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Research Article

Early Clinical Exposure in Competency Based Medical Education – Did we Achieve the Objective

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Abstract

Introduction: Early clinical exposure (ECE) is a teaching-learning methodology which fosters the exposure of medical students to the patients as early as the first year of medical college. ECE makes an overall impact on student's performance and confidence. It is believed that Early clinical experience helps the medical students socialized to their chosen profession. The first year students need to be given early clinical exposure to actual patient's care.

Aims and Objectives: The study was aimed at accessing the student's perception about ECE. Whether the reasons of conducting these sessions have been accomplished or not from the students' point of view.

Material and Methods: A survey questionnaire was developed by the Medical Education Unit of the Institute. We used a small-group discussion approach to develop draft questionnaire. Based on the group discussion and the literature survey, the questionnaire was prepared.

Conclusion: ECE provided important validation of the student's decision to go to medical school. It was a lifeline that helped student stay focused on their studies and provided the opportunity to establish a link between the basic sciences concepts and actual patient cases.

Keywords: Early Clinical Exposure; Competency Based Medical Education; Exposure of Medical Students to the Patients

Introduction

NMC introduced Competency Based Medical Education (CBME) in India in 2019 in which it has introduced early clinical exposure in undergraduate medical curriculum. As per the new curricula, students must get early exposure to the clinical sides from the first year itself so as to make them comepetent doctors of first contact of the community with having requisite knowledge, skills, attitudes, values and responsiveness , as per IMG (Indian Medical Graduate) concept [1]. It is stated in literature, ECE helps to relieve stress of the students pertaining to patient handling, developing real-time clinical reasoning ability, communication skills, professional attitude and patient empathy [7]. With this view this study was planned to assess effectiveness of early clinical exposure in improving attitude and communication skills in the Indian medical education set up [2]. It is believed that [3]. Early clinical experience helps the medical students socialized to their chosen profession. The first year students need to be given early clinical exposure to actual patient's care. This may help in achieving recognition of

basic sciences taught in the classroom, thus making the learning conceptual. It will motivate the students to learn and integrate the ethics and professionalism in doctor patient relationship. With this view the present work is planned to study the impact of ECE on student's perception towards the different domains of learning i.e. knowledge skill and attitude.

Aims and Objectives

The study was aimed at accessing the student's perception about ECE. They have attended the ECE sessions throughout the year and we wanted to access whether the reasons of conducting these sessions have been accomplished or not from the students' point of view.

Material and Methods

The study was conducted in the month of January to March 2022 at Mayo Institute of Medical Sciences, Barabanki.

A survey questionnaire was developed by the Medical Education Unit of the Institute. We used a small-group discussion approach to develop draft questionnaire. Based on the group discussion and the literature survey, the questionnaire was prepared. After feedback from the members the questionnaire was revised. The questionnaire consisted of questions on ECE programmes, their educational goals, structure, and content, and evidence of their educational value. A Google form was created; details of which are https://docs.google.com/forms/d/e/1FAIpQLSdJy1_StfjDCMoipj2XTVPOvLqXRG2tQlSFgv57A-YaDn3Ovw/viewform?vc=0&c=0&w=1&flr=0. The Google form was circulated amongst the MBBS student of 2020-21 batch and responses were collected and analyzed.

A questionnaire was also prepared for the faculty regarding their opinion of ECE and associated perceptions and response of 20 faculties from Phase 1 was documented.

Observations

Students Opinion about ECE

A total of 144 out of 150 students responded to the Google form. For various reasons 6 students could not answer.

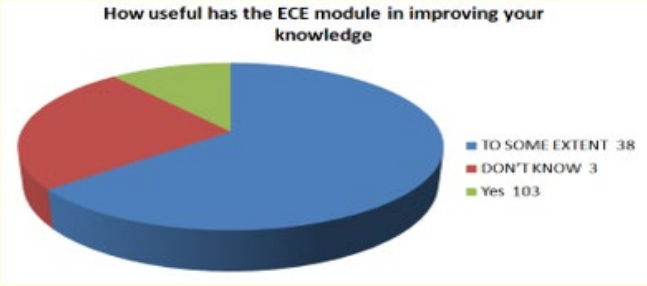

Figure 1

72% students believed that ECE sessions were very useful in improving their knowledge about basic sciences, 26% believed that that they were helpful to some extent whereas 2% were not sure about it.

Questions	Yes	To Some Extent	Don't Know
Does ECE session provide you context which enhance basic sciences learning	125 (86%)	19 (13%)	--
Does experience of patients motivated you to learn.	115 (79%)	27 (18%)	2 (3%)
Does the ECE sessions helped you understand socio-cultural context of the disease through patient.	116 (80%)	26 (17%)	2 (3%)

Table 1

Majority (86%) students believed that ECE session provide you context which enhance basic sciences learning, but 13% believed that they helped to some extent only. 79% students believed that experience of patients motivated you to learn but 27% believed that they helped to some extent only, 3% were not sure about this. 80% students believed that ECE sessions helped them understand socio-cultural context of the disease through patient but 26% believed that they helped to some extent only, 3% were not sure about this.

94% students believed that key principles underlying early clinical exposure are providing a clinical context and ensuring

patient centricity was true although 6% did not think so. 71% students preferred presence of actual patients in every sessions of ECE, though not essential, although 31% did not believe so. 97% students believed that Humanities is an essential component of ECE and only #5 did not think so.

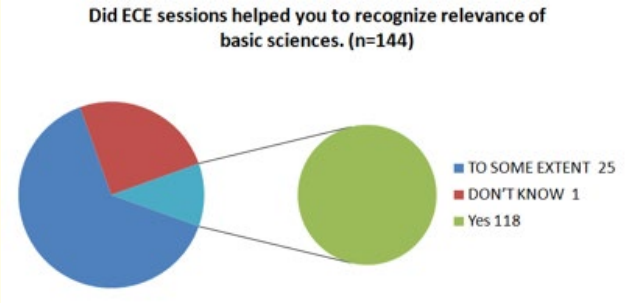

Figure 2

81% students belied that ECE sessions helped them to understand the relevance of basic sciences in medical education especially in relation to patient management although 17% belied that it did to some extent only. Less than 1% students were not sure about it.

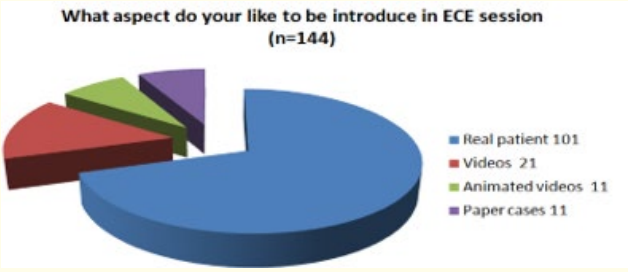

Figure 3

70% students believed that introduction of more real patients in ECE sessions will enhance their learning of basic sciences in medical education especially in relation to patient management; 14% students belied that videos related to the session will be more helpful in learning, 7% believed that animated videos will be better and another 7% believed that paper cases are more effective in the learning process.

Faculty opinion about ECE

Significant number (80%) faculty felt that they have fulfilled theobjective of Conduction of ECE however 20% felt that the desired objective was not achieved. Majority of the faculty (60%) thought that conducing various sessions in Classroom setting is the best option for ECE sessions, 15% Hospital based setting and Community setting is better. 10% faculty was of the opinion that

Questions	True	False
key principles underlying early clinical exposure are providing a clinical context and ensuring patient centricity	136 (94%)	8 (6%)
Presence of actual patients in every sessions of ECE, though not essential, is preferred	103 (71%)	31 (29%)
Humanities is an essential component of ECE	141 (97%)	3 (3%)

Table 2

Faculty Feedback for ECE		
Did you fulfill the objective of Conduction of ECE?	Yes 80%	No 20%
Which ECE setting do you mostly prefer & why		
Classroom setting		60%
Hospital based setting		15%
Community setting and why?		15%
It depends upon the competency being addressed		10%
Do you have concern over coordination with clinical departments while planning your ECE session and why?		100%
Do you think some faculty training is required before implementation of ECE in curriculum?		100%
Do you think ECE is a kind vertical integration?		100%
What are your preferences of tools to conduct ECE session?		
Case scenario discussion, case record sheets, 2		70%
ECG, x-rays, investigation reports (Class room setting)		15%
Live demonstrations.		15%

Table 3

it depends upon the competency being addressed. So the answer cannot be generalized within the prescribed limits of choices. Based on my experience I find that the Laboratory / Hospital setting are preferable over other settings.

Laboratory / Hospital setting provide an environment where the Learner and teacher both remain alert. Some of the learners learn hands on and to observe first hand always leave a lingering impression on mind.

Discussion

Introducing students to clinical medicine early in their studies using real clinical situations has been advocated to make teaching more practical, relevant, and stimulating, and to reinforce the vertical integration between basic medical and clinical sciences [4,5]. It helps students to apply theoretical knowledge to real patient problems when making the transition from preclinical to clinical training and thus offers valuable preparation for clerkships.

Haffling., *et al*. [6] defined the features of early patient contact as more teaching from a community base, changing the setting from that of a hospital to general practice, in the first part of the curriculum. The main aim was to offer students opportunities to learn communication and examination skills. In our study 8o% students believed that ECE session helped you understand socio-cultural context of the disease through patient.

Verma M [7] is of the opinion that ECE is an archetype of "vertical integration" in medical education, which involves a lot of interdisciplinary contribution. The format requires teamwork and it must be encouraged for a successful implementation of the format.

As per Tayade and Latti [8] ECE helps students initiation into medicine, and facilitates the transition from layperson to student physician, at the same time provides social relevance to basic science learning, provide teaching and learning of basic clinical skills, enhances student motivation and encourages the students to learn professional behavior. In our study 86% students believed so.

As per the setting of the ECE Tayade MC., *et al*. [8] is of the opinion that the classroom setting is first basic form of ECE can be arranged with minimum efforts. He believed that in a typical classroom setting, ECE can be used as an educational strategy either by Direct arrangement of patients/cases to the classroom, by Readymade case scenario discussion or by Discussion of clinical material such as patient case record sheets, electrocardiogram, Xrays, computed tomography scan, other investigations reports. These sessions can be done in multiple small groups; so that all students can be actively involved. Students can also be assessed for their interest, active participation, understanding of the subject and also feedback would be much easier. These settings can be arranged with the help of clinical teachers with their direct involvement or indirect involvement. In our study also majority (60%) preferred that Classroom setting for ECE.

Faculty also preferred the Classroom setting for ECE because in classroom setting they could easily explain basic sign, symptoms of clinical case as well as they could easily explain basic clinical skill to students, some also believed that it helped to reduce the COVID-19 spread.

He further believed that hospital setting is second and most important form of setting. It can be arranged batch wise and with prior permissions or collaborations with clinical departments. Our faculty (15%) also believed that Hospital based settings helps them to attain the goals of making the students recognize the relevance of basic sciences in clinical findings. It wasn't possible for last 2 years on account of corona. However non availability of patient at the time of sessions is the limiting factor for this setting although flexibility of time in conducting the ECE sessions based on availability of patients can overcome this problem.

When faculty of Phase 1 was asked whether they have concern over coordination with clinical departments while planning your ECE session majority (100%) were in agreement as they thought that they are completely dependent on clinicians for ECE, they believed that they cannot conduct it unless there is a good cooperation from them as they are the provider of clinical subjects addressing the competencies. Some also believed that the clinical knowledge of the concerned faculty is so much that in these sessions their role is negligible as they cannot explain things to the students to that extent.

When asked about what problems you faced in conducting ECE sessions and your suggestions to overcome these problems; Majority of the faculty face problem in conducting ECE sessions due to Covid 19 infection as conducting ECE sessions was very

difficult. Due to spread of COVID-19 infection, students were not able to do the hospital & case based ECE. Some faculty was of the opinion that we should incorporate the video classes' platform to conduct the ECE. Others felt that the only solution for this was to conduct in class room or online class. While others felt that ECE on Laboratory based concepts is easy to handle because of availability of instruments and volunteers in the department. It becomes easy to explain the concepts. But in Patient case scenario availability of patient is a matter of concern. And in most of the cases the unavailability of patients at the last moment is annoying and change of tools at the last moment demoralize students as well as the teachers.

Conclusion

Student's perception of the advantages of ECE was that it provided important validation of the student's decision to go to medical school. It was a lifeline that helped student stay focused on their studies and provided the opportunity to establish a link between the basic sciences concepts and actual patient cases. Faculty believed that NMC should conduct classes for Phase 1 faculty for better implementation of ECE. The present study has a limitation of being conducted in the Covid pandemic and further study would be needed for a clearer picture.

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