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Research Article

# Identification and Possible Redressal of Challenges Faced During Designing and Implementation of Early Clinical Exposure

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ABSTRACT

**Background:** Recently, the Medical Council of India (MCI), now National Medical Commission (NMC) has developed the competency-based curriculum with the aim to produce medical graduates of global standards through curricular reforms. Proposed curricular changes begin early in the form of a foundation course; early clinical exposure (ECE); and properly designed integrated teaching and programs to develop the correct attitude and communication skills. ECE helps to integrate basic sciences with clinical subjects and plays a vital role not only in strengthening their academics but also paves a way for improving their clinical and communication skills. However, dedicated hours for ECE have raised certain concerns with basic sciences faculty members as the traditional clinical case-oriented teaching in basic subjects was well accepted and the applied knowledge of the subject was being delivered. In addition to these, various other apprehensions of the faculty members regarding this new concept have been raised. It is very important to address their concerns, so that they warm up to this concept and are able to deliver their knowledge in the best possible way to the students.

**Aim and Objectives:**

1) To identify the apprehensions of the faculty members involved in ECE teaching.
2) To identify the challenges faced by the faculty members in designing the ECE module.
3) To identify the challenges faced by the faculty members in implementing the ECE module.
4) To propose the possible solutions for the challenges identified.

**Methodology:** The study was carried out with the consenting faculty of the preclinical sciences at PGIMS, Rohtak after the IEC approval. Prevalidated questionaries regarding the apprehensions of the faculty members involved in ECE teaching and the actual challenges encountered while designing and implementing ECE sessions were given to them. Response to most of the questions was based on Likert scale and some open-ended questions were also included. The challenges were analysed and the possible redressal was sought through a 'focus group discussion' with the MEU members of the institute. The same was then conveyed to the faculty and their feedback and other suggestions were asked for. **Findings:** Major challenge faced during designing of the ECE session reported, pertained to the domain to be addressed while planning ECE (82%) followed by the extent of planning required that too by limited available faculty for the same. Major challenge reported during implementation was in respect to the non-availability of space (87%) and clinician at times during the ECE session (80%) in addition to other concerns. A number of other challenges were identified and the possible solutions to them were conveyed to the faculty. **Conclusion:** The study brings out the concerns of the faculty members involved with ECE designing and implementation. Various capacity building workshops should be carried for the purpose.

## INTRODUCTION

Medical curriculum has been recently revamped by National Medical Commission (NMC) to align the same with the emerging health needs of the society[1]. Proposed curricular changes applicable from MBBS batch 2019 begin from 1st year in the form of a foundation course; early clinical exposure (ECE); aligned and integrated teaching and longitudinal program to develop the correct attitude, ethics and communication skills[2].

ECE motivates medical students and provides a platform for observation of patient dealing and doctor – patient communication in actual outpatient department setting at the very first year[3].

The integration model mentioned represents a dynamic approach to learning that unfolds in real-time, enriching both cognitive understanding and practical skill development. Its significance extends beyond mere academic acquisition, nurturing fundamental clinical competencies and fostering a moral compass essential in healthcare practice.

Embedded within this model is the Early Clinical Exposure (ECE), a pivotal pedagogical tool facilitating vertical integration. ECE serves as a bridge, connecting theoretical knowledge with real-world application, thereby offering students invaluable insights into the intricacies of medical practice early on in their educational journey. By immersing students in clinical settings from the outset, ECE cultivates a profound understanding of the healthcare landscape, preparing them for future clinical responsibilities.

One of the paramount benefits of this integrated approach lies in its capacity to shape students' attitudes towards their profession. By actively engaging with clinical scenarios and interacting with patients, students develop a sense of empathy and compassion, integral qualities for healthcare practitioners. Moreover, exposure to diverse clinical scenarios enables students to appreciate the multifaceted nature of healthcare delivery, instilling in them a holistic perspective that transcends textbook knowledge.

Though basic sciences teaching is clinically oriented even in traditional curriculum but dedicated hours for ECE is an essential component of new competency based undergraduate curriculum. The concept of dedicated hours for Early Clinical Exposure, in a structured outline is not very well accepted by the teachers. Few concerns raised by the faculty in this regard are the overall concept of ECE, timing of phase, burden in implementation and assessment of ECE[3]

Through hands-on experience and mentorship, students hone essential clinical skills, such as communication, critical Furthermore, the integration model serves as a catalyst for professional development, equipping students with the requisite skills and competencies to navigate the complexities of healthcare practice.

It is important to address their concerns, so that they warm up to this concept and are able to deliver their knowledge in the best possible way to the students.

The present study was designed to determine the challenges faced by the faculty in designing and implementing the ECE sessions.

## AIM & OBJECTIVES

Aim: To identify the challenges faced during designing and implementation of ECE and their possible redressal.

**Specific Objectives:**

1) To identify the apprehensions of the faculty members involved in ECE teaching.

2) To identify the challenges faced by the faculty members in designing the ECE module.

3) To identify the challenges faced by the faculty members in implementing the ECE module.

4) To identify the possible solutions for the challenges identified.

## METHODOLOGY

- The study was carried out with the faculty members of the preclinical departments, PGIMS Rohtak after obtaining clearance from the IEC
- The faculty members were sensitized and then briefed about the project through the participant's Information Sheet. After taking their consent to participate in the project, a questionnaire through google form regarding identification of their apprehensions prior to designing and implementation of ECE modules were sent on their respective e- mails.
- After a fortnight to a month, participating faculty members were asked to fill the questionnaires pertaining to the actual challenges faced during their designing and implementation of ECE modules.
- The questionnaires, prevalidated by the MEU members of the institute were used for the study.
- 4.The response to most of the questions were based on Likert scale and some open-ended questions were also included.
- The challenges encountered were analyzed and the means to find solutions to the problems highlighted was sought through a 'focus group discussion' with the MEU members of the institute.
- Recommendations from MEU members were then conveyed to the participants and their feedback on the solutions suggested was also sought through a questionnaire.

## OBSERVATIONS AND RESULTS

A total of 19 faculty members from the preclinical departments of Biochemistry, Physiology and Anatomy consented to participate in the study. Their apprehensions prior to the designing of ECE session and the actual challenges faced in this regard are depicted below.

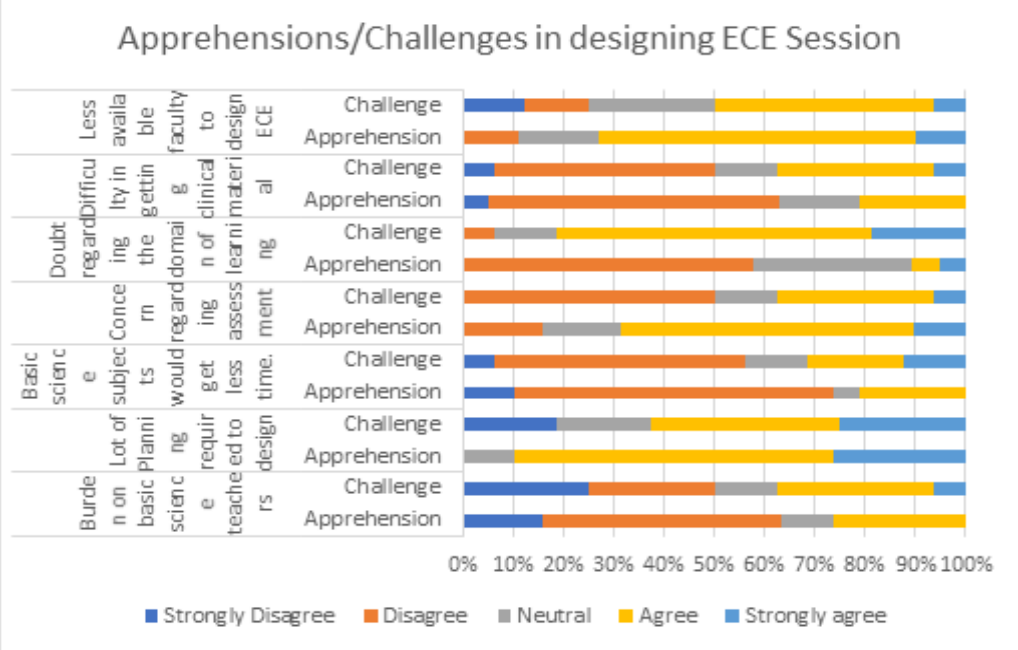


**Fig 1: Regarding apprehensions and challenges w.r.t designing of ECE**

Some of the major apprehensions which posed as a major challenge also are tabulated in Table1.

**Table1: Apprehensions that posed as challenge as well**

| Concern | Apprehension before designing | | | Challenge while designing | | |
|---|---|---|---|---|---|---|
| | Agree (%) | Strongly Agree(%) | Total (%) | Agree (%) | Strongly Agree (%) | Total (%) |
| 1.Lot of planning required to carry out ECE module | 63 | 26 | 89 | 38 | 25 | 63 |
| 2.Less available faculty to design ECE | 63 | 10 | 73 | 44 | 06 | 50 |
| 3.Assessment of objectives of ECE | 58 | 11 | 69 | 31 | 06 | 37 |

Some of the concerns for which the majority of faculty members were not apprehensive prior to the designing process but was later felt as a challenge to an extent are tabulated in Table 2.

**Table 2: Challenges encountered which were of little concern before Designing**

| Concern | Apprehension before designing | | | Challenge while designing | | |
|---|---|---|---|---|---|---|
| | Agree (%) | Strongly Agree (%) | Total (%) | Agree (%) | Strongly Agree (%) | Total (%) |
| 1. Burden on basic science teachers | 26 | 0 | 26 | 31 | 06 | 37 |
| 2.Doubts regarding domain of learning to be addressed | 05 | 05 | 10 | 63 | 19 | 82 |

After the designing process was over the challenges encountered during implementation of the ECE session were compared to the prior apprehensions of the faculty members for the

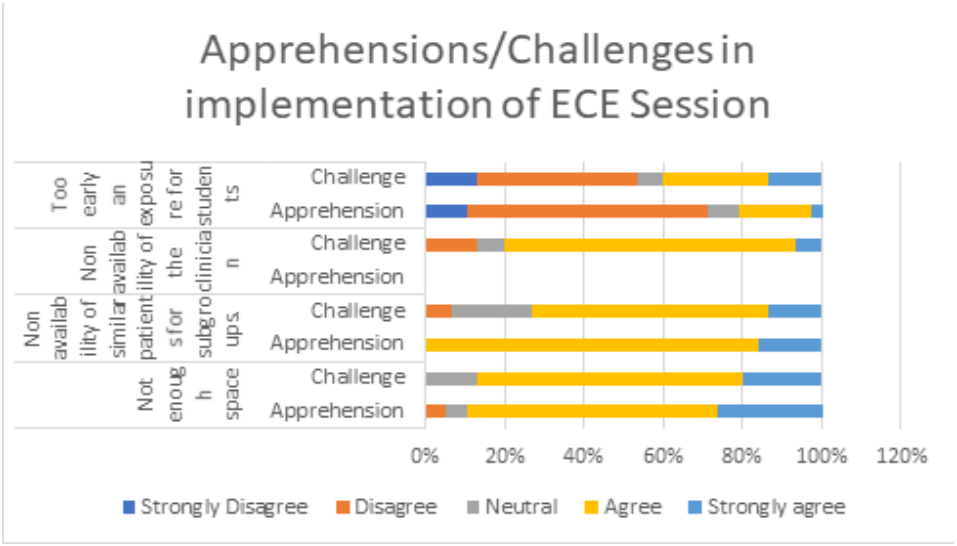


**Fig 2: Regarding apprehensions and challenges w.r.t implementation of ECE**

The challenges faced during implementation for which the faculty members were apprehensive also are highlighted in Table 3.

**Table3: Apprehensions that posed as challenge as well while Implementation of ECE**

| Concern | Apprehension before Implementation | | | Challenge while Implementation | | |
|---|---|---|---|---|---|---|
| | Agree (%) | Strongly Agree (%) | Total (%) | Agree (%) | Strongly Agree(%) | Total (%) |
| 1. Non availability of enough space for large number of students | 63 | 26 | 89 | 67 | 20 | 87 |
| 2. Non availability of similar patients for all the subgroups | 84 | 16 | 100 | 60 | 13 | 73 |

**Redressal of challenges related to designing and implementation of ECE was done through Focus Group Discussion with MEU members**

**Table4: Suggested Remedial Measures to the challenges encountered through FGD with the MEU members**

| S.No | Challenge identified | Suggested Remedial Measure |
|---|---|---|
| **1.** | Which domain of learning to be addressed while planning ECE? | Domain KH |
| **2.** | Inadequate number of consenting faculty members to carry out the designing of ECE | This could be due to lack of motivation and knowledge. So , FDP's at the institutional level can be planned for the same |
| **3.** | Lot of planning required to design ECE | Planning any process always yields desired outcomes. Once we start planning the sessions, we would develop interest. |

| | | |
|---|---|---|
| **4.** | Participation of a clinician while designing ECE and also their non-availability at times during ECE hours | The purpose of ECE is to stress upon the clin relevance of the topic. It does not require clinician. Relevant teaching learning material either be obtained from the concerned clinica department and incorporated by the basic science teachers only. |
| **5.** | Clinical cases are variable and hence justifiable to have fixed objectives | The aim is to develop an understanding of ho symptoms can be explained by the underlying biochemical, physiological changes not the case; it is its relevance |
| **6** | Enough space not available for such large number of students to carry out ECE sessions | Within the available infrastructure further div into smaller groups might help |
| **7** | It is too early to make the students understand the clinical part | The main purpose of ECE is to enhance learn conceptualize the knowledge of basic science to depict its relevance to later phases of medi sciences. So earlier the better. |

These solutions were proposed to the participant faculty members and the feedback of the faculty on the solutions suggested is depicted through fig 5.

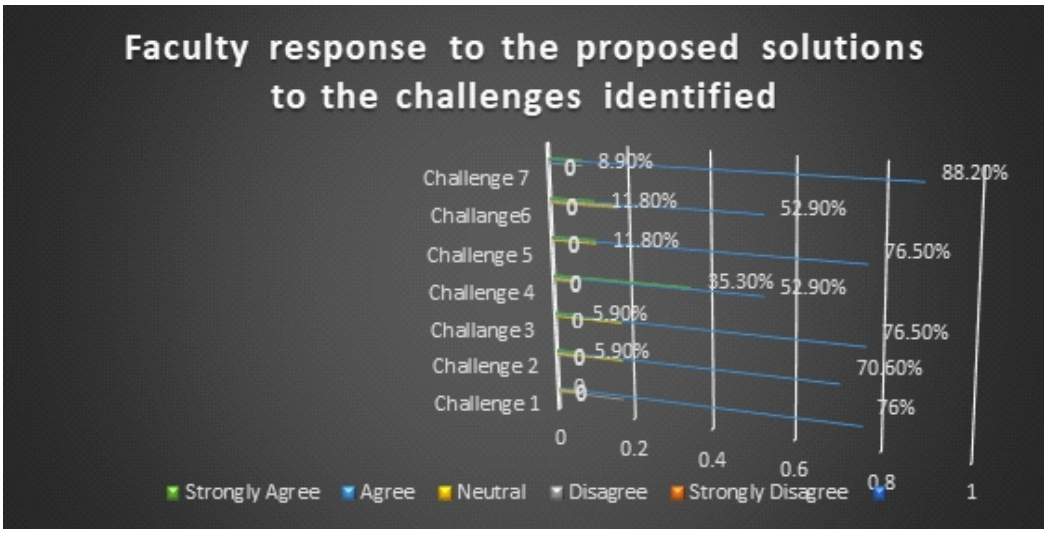


**Fig 5: Faculty response to the solutions proposed for the challenges identified**
(The number of the challenge in the fig 5 corresponds to the S,No in table 4)

## DISCUSSION

The study entitled **Identification and Possible Redressal of Challenges faced during designing and implementation of Early Clinical Exposure** was carried out with the faculty members of the preclinical departments at PGIMS, Rohtak. ECE is a recently introduced teaching learning methodology which exposes the student to doctor-patient interaction at the very beginning of their undergraduate medical course.

The learning experience offered in the preclinical subjects will lay the foundation for clinical understanding. Despite understanding its relevance, few concerns have been expressed by the faculty regarding the concept, designing and implementation of ECE. So, this study was undertaken as to identify those challenges and propose the best possible solutions.

The faculty members were encouraged to voice their apprehensions prior to the designing and implementation of ECE and then to see whether those apprehensions posed as a challenge or not during the actual process. Various apprehensions that appeared as a challenge as well while designing/ implementing a session and its possible solution as proposed by the MEU of the institute after a focus group discussion, are discussed point wise.

**Challenge:** Lot of planning required to design a session.

Planning any process always yields desired outcomes and develops interest and confidence to execute it. The fact is known to all and a little reinforcement motivated them to put in their best efforts in planning the sessions. More

than 90% of the faculty members were convinced.

**Challenge:** Inadequate number of consenting faculty members to carry out the designing of ECE

This could be due to lack of motivation and knowledge. So, FDP's at the institutional level can be planned for the same.

**Challenge: How to assess the objectives of ECE?**

This challenge has been beautifully discussed by Dr Munira[7] as well stating that the formative assessment in the form of reflections by the student and reviewed by the teacher will help to assess the objectives planned for the ECE. The record of student's participation in various activities can be maintained which will contribute towards his/her assessment.

Summative assessment can include clinical vignette based short answer questions requiring the student to clinically express the knowledge of basic sciences.

**Few major challenges were experienced during the designing process although they were of very little concern prior to the designing process.**

**Challenge: Which domain of learning to be addressed while designing the session?**

Since ECE supplements and enriches the learning of basic concepts and clinical skills, KH domain can be addressed.

**Challenge: Burden on basic science teachers**

Actually, this activity requires teamwork. Although preclinical teachers are the best to facilitate the sessions, however the participation of clinical faculty in designing ECE can be beneficial depending on the type of session being planned.

Various challenges faced during the implementation of ECE are

**Challenge: Non availability of enough space for large number of students**

A large number of students does pose a challenge during implementation. Within the available infrastructure further subdivision of students into smaller groups was proposed. Some sessions can be conducted in the classroom settings as proposed by NMC as well and technology can be of help in demonstrating the real or simulated patient videos as suggested by Dr Munira[7].

**Challenge: Non availability of similar patients with fixed objectives for the subgroups**

Clinical cases are variable and hence not justifiable to have fixed objectives. The aim is to develop an understanding of how the symptoms can be explained by the underlying biochemical or physiological changes. It is not the case; it is the relevance.

**Challenge: Non availability of clinicians at times during the ECE hours**

The purpose is to stress upon the clinical relevance of the topic. Relevant teaching learning material can either be obtained from the concerned clinical department and incorporated by the basic science teachers.

Most of the faculty was satisfied with the solutions provided and they themselves came up with few observations and suggestions after conducting an ECE session.

• It was observed that patient gets apprehensive if subjected to an observation by a group of 30 students to which it was suggested that the clinical findings can be highlighted through video class prior to patient exposure and evening rounds can be customised for students to observe clinician- patient interaction in wards

• A common module specifying the topics of ECE to be covered by the basic science teachers subject wise to avoid the non-uniformity of ECE topics in the various medical colleges of the state.

• The participation of a clinical departments to be made mandatory so that they too have a responsibility during hospital visits of the students.

ECE will definitely play its intended role in medical education only if the challenges/ apprehensions of the stakeholders are addressed. Any curriculum when introduced has some teething problems and these problems should not deter us from implementing something which has long term beneficial effect on undergraduate medical training. The only thing that is required is the firm will to implement and ability to mould according to the situations that arise during implementation, so as to take a holistic approach to teaching and learning.

**Outcomes: What this study adds**

This study helps to know the perspective of the faculty members for ECE. The challenges experienced by them needs to be addressed for the proper execution of this new concept of CBME. Once their concerns got addressed their active participation increased manifold. Concerns of all the stakeholders for any program should be addressed for its success.

**Limitations:**

**1.** Not all the faculty members responded to all the four questionnaires provided. The study started with 19 consenting faculty members and in the last questionnaire only 17 responded.

2. The study period is a concern. Few more ECE sessions should have been covered to see whether the suggested solutions were holding good or not.

3. Few of the participating faculty members had conducted the ECE session only through online mode, so their perception was a bit different from that of other participants.

4. The heads of the departments did not participate in the study. Their participation could have made some difference in designing the future sessions as a team of all the faculty members in the department.

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