

Review Article


# Expectations and challenges of early clinical exposure programme for first year medical students in India

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## Abstract

Medical Council of India is in the revamping mode to align the medical curriculum to the emerging health needs of the society, by introducing Competency-Based Medical Education (CBME). This new medical curriculum aims at imparting competencies that are needed to produce medical graduates who would function efficiently as Physicians of first contact or Basic doctors. One of the teaching-learning methods proposed in the CBME curriculum is Early Clinical Exposure (ECE). Medical students would be exposed to patients and clinical environments in the first year of their course which will help them to acquire few basic clinical skills, communication skills, and understanding of humanities in addition to correlating the basic medical science concepts to clinical application. The ECE program would enhance the knowledge, skills, and attitude of the medical graduates if it is implemented. This article discusses few critical practical issues that urge further introspection like the hours given for ECE classes, small group teachings for ECE, use of case scenarios, videos, case vignette, etc., for discussion and assessment of knowledge, skills, and attitudes acquired through ECE classes.

## Key words

Early Clinical Exposure, Small group teaching, Objective structured practical/clinical examination.

## Introduction

A system is considered to be robust when it identifies the changes in its working environment and modulates its output accordingly. Medical

Council of India (MCI) is in the revamping mode to align the medical curriculum to the emerging health needs of the society, by introducing Competency-Based Medical Education (CBME)

as Health Administrators and Medical Educators around the world have witnessed a burgeoning rift between health professional education, practice, and care delivery and the expectation and health needs of the society [1-4]. When the developed countries of the world have changed its medical curriculum to meet the demands of the community, the governing body of Medical Education in India (Medical Council of India/MCI previously and Board of Governors/BoG presently) [5] has woken up to the emerging needs of the society in terms of its health demands after a latency of two decades when Regulations on Graduate Medical Education, 1997 was in vogue [6]. To bridge the gap effectively, the health needs of the society must be identified and efforts should be taken to fine-tune the medical curriculum correspondingly. What is needed by society to effectuate its health needs should be shaped as the learning outcomes of the medical curriculum [7]. A new medical curriculum that has assimilated the health needs of the society as learning outcomes of the medical graduates is the Competency-Based Medical Education [8]. The CBME has underscored certain competencies that should be acquired by an Indian Medical Graduate so that he can function effectively as a Physician of first contact or Basic Doctor. These competencies are Clinician, Leader, and member of the health-care team and system, Communicator, Life-long learner, and Professional [9]. To foster those competencies, the MCI in its Vision 2015 document has proposed various new teaching elements like a foundation course, horizontal and vertical integration, early clinical exposure (ECE), student doctor method of clinical training, electives, skill development and training, secondary hospital exposure and adoption of contemporary education technologies [9]. In this review article, the authors have discussed a few of the important expectations and challenges of early clinical exposure for first MBBS students in the Indian Medical Colleges. Though the MCI document on CBME is laudable due to the phenomenal efforts by eminent personalities, this mini-review deliberates on few critical practical

issues that urge further introspection in specific relation to ECE, as the document is considered to be a living one that solicits credible suggestions.

### **A new beginning in medical education**

The CBME heralds a new beginning in medical education around the world. MCI has done an exemplary task in forming guidelines for training, implementing, and assessing various components of the new curriculum. The MCI has provided guidelines in the form of three volumes for undergraduate curriculum and other related documents related to CBME [9] in its website to start implementing the new curriculum from 2019 onwards. But it has not made it mandatory and given time to have a smooth transition from a traditional curriculum to a competency-based curriculum. In the traditional method of the medical curriculum, the medical students learn about normal structure and functions and the abnormalities of body structure and functions only theoretically without any real patient encounters [10]. In the CBME, the medical students are allowed to learn basic medical science subjects with social relevance and context to the real patient so that they can enhance their medical knowledge, acquire few basic clinical skills and imbibe a wide range of professional attitudes [11]. Thus ECE is a teaching-learning methodology, which fosters exposure of the medical students to the patients as early as the first year of medical college [11]. This approach helps the students to integrate the knowledge gained in the basic medical subjects and also makes it more interesting to the students so that they get motivated and self-directed learning is turned on [12, 13]. Without this exposure, the first year is generally considered boring to most of the freshmen, as a vast knowledge of basic medical sciences with complex concepts were taught within a short period of 8-9 months [13]. Though the ECE provides a more encouraging environment, it also proffers certain puzzlement. The following sections will deliberate on those issues.

### **Expectations and Challenges: 1**

According to the MCI document on ECE, a total of 90 hours has been earmarked for ECE in the first year of the MBBS curriculum, and the three departments (Anatomy, Physiology, and Biochemistry) have been asked to share it equally (30 hours each) [9]. These 90 hours has not been given as extra time to the existing one, but as one that should be accommodated with the current crammed teaching hours. Already the teaching hours of basic medical subjects had been reduced when MCI abridged the teaching of basic sciences in the first professional year from 18 months to 12 months in 1995 [14, 15] and setting apart 30 hours by each basic science departments will further convolute their teaching schedule. Apart from 90 hours for the ECE program, one month of foundation course needs to be included in the curriculum, as per the direction of MCI to implement the CBME [16, 17], that again will leave fewer hours for teaching subjects. Teaching hours also include Community and Family Medicine (CFM) in the first year, but it is perplexing why that department is not involved in the teaching of ECE, as CFM faculties only introduce students to the community, which is one of the important contexts of patient encounter [9]. Furthermore the total teaching hours in each subject are not the same, with the following share of hours according to MCI guidelines: anatomy-650 hours, physiology-480 hours, and biochemistry-240 hours [18] reflecting the quantum of information to be studied in each subject. Thus the proposal of equally apportioning 90 hours among basic science departments for teaching ECE to students seems incoherent. Instead of handling ECE separately by each department, faculties from each department can discuss the applied knowledge of their respective subject about a single clinical condition using a real patient, so that horizontal integration of subjects also happens at the same time when sharing and saving hours.

### **Expectations and Challenges: 2**

The MCI document on ECE suggests small group teaching as one of the teaching-learning

methods for students so that better clinical experience can be accrued from the OPD/ward or community-based teaching [9]. Many studies have identified small group teaching as superior to other forms of teaching in improving observation skills, critical thinking, and analyzing capabilities [19-22]. The small group teaching is advocated in place of large group teaching as the former is found to enable higher-order thinking, fosters teamwork, inculcates lifelong learning skills, and improves communication skills [23-26]. But there is no consensus regarding the ideal number of students that form a small group; while a study reveals 3-4 is the best number [27] other studies indicate 6-8 is the ideal [28-30]. These small numbers are unachievable in Indian medical colleges as the number of students is large (50-250 in numbers) whereas the number of faculties is small (4-7 in numbers) in most of the medical colleges. The number of students is large in medical colleges as the Government of India has geared up to reduce the disparity of availability of allopathic doctors between rural and urban India [31] by increasing the number of medical graduates to cater to the country's health manpower needs [32]. Shortage of faculties in the medical colleges is due to the huge rise in the numbers of medical colleges within the last two decades without a concomitant rise in the number of postgraduate seats [33] which is further jeopardized by the MCI move to reduce the number of faculties in some departments to overcome the shortage of faculties [34]. A large group teaching in ECE defeats the essential purpose of small group teachings like interaction with their peers and their facilitator which facilitates the acquisition of required knowledge [35]. This problem can be overcome by either involving faculties from paraclinical and clinical departments, which may give temporary relief or recruiting an adequate number of faculties in the preclinical departments which may render permanent solutions.

### **Expectations and Challenges: 3**

The CBME document by MCI states three elements of ECE [9]. They are a) provision of clinical correlation to basic sciences learning, b) provision of authentic human contact in a social or clinical context that enhances learning in the early/pre-clinical years of undergraduate education, and c) introduction to humanities in medicine. The cardinal point among the three elements is patient. While stating the elements of ECE, the document has placed the patient in the center around which the whole activities of ECE is knitted, but when it comes to implementing, the document gives choices like case scenarios, videos, actual patients, simulated patients, lab reports, radiographic images and images of clinical conditions. When given choices the human tendency is to go for easy things. Among the choices, getting the real patient for the ECE program is the most difficult thing because coordinating with clinical departments to identify the relevant case, and getting a cooperating patient every time for the program is challenging [36]. If anything other than the patient is used for ECE teaching, then it is going against the very essence of the ECE program as ECE is often defined as authentic human contact in a social or clinical context during the preclinical medical years [37]. The ECE is also viewed as the scaffolding that fosters the process of professional socialization and the development of mentoring relationships [38] that is hardly possible when case scenarios, videos, simulated patients, lab reports, radiographic images, and images of clinical conditions is used for discussion. Students learn a lot more aspects of patient care when ECE takes place in primary care settings, general practice clinics, department outpatient clinics, and hospital wards as the environments surrounding the clinical setting shape the educational activity of ECE as a complete entity [14, 39] rather than only correlating the basic science concepts with clinical science subjects when a case scenario or video is used for discussion. The MCI document also suggests the use of patient-related documents like lab values, ECG reports, chest x-ray, etc., to teach the ECE module if patients could not be arranged [9]. These kinds of

activities have already been followed in some medical colleges during their Problem-based learning (PBL) or Case-based learning (CBL) program. The use of these patient-related documents for teaching ECE would not provide the essential components of ECE like basic clinical skills, communication skills, and development of emotional qualities like empathy. Medical college with good patient inflow only is a ground for producing good clinicians out of medical graduates [22]. If ECE is managed with clinical materials other than patients, the medical institutes will never make attempts like free treatments or subsidized treatment to attract patients. It is very sure that if the choice is given, the ECE would never step out of the classroom premise, thus the authors suggest that it should be made mandatory that only patients be used for discussion and nothing else.

#### **Expectations and Challenges: 4**

Assessment is an essential and integral component of the learning process as the former drives the latter. The goal of assessment is to measure the learning outcomes but at the same time, it also facilitates and improves learning outcomes. The assessment that facilitates and improves the learning outcomes is formative. The MCI document mentions about the formative assessment and internal assessment [9] for assessing ECE learning. In the formative assessment, attention must be focusing on the activities of students during ECE classes, scrutinizing the reflections of patients encounter in the logbooks, and providing timely feedback to enhance their learning. In the internal assessment and University examinations the following type of questions can be included to assess the knowledge gained through ECE program, as suggested by MCI document; a) the Modified Essay Questions (Problem-based long answer questions), b) Clinical Vignette based Short Answers Questions (SAQ), c) objective type questions (e.g. Multiple Choice Questions - MCQs) and d) Objectively Structured Practical Examination –OSPE [18]. Guidelines in the document are murky about how many questions

must be included in the question paper and how much marks should be allotted to each type of question to assess ECE. If the number of questions and marks is increased, accordingly the duration of examination also needs to be increased. The same changes need to be followed in practical examinations as extra OSPE/OSCE stations need to be arranged. OSPE is the modified form of OSCE [39]. OSCE is an assessment tool in which the components of clinical competence such as history taking, physical examination, simple procedures, interpretation of lab results, patient management problems, communication, attitude, etc. are tested using agreed checklists and rotating the student round several stations some which have observers with check lists [32]. OSPE is meant to test the practical skills of the student in their preclinical years whereas OSCE evaluates the clinical skills of the student in the diagnosis and management of clinical conditions. Since ECE bridges the preclinical year with clinical years and students learn few basic clinical skills through patient encounters, the assessment must be by OSCE and not by OSPE. Technically, OSCE stations need a real patient or simulated patient where students need to spend 4-5 minutes per station whereas OSPE station needs normal subject/specimens/instruments and students need to spend around 2 minutes per station [40]. It becomes a grey area if ECE is examined in practical exams using OSCE. As mentioned above, OSCE examines the clinical skills of a student using real patients, for which a preclinical faculty must not be an examiner. The above discussion presents some of the practical difficulties from the faculty's perspective that may restrain the implementation of the ECE part of the CBME program in medical colleges, especially in India. The article also suggests a few solutions overcome problems [29, 30].

## Conclusion

The CBME heralds a new beginning in medical education around the world. MCI has done an exemplary task in forming guidelines for training, implementing, and assessing various

components of the new curriculum. It also magnanimously declared that the document is a live one implying that it is open to constructive criticism and credible suggestions. Keeping that in mind, the article has identified few areas like hours of teaching of ECE, small group teaching, use of case scenarios instead of patients, and type of assessments, which need further introspection.

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