taken. A set of questionnaires based on the impact of ECE on medical education was given in the form of Google Forms, and data was collected.

RESULTS

In the present study, 54.5% agreed, and 27.3% strongly agreed that ECE helps them to correlate the basic subjects with the clinics. Around 58% of the learners agreed that ECE helps them to retain the topic better, and 53.4% agreed that it also improves their academics. About 68.3% agreed that ECE helps them understand the topic better and also motivates and encourages (54.5% agreed) them to study more. The detailed feedback that was collected from the students and the results are summarized in [Table 1](#).

DISCUSSION

The traditional curriculum was based more on theoretical knowledge, especially in basic sciences as medical education moves to CBME with defined goals and objectives that include foundation courses and ECE. Introduction of ECE would help them to build a strong foundation as ECE exposes them to many other relevant topics like the art of history taking, clinical examination of a patient, and appreciating/understanding common signs and symptoms of some common diseases like anemia and jaundice. ECE also helps them to know about the common investigation and their interpretation. ECE, which is conducted in a hospital setting, would make the topic interesting for the learner as the final dream of an undergraduate to become a clinician. ECE has also become popular as it decreases the gap between theoretical knowledge and its application in clinics. Both faculty and students play important

roles in the conduction of ECE as it is not a one-sided teaching and learning process. Students can be passive observers, active observers, actors in rehearsal, and actors in performance.¹ Faculty plays the role of facilitator and guides students in active learning through self-reflection and participation in ECE.

Early clinical exposure (ECE) also plays a role in enhancing the knowledge of the faculty and keeps them updated about the subject. They also have to design their lecture based on clinical scenarios, which further enhances the learning and retention of topics.

The present study concludes that 54.5% of the students agreed and 27.3% strongly agreed with the fact that ECE correlates the basic subjects with clinics; this finding is consistent with various other studies.^{7,16–19} Satishkumar et al.⁷ and Kar et al.²⁰ conclude in their studies that ECE improves academic performance which correlates with the present study which says 53.4% agree, and 20.5% strongly agreed that ECE improves academics. A study by Sirsikar et al.¹² says that 26.6% of learners strongly agreed, and 58% agreed that ECE helps in better retention of the topic that corresponds with the present study (25% strongly agreed and 58% agreed for the same). In the present study, 60.2% agreed, and 22.7% strongly agreed that ECE helps them learn the duties of the doctor, increases self-motivation (52.3.7% agreed and 28.4% strongly agreed), and also motivates them for self-study hence building a sense of professionalism. Tsai, Howe et al., Dornan et al., and McLean et al. also share similar views in their respective studies.^{21–24} Around 74.2% of students think that more and more topics should be included in the ECE for better understanding. And retention of the topic. A total of 83% find ECE to be very useful in the first year and an important part of their education. ECE can be conducted in a hospital setup, community setup, or classroom setup, but 73.9% of students also commented that ECE should be conducted in a hospital setup as compared to the classroom or community setup. This makes them more familiar with the hospital setup and helps them learn more about doctor-patient communication and relationships.

CONCLUSION

Early clinical exposure (ECE) is a very important and fruitful element of the CBME. It helps in building better undergraduates academically as well as clinically. It improves their clinical skill and communication skills and also motivates them to think critically and

deeply. From the present study, we can conclude that ECE is a better learning tool for learners as compared to a traditional curriculum. Students enjoy the ECE part as it makes their basic subjects more interesting and fruitful.

REFERENCES

1. Tayade MC, Latti RG. Effectiveness of early clinical exposure in medical education: settings and scientific theories – review. *J Educ Health Promot* 2021;10:117. DOI: 10.4103/jehp.jehp_988_20
2. Ogur B, Hirsh D, Krupat E, et al. The Harvard Medical School-Cambridge integrated clerkship: an innovative model of clinical education. *Acad Med* 2007;82(4):397–404. DOI: 10.1097/ACM.0b013e31803338f0
3. Shah N, Desai C, Jorwekar G, et al. Competency-based medical education: an overview and application in pharmacology. *Indian J Pharmacol* 2016;48(Suppl 1):S5–S9. DOI: 10.4103/0253-7613.193312
4. Mandal A, Ghosh A, Sengupta G, et al. Factors affecting the performance of undergraduate medical students: a perspective. *Indian J Community Med* 2012;37(2):126–129. DOI: 10.4103/0970-0218.96104
5. Swaminathan A, Viswanathan S, Gnanadurai T, et al. Perceived stress and sources of stress among first-year medical undergraduate students in a private medical college – Tamil Nadu. *Natl J Physiol Pharm Pharmacol* 2016;6(1):9–14. DOI: 10.5455/njppp.2015.5.1909201574
6. Patel V, Patel PR. MCI regulations on graduate medical education 2012 – are we ready for paradigm shift? *NHL J Med Sci* 2012;1(1):5–6.
7. Sathishkumar S, Thomas N, Tharion E, et al. Attitude of medical students towards early clinical exposure in learning endocrine physiology. *BMC Med Educ* 2007;7:30. DOI: 10.1186/1472-6920-7-30
8. Savitha D, Iyengar A, Devarbhavi H, et al. Early clinical exposure through a vertical integration programme in physiology. *Natl Med J India* 2018;31(5):296–300. DOI: 10.4103/0970-258X.261191
9. Miglani AK, Arora R. Introduction of early clinical exposure (ECE) in 1st year M.B.B.S students in the department of physiology. *Int J Physiol* 2020;8(1):9–14. DOI: 10.37506/ijop.v8i1.9
10. Littlewood S, Ypinazar V, Margolis SA, et al. Early practical experience and the social responsiveness of clinical education: systematic review. *BMJ* 2005;331(7513):387–391. DOI: 10.1136/bmj.331.7513.387
11. Liu CI, Tang KP, Wang YC, et al. Impacts of early clinical exposure on undergraduate student professionalism—a qualitative study. *BMC Med Educ* 2022;22(1):435. DOI: 10.1186/s12909-022-03505-5
12. Sirsikar MN, Deepthi M, Shailaja A, et al. Role of early clinical exposure as an effective new teaching and learning tool in competency-based undergraduate medical curriculum. *Int J Recent Sci Res* 2021;12(06 A):41883–41887. DOI: 10.24327/ijrsr.2021.1206.5982
13. Tayade MC, Latti RG. Perception of medical faculties towards early clinical exposure and MCI Vision 2015 documents in Western Maharashtra. *J Clin Diagn Res* 2015;9(12):CC12–CC4. DOI: 10.7860/JCDR/2015/15875.6986
14. Shah C. Early clinical exposure—why and how? *J Educ Technol Health Sci* 2004;5(1)2–7. DOI: 10.18231/2393-8005.2018.0002
15. Vyas R, Sathishkumar S. Recent trends in teaching and learning in physiology education early clinical exposure and integration. *Int J Basic Applied Physiol* 2004;1(1):175–181.
16. Chari S, Gupta M, Gade S. The early clinical exposure experience motivates first year MBBS students: a study. *Int J Edu Sci* 2015;8(2):403–405. DOI: 10.1080/09751122.2015.11890261
17. Basak O, Yaphe J, Spiegel W, et al. Early clinical exposure in medical curricula across Europe: an overview. *Eur J Gen Pract* 2009;15(1):4–10. DOI: 10.1080/13814780902745930
18. McLean M. Sometimes we do get it right! Early clinical contact is a rewarding experience. *Educ Health (Abingdon)* 2004;17(1):42–52. DOI: 10.1080/13576280310001656178
19. Duban S, Mennin S, Waterman R, et al. Teaching clinical skills to pre-clinical medical students: integration with basic science learning. *Med Educ* 1982;16(4):183–187. DOI: 10.1111/j.1365-2923.1982.tb01245.x
20. Kar M, Kar C, Roy H, et al. Early clinical exposure as a learning tool to teach neuroanatomy for first year MBBS students. *Int J Appl Basic Med Res* 2017;7(Suppl 1):S38–S41. DOI: 10.4103/ijabmr.IJABMR_143_17
21. Tsai M. Early exposure to global health raises self-awareness of medical novices on professionalism. *J Med Educ* 2019;23(201903):42–52. DOI: 10.6145/jme.201903_23(1).0003
22. Howe A, Dagley V, Hopayian K, et al. Patient contact in the first year of basic medical training—feasible, educational, acceptable? *Med Teach* 2007;29(2–3):237–245. DOI: 10.1080/01421590701294356
23. Dornan T, Littlewood S, Margolis SA, et al. How can experience in clinical and community settings contribute to early medical education? a BEME systematic review. *Med Teach* 2006;28(1):3–18. DOI: 10.1080/01421590500410971
24. Chen HC, ten Cate O, O’Sullivan P, et al. Students’ goal orientations, perceptions of early clinical experiences and learning outcomes. *Med Educ* 2016;50(2):203–213. DOI: 10.1111/medu.12885