Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

To Assess the Attitude of MBBS Students towards Implementation of Early Clinical Exposure Module in First Professional Year Subjects

Dr Arish Nazir shora[1], Dr Uzma Rasool[2], Dr Nowsheeba Khurshid[*3]

1Assistant Professor Anatomy Government Medical College Handwara
2Assistant Professor Anatomy Government Medical College Srinagar
3Assistant Professor Anatomy GMC Srinagar

Corresponding Author
Dr Nowsheeba Khurshid
Assistant Professor Anatomy GMC Srinagar
Email: nowsheebakhurshid@gmail.com

Abstract-

Introduction- The apex body of the medical education introduced new curriculum for the Indian Medical Graduates (IMG) with Early Clinical Exposure (ECE) as one of the modules in 2019. Limited studies on ECE implementation from India have been reported. So this study was planned to assess the attitude of MBBS students towards implementation of ECE module in first professional year subjects.

Material and Method- The present study was a questionnaire based cross-sectional study carried out on first year MBBS students regarding ECE. The ECE sessions were conducted following the recommendations given by the apex body. After completion of all the scheduled ECEs, at a prearranged time and day, the volunteering students were given a feedback questionnaire on the ECE module in the form of online Google form. Both, open-ended and closed- ended questions were included in the questionnaire asking opinions of the students on the ECE sessions and the suggestions, likes and dislikes about the session. Likert scale was used to rate the responses. Data was tabulated an analyzed.

Result- In current study, the mean age of the participants was 19±2.2years with female and male ratio to be 1:1. Maximally i.e. 57.11%students strongly agreed and only 2.68% students strongly disagreed to the ECE questionnaire stating the sessions to be interesting and their application for clinical knowledge in first year subjects to be effective. Many students i.e. 29(10.82%) believed that more ECE sessions should be held and others suggested that ECE classes should be held in hospital/community setting and smaller groups should be made for case discussion. Students maximally liked the case discussion in hospital and community setting along with audio visual case discussion.

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

Conclusion-

This study found that in the existing Indian medical school system, ECE is the most significant tool for enhancing professional abilities and attitude and the students viewed ECE as engaging, inspiring, and beneficial for the clinical application of basic sciences.

Keywords- MBBS Students, ECE, Early clinical exposure, Curriculum, IMG, Phase I etc.

Introduction-

The health care system of India has been always under pressure due to less number of doctors and increasing population of the country. So due to nation's growing healthcare needs, there has been an increase in the need for doctors during the last 20 years, which has led to the increase in number of the medical colleges ranking the country with highest number of medical colleges.[1] For regulatory authorities i.e. Medical Council of India (MCI), presently National Medical commission (NMC), biggest difficulty was to maintain the quality.[2] So significant alterations have been seen in India's medical education policies and methods throughout the past twenty years. In 2019, the apex body of medical education introduced Competency-Based Medical Education (CBME) Curriculum for the Indian Medical Graduates (IMG) with Early Clinical Exposure (ECE) as one of the modules in this curriculum.[3] ECE encourages medical students to see patients as early as Phase I in their first year of the medical college.[4] The principal goals of ECE for first-year medical students are to support their development in recognizing the value of basic sciences in the context of diagnosis, patient care, and therapy.

Additionally, it provides a contextual framework that enhances students' understanding of fundamental scientific concepts by closely linking them to patients' personal narratives of experience.[5,6] The advantages of ECE are well-supported by the literature. ECE increases student motivation, helps students build professional conduct, and aids in the learning of basic clinical skills.[7,8]

In terms of science, ECE bridges the gap between preclinical and clinical subjects by exemplifying a vertical integration paradigm. This integration pattern aligns academic learning with real- world clinical experiences, which not only reinforces theoretical knowledge with practical application but also cultivates a holistic grasp of medical topics.[6]

ECE also emphasizes the value of professionalism, ethics, and attitude in fostering the doctor-patient relationship from the very beginning of training, making it a crucial instrument for motivation in medical education. In order to increase basic scientific knowledge retention, demonstrate the relevance of fundamental medical science courses to clinical practice, and

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

successfully correlate the basic and clinical science subjects, numerous medical schools through out the world have adjusted their preclinical curricula.

MCI for the undergraduate curriculum also has highlighted the importance of ECE for students' ability to understand medical topics [9] and even prior attempts were also taken to apply ECE in India, but there was a perceived need to do it more regularly and comprehensively. [10,11] So by the apex body, it was finally implemented in 2019. Even though ECE has been implemented, there are still many obstacles to overcome to practice it at the medical college level in the current Indian context. These include the larger class sizes between100-250 students per MBBS batch and the dearth of qualified faculty, particularly in preclinical subjects.

It is wise, nevertheless, to ensure that these obstacles do not deter or weaken the implementation of ECE. So, numerous local and international medical education groups are currently investigating the effects of ECE on medical education and medical students. The search till done has mainly focused on developing a protocol that describes how ECE can be seamlessly incorporated into the undergraduate medical training curriculum and putting this protocol into practice by introducing ECE to first-year MBBS students and then assessing their impressions and comments. By evaluating student responses and opinions, these efforts seek to improve the caliber and effectiveness of ECE experiences for future medical professionals, which will ultimately contribute to a more stable and responsive medical education system.[12] There have been reports of ECE implementation in community settings, hospitals, and classrooms.[8]
Limited sessions or results for a single cohort are reported in the few publications on ECE implementation from India.[13] So, this study was planned to assess the attitude of MBBS students towards implementation of ECE module in first professional year subjects.

Material and Method-

The present study was a questionnaire based cross-sectional study carried out on first year MBBS students of Government Medical College, Handawara and Government Medical College, Srinagar for 4 months from January 2024 to April 2024 on the scheduled ECE topics. The study was done on 268 students after taking ethical approval from Institutional Ethical Committee. The written informed consent was obtained from the volunteers after explaining the procedure and purpose of the study. The study excluded students who did not want to participate and who did not attend any scheduled ECE sessions during the study period.

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

The apex body's recommended methods for conducting sessions and preparing ECE modules for the first year subjects were followed. The session was organized into four sections: exposure to clinical setting and discussion, summary and conclusion, reflection, and assignment. The learning objectives were established before hand by the subject faculty. The students were shown relevant YouTube videos and animated clinical case movies, as well as real patients and their medical records. The discussion of the clinical condition focused on the diagnosis, symptoms, and signs of the disease with a brief discussion of the therapy aspect as well. Students were asked to reflect on what they had learned in the session, and the seminars were designed to be as interactive and engaging as possible. Students received tasks on the topics at the end and formative assessment, which contained multiple- choice questions (MCQs) and case studies related to the topics was done. At a prearranged time and day, the volunteering students were given a feedback questionnaire on the ECE module, which was primarily created and validated after consulting experts in the field, shown in Figure1. The link to the online Google form was shared with all participants via email and a WhatsApp group. Both open-ended and closed-ended questions were included in the questionnaire. The purpose of the closed ended questions was to gauge students' opinions on the ECE sessions, while the open- ended questions asked about suggestions for how to make the session better and about the things they liked and disliked about the session. A 5- point Likert scale was used to collect the student responses to this closed-ended survey i.e. from strongly disagree=1 to strongly agree=5. After tabulating the results, statistical analysis was carried out.

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

Feedback of ECE	Strongly disagree = 1	Disagree = 2	Neutral= 3	Agree =4	Strongly agree = 5
1. ECE has changed my perspective of learning subjects					
2. ECE module makes learning basic science subjects more interesting/enjoyable as it breaks the monotony of didactic lectures					
3. ECE module has been helpful in improving my knowledge and better assimilation of the topic					
4. I am motivated to read further on this topic after participating in ECE					
5. ECE has helped me in understanding applied aspects of the topic					
6. ECE helped me to be sensitized to the clinical setting.					
7. Talking to real patients was very inspiring. It gives us an idea of how to approach real patients and inspires us to become ethical and responsible doctors.					
8. Case scenario helped to know how to read topic and correlate it.					
9. Case scenario compelled me to think beyond books, to combine different concepts and apply to solve the given case					
10. The technique will better equip me to apply the knowledge when the opportunity arises.					
11. The number of hours of ECE allotted to each subject was satisfying					
12. Discussion in groups was a good way to solve case as different ideas from different people make it very interesting.					
13. There was adequate student-student interaction during group discussion					
14. There was adequate student-teacher interaction during group discussion					
15. The format of reflection writing and feedback was justified and time given was adequate.					

Figure 1-Questionnaire for feedback of ECE

Result-

The present study was done on 268 first year MBBS students to assess their attitude towards ECE. The mean age of the participants was 19±2.2 years with female and male ratio to be 1:1 as shown in figure 2.

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

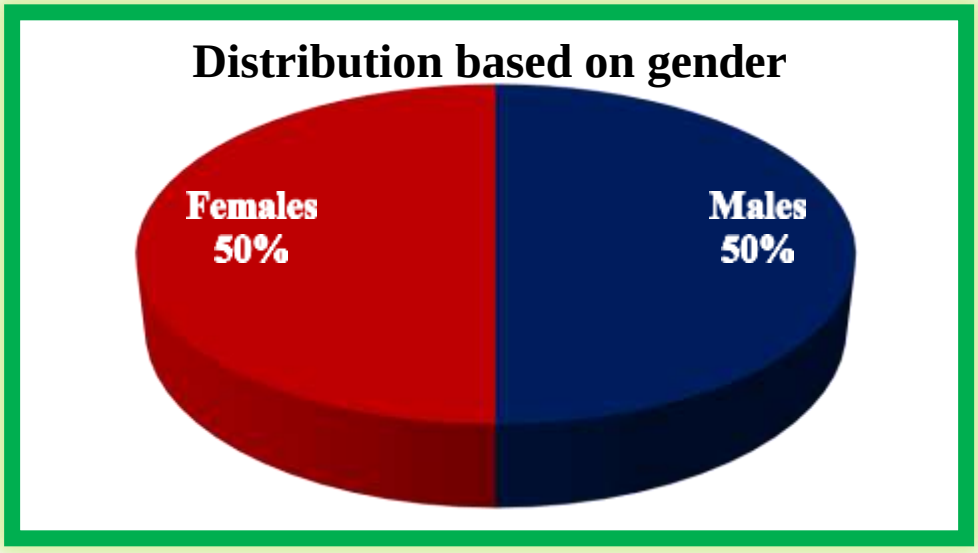

Figure 2-Distribution of students based on gender

Students after completion of the scheduled ECEs were given pre-validated questionnaire and the response to every question was rated as per Likert scale i.e. strongly disagree as 1, disagree as 2, neutral as 3, Agreeas 4 and strongly agree as 5. In present study, overall 2.68% students strongly disagreed, 5.39% disagreed, 12.26% were neutral, 22.53% agreed and 57.11% strongly agreed to the ECE questionnaire. 8(2.98%), 20(7.46%), 26(9.70%), 65(24.25%) and 149(55.59%) students strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively to question 1. 7(2.61%), 26(9.70%), 24(8.95%), 55(20.52%) and 156(58.20%) students strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively to question 2. 4(1.49%), 14(5.22%), 23(8.58%), 68(25.37%) and 159(59.32%) students strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively to question 3. To the next question 4 also maximally students strongly agreed i.e. 142(52.98%) followed by agreed, neutral, disagreed and strongly disagreed with 58(21.64%), 39(14.55%), 19(7.08%) and 10(3.73%) students respectively. Maximum participants strongly agreed followed by agreed, neutral, disagreed and strongly disagreed to questions 5,6,7 & 8 of the questionnaire with 159(59.32%), 54(20.14%), 29(10.82%), 20(7.46%) and 6(2.23%) participants respectively to question 5, 168(62.68%), 75(27.98%), 14(5.22%), 8(2.98%) and 3(1.11%) students respectively to question 6. Similarly, 170(63.43%), 63(23.50%), 25(9.32%), 7(2.61%) and 3(1.11%) students replied to question 7 and 161(60.07%), 57(21.26%), 32(11.94%), 12(4.44%) and 6(2.23%) participants replied to question 8 as strongly agreed followed by agreed, neutral, disagreed and strongly disagreed respectively.

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

In present study 4(1.49%), 16(5.97%), 30(11.19%), 46(17.16%) and 172(64.17%) students strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively to question 9. 4(1.49%), 10(3.73%), 33(12.31%), 65(24.25%) and 156(58.20%) students strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively to question 10. Further to question 11 and 12 also mainly participants strongly agreed, agreed, were neutral, disagreed and strongly disagreed with142(52.98%), 52(19.40%), 40(14.92%), 18(6.71%) and 16(5.97%) students to question 11 and 148(55.22%), 63(23.50%), 42(15.67%), 9(3.35%) and 6(2.23%) students respectively to question 12. To questions 13 and 15, maximally students strongly agreed, agreed, were neutral, strongly disagreed and disagreed with 135(50.37%), 60(22.38%), 56(20.89%), 9(3.35%) and 8(2.98%) to question13 and 146((54.47%), 56(20.89%), 39(14.55%), 14(5.22%) and 13(4.85%) respectively to question 15. Whereas to question 14, maximum students strongly agreed, agreed, were neutral, disagreed and strongly disagreed with 133(49.62%), 69(25.74%), 41(15.29%), 17(6.34%) and 8(2.98%) participants respectively.

Table1- Distribution of students based on the Likert scale of the questionnaire

Feedback of ECE		**Strongly disagree = 1**	**Disagree=2**	**Neutral=3**	**Agree=4**	**Strongly agree = 5**
1	ECE has changed my perspective of learning subjects	8 (2.98%)	20 (7.46%)	26 (9.70%)	65 (24.25%)	149 (55.59%)
2	ECE module makes learning basic science subjects more interesting/enjoyable as it breaks the monotony of didactic lectures	7 (2.61%)	26 (9.70%)	24 (8.95%)	55 (20.52%)	156 (58.20%)
3	ECE module has been helpful in improving my knowledge and better assimilation of the topic	4 (1.49%)	14 (5.22%)	23 (8.58%)	68 (25.37%)	159 (59.32%)
4	I am motivated to read further on this topic after participating in ECE	10 (3.73%)	19 (7.08%)	39 (14.55%)	58 (21.64%)	142 (52.98%)
5	ECE has helped me in understanding applied aspects of the topic	6 (2.23%)	20 (7.46%)	29 (10.82%)	54 (20.14%)	159 (59.32%)
6	ECE helped me to be sensitized to the clinical setting.	3 (1.11%)	8 (2.98%)	14 (5.22%)	75 (27.98%)	168 (62.68%)
7	Talking to real patients was very inspiring. It gives us an idea of how to approach real patients and inspires us to become ethical and responsible doctors.	3 (1.11%)	7 (2.61%)	25 (9.32%)	63 (23.50%)	170 (63.43%)

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

8	Case scenario helped to know how to read topic and correlate it.	6 (2.23%)	12 (4.44%)	32 (11.94%)	57 (21.26%)	161 (60.07%)
9	Case scenario compelled me to think beyond books, to combine different concepts and apply to solve the given case	4 (1.49%)	16 (5.97%)	30 (11.19%)	46 (17.16%)	172 (64.17%)
10	The technique will better equip me to apply the knowledge when the opportunity arises.	4 (1.49%)	10 (3.73%)	33 (12.31%)	65 (24.25%)	156 (58.20%)
11	The number of hours of ECE allotted to each subject was satisfying	16 (5.97%)	18 (6.71%)	40 (14.92%)	52 (19.40%)	142 (52.98%)
12	Discussion in groups was a good way to solve case as different ideas from different people make it very interesting.	6 (2.23%)	9 (3.35%)	42 (15.67%)	63 (23.50%)	148 (55.22%)
13	There was adequate student-student interaction during group discussion	9 (3.35%)	8 (2.98%)	56 (20.89%)	60 (22.38%)	135 (50.37%)
14	There was adequate student-teacher interaction during group discussion	8 (2.98%)	17 (6.34%)	41 (15.29%)	69 (25.74%)	133 (49.62%)
15	The format of reflection writing and feedback was justified and time given was adequate.	14 (5.22%)	13 (4.85%)	39 (14.55%)	56 (20.89%)	146 (54.47%)
Total responses- 15×268=4020		108 (2.68%)	217 (5.39%)	493 (12.26%)	906 (22.53%)	2296 (57.11%)

Table 2 depicts the suggestions given by participants regarding ECE. Majority i.e. 185(69.02%) students found ECE to be interesting and informative so did not give any suggestion followed by 29(10.82%) students who believe that more ECE sessions should be held. 23(8.58%) participants suggested that ECE classes should be held in hospital/community setting followed by 9(3.35%) students who think that smaller groups should be made for case discussion. Further 7(2.61%) suggested incorporation of more videos instead of theory lectures and they believe that they should get chance for direct one to one discussion with patients. Few i.e. 5(1.86%) participants want ECE session to be planned after lunch and the rest 3(1.12%) participants don't want any assignments after ECE.

Table 2- Suggestions given by students regarding ECE

S. No.	Suggestions	n(%)
1.	No suggestions as session was interesting and informative	185(69.02%)
2.	More ECE sessions should be held.	29(10.82%)

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

3.	Instead of theory lectures, there should be more videos.	7(2.61%)
4.	ECE classes should be held in hospital/community setting.	23(8.58%)
5.	ECE session should not be planned after lunch.	5(1.86%)
6.	Assignments should not be given.	3(1.12%)
7.	There should be a chance for direct one to one discussion with patients.	7(2.61%)
8.	Smaller groups should be made for case discussion	9(3.35%)

Table 3 presents the likes and dislikes given by students about ECE. 16(5.97%) students did not mention any likes and 238(88.80%) did not mention any dislikes regarding ECE. Maximally i.e. 61(22.76%) participants liked case discussion in hospital setting followed by audio visual case discussion with 56(20.89%) students. Case discussion in community settings was liked by 54(20.14%) participants followed by 44(16.41%) students who liked the prior lecture and explanation by the faculty. The remaining 37(13.80%) appreciated power point case discussion. As far as dislikes are concerned 12(4.47%) students disliked the technical words being used by the few teachers followed by 10(3.73%) disliking the larger group case discussions. The rest 8(2.98%) did not appreciate the case studies not being discussed on the same day by few of the faculty.

Table 3- Likes and dislikes presented by students about ECE

Likes and dislikes about ECE		**n(%)**
Likes	**No likes were mentioned**	16(5.97%)
	Case discussion in hospital setting	61(22.76%)
	Audio visual case discussion	56(20.89%)
	Prior lecture and explanation by faculty	44(16.41%)
	Power point case discussion	37(13.80%)
	Case discussion in community setting	54(20.14%)
Dislikes	**No dislikes were mentioned**	238(88.80%)
	Few teachers used some technical words	12(4.47%)
	Few teachers did not discuss the case studies on the same day	8(2.98%)
	Larger groups were for case discussion	10(3.73%)

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

Discussion-

The present study was conducted on MBBS first year students to evaluate their attitude towards ECE.TheapexbodyofthemedicaleducationimplementedECEin2019. The ECE program places a strong stress on how learners can connect and implement first- year professional subjects learning's to practical applications. Ensuring patient centricity and providing a clinical context are the cornerstones of ECE. This does not mean that the traditional method should be neglected; rather, the goal is to improve basic science comprehension through the use of clinical context.[14] Students' motivation to learn and retention can be enhanced by teaching them the fundamental sciences in the context of a clinical setting.

Students were made aware of the connection between basic science courses and their clinical relationships through ECE.[15] This could be a useful strategy for improving the effectiveness of basic sciences[16] It is evident that having direct patient contact is essential for the development of clinical thinking ,communication abilities, and professional attitudes.[17]

ECE classes can be offered in community, hospital, or classroom settings.[18] The present study used all the settings to offer ECE on different scheduled ECE topics. After completion of the decided topics students who have attended the ECE were given the pre-validated questionnaire as feedback. Likert scale was used to assess the questionnaire and it was observed that overall 57.11% students strongly agreed and only 2.68% students strongly disagreed to the 15 ECE questionnaires. The majority of the students gave positive answers and encouraging outcomes. These results lend credence to the notion that introduction of ECE motivated and helped them to learn first year subjects and also provided a novel means of delivering clinical experiences.

The students specifically stated that they found the ECE session to be engaging and inspiring, and it improved their comprehension of the theoretical ideas of basic sciences. It also enabled them to recognize the significance of real world applications and, consequently, comprehend the reason behind studying the subject. Mrunal R. et al.[19] stated that active participation in education is more helpful than passive learning. Spencer et al. [20] has pointed out the significance of developing clinical reasoning, communication skills, professional attitude, and empathy through straight patient contact. The results of Bokken et al.[21,17] are comparable to the findings of Spencer Debra et al.[22] also found in his research that first- year medical

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

students can benefit from peer tutoring in the development of fundamental patient- centered interviewing skills. In certain disciplines, certain authors cross-sectionally examined how first year MBBS students perceive ECE by dividing them into groups. First- year medical students participated in a cross-sectional study by Gune AR et al.,[23] and the results showed that the ECE module greatly improved their understanding of the subject, made learning engaging, and assisted them in connecting the fundamental sciences to their clinical applications and relevance in practical medicine. Tang et al.[24] found a positive relationship between students' clinical exposure setting and their learning achievement in fundamental medicine. Study by Gupta k et al.[25] is also in agreement with our study as they found ECE procedure to be extremely good, and it improved the understanding of the significance of preclinical subjects in a clinical setting. Further in present study, suggestions were asked from the students. Maximum students found the session to be interesting and informative and gave no suggestions. Few of the students suggested more ECEs to be included in the curriculum and others offered numerous recommendations for how to make ECE better, like change in timings, more videos to be included, sessions to be held in hospital/community settings, opportunity for direct discussion with patients and smaller groups for case discussion. These findings of our study are strongly supported by Tayade et al. and Ingale et al.[8,26] Study by Kumar et al.[27] also observed smaller group discussions as beneficial. In a study done by Chouda Purkar et al.[28], students watched videos of real-world clinical cases and discovered that using these videos as a supplement to didactic lectures improved the students' understanding of how to connect the basic and clinical sciences. The feedback of ECE in current study also included likes and dislikes about ECE to be mentioned by the students. Students maximally liked the case discussion in hospital and community settings along with audio-visual case discussion. This finding is in accordance with the many other studies [29,30] as they also found ECE session in community settings as interesting. Study by Sonia et al. also found hospital settings as beneficial. As far as dislikes are concerned, students did not like the pattern followed by the few faculty and larger group discussions. Students' evaluations of ECE show that it improves their attention, comprehension, and clinical context; most give the program a good to excellent rating. This shows that ECE has the potential to be used more widely in medical education and can be a useful substitute for teaching fundamental science subjects. Furthermore, the present study showed that, within the current Indian medical education framework, ECE stands out as a

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

crucial instructional technique for improving both attitude and professional skills.

Conclusion-

This study found that in the existing Indian medical school system, ECE is the most significant tool for enhancing professional abilities and attitude. The majority of the students gave positive and encouraging answers. These results bolster the theory that the integration of ECE into perception provided an innovative means of delivering healthcare experiences. ECE was viewed by students as engaging, inspiring, and beneficial for the clinical application of basic sciences. Students valued more intimate group talks and ECE in community and hospital settings. Therefore, all medical colleges should hold more frequent ECE sessions and should cover wider range of topics. Coordination between preclinical and clinical developments is required. More work from the faculties is necessary for an effective improvement, and faculty training should also be taken into account.

References-

1. Goswami S. Problems and challenges in medical education in India. Eur J Contemp Educ 2015;11:31-7.
2. Ogur B, HirshD, Krupat E, Bor D.TheHarvardMedicalSchool-Cambridgeintegratedclerkship: An innovative model of clinical education. Acad Med 2007;82:397-404.
3. RahulVikaskumar Chhatani, MiteshRDave, Ravindra Kumar B. To Assessthe Attitude of MBBS Students towards Implementation of Early Clinical Exposure Module in First Professional Year Subjects. Int J Anat Res 2024;12(2):8931-8939. DOI: 10.16965/ijar.2024.122
4. Krajic Kachur E. Observation during early clinical exposure - an effective instructional tool or a bore?. Med Educ.2003;37(2):88-89. doi:10.1046/j.1365- 2923.2003.01421.x
5. Medical Council of India. Early Clinical Exposure for the Undergraduate Medical Education Training Program, 2019; 2019. Available from: https://www.nmc.org.in/wp-content/uploads/2020/08/ Early_Clinical_Exposure-MBBS-07.08.2019.pdf.
6. Verma M. Early clinical exposure: new paradigm in Medical and Dental Education. ContempClin Dent. 2016;7(3):287–8.
7. Miglani, A. K., & Arora, R. (2020). Introduction of early clinical exposure to 1 st year MBBS students in physiology. CHRISMED Journal of Health and Research, 7(1), 63. https://doi.org/10.4103/cjhr.cjhr_71_19

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

8. Tayade, M. C., & Latti, R. G. (2021). Effectiveness of earlyclinical exposure in medical education: Settings and scientific theories – Review. Journal of Education and Health Promotion, 10(117), 1–6. https://doi.org/10.4103/jehp.jehp
9. Kalusopa, V. M., et al. (2023). Experiences of early and enhanced clinical exposure for postgraduate neonatal Nursing students at the University of Zambia, school of nursing sciences: Lessons and implications for the future. Open Journalof Nursing, 13(06), 352–367.https://doi.org/10.4236/ojn.2023.136024
10. Kalpana K. M. K., Vijaya V. Mysorekar, & Seema Raja. (2011). Student's perception about integratedteaching inanundergraduatemedicalcurriculum. JournalofClinicaland Diagnostic Research, Suppl-1-5(6), 1256–1259.
11. Savitha, D., et al. (2018). Early clinical exposure through a vertical integration programme in physiology. National Medical Journal of India, 31(5), 296–300. https://doi.org/10.4103/0970-258X.261191
12. Kane, T., Chivese, T., Al-Moslih, A., Al-Mutawa, N. A. M., Daher-Nashif, S., Hashemi, N., & Carr, A. (2021). A program evaluation reporting student perceptions of early clinical exposure to primary care at a new medical college in Qatar. BMC Medical Education, 21(1), 1–11. https://doi.org/10.1186/s12909-021-02597-9
13. Rawekar A, Jagzape A, Srivastava T, Gotarkar S. Skill Learning Through Early Clinical Exposure: An Experience of Indian Medical School. J Clin Diagn Res. 2016;10(1):JC01-JC4. doi:10.7860/JCDR/2016/ 17101.7022
14. Competency based undergraduate curriculum; 2020. Available from: https://www.nmc.org.in/information-desk/for-colleges/ugcurriculum.
15. Suresh Chari, Madhur Gupta, Shubhada Gade Early clinical exposure experience motivates first year MBBS students – A study.
16. Dr. Motilal C. Tayade et al."The impact of early clinical exposure on first MBBS students" International journal of Healthcare and bio medical research : 2014,,2,176-171.
17. Bokken L. Rethans JJ, Van Heurn L, Duvivier R, Scherpbier A., Van der Vieuten C., Students views on the use of real patients and simulated patients in undergraduate medical education. Acad. Med. 2009 Jul:84(7):958-63
18. KumarS.EarlyclinicalexposureasperceivedbyIst yearMBBS studentsduringonlinesessions - A necessity in Covid era. J Educ Technol Health Sci 2020;7(3):101-105
19. Dr. Mrunal R. Shenwari, Interactive interventions for enhanced active learning in first MBBS students, International J. of Healthcare & Biomedical Research, 2013, :2(1),8-11
20. Spencer J. Blackmore, D. Heard S., McCrorie P., McHaffie D., Schepbier A., Gupta T.S., Singh K., SouthgateL. patient –orientedlearning: a review of therole of thepatient inthe education of medical students. Med. Educ. 2000 Oct. 34(10):851-7.
21. Bokken L. Rethans JJ, Scherpbier AJ, van der Vieuten CP. strengths and weakness of simulated and real patients in the teaching of skills to medical students : a review. Simul Healthc 2008 Fall :3(3):161-9
22. Debra Nestel and Jane Kidd Peer tutoring in patient centred interviewing skills. Experience of a project for first year students.

ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 07, 2024

23. GuneAR, NikamVR, GaikwadVV, WaghDT.Theeffectiveness of earlyclinicalexposurein teachinganatomy:Astudyamong1styear medical students. NatlJClinAnat. 2020;9:97-100.
24. TangK, ChenC, WuM,ChenTT, WuBW,TsaiPF,et al.Correlationbetweenearlyclinical exposure environment, attitudes toward basic medicine, and medical students' basic science learning performance. BMC Med Educ 2019;19:183.
25. Gupta K, Gill GS, MahajanR. Introduction and implementation of early clinical exposure in undergraduatemedicaltrainingtoenhancelearning. Int JApplBasicMedRes2020;10:205-9
26. Ingale, M. H., Tayade, M. C., & Bhamare, S. (2023). Early clinical exposure: Dynamics, opportunities,andchallengesinmodernmedicaleducation.JournalofEducationandHealth Promotion, 12(295), 1–6. https://doi.org/10.4103/jehp.jehp
27. Kumar, P. A., Govindarajan, S., Ramalingam, S., & Kumar, P. N. (2023). Developinga module for earlyclinicalexposure:Experienceoffiveyears.JournalofEducationandHealthPromotion, 12(57), 1–6. https://doi.org/10.4103/jehp.jehp
28. SheshgiriC,Komala N,AshwiniC.EarlyClinicalExposureInAnatomy.NatlJIntegr ResMed. 2017;8(5):53–56.
29. Sathishkumar S, Thomas N, Tharion E, Neelakantan N, Vyas R. Attitude of medical students towardsEarlyClinicalExposureinlearningendocrinephysiology. BMC MedEduc. 2007;7:30.
30. Sawant SP,RizviS.Importanceofearlyclinical exposureinlearninganatomy. SchJAppMed Sci. 2015;3(2G):1035–8