Review article:

Need of early clinical exposure in medical curriculum: Review

1Dr M C Tayade , 2Dr R G Latti

1Associate Professor, Department of Physiology, Rural Medical College, Pravara Institute of Medical Sciences, Loni, Tal. Rahata, Dist. Ahmednager, India
2Professor and HOD , Department of Physiology, Rural Medical College, Pravara Institute of Medical Sciences, Loni, Tal. Rahata, Dist. Ahmednager, India

Corresponding author: Dr Motilal C Tayade
Date of submission: 19 January 2017, Date of Publication: 21 July 2017

Abstract:
Early clinical exposure and its concomitants ensure well integrated knowledge of the basic sciences, clinical sciences and social functions. The Medical Council of India (MCI) has advocated early clinical exposure for students in medical colleges. In its ‘Vision-2015’ document for further reforms in undergraduate medical education, the MCI underlined the need for clinical teaching from first year onwards in medical colleges. Medical faculties can play vital role in application of early clinical exposure based teaching.

Early clinical exposure and integrated teaching pattern is already implemented in various worldwide medical schools. As part of a complex curriculum intervention early clinical experience helped recruit residents to rural primary care in the US. Many countries need urgently to recruit health professionals to deliver primary care to underserved populations. In Indian scenario it is an urge to produce healthcare professionals with predefined view and expertise in rural set up. With this view, present review article explains need of underline of early clinical exposure in undergraduate curriculum.

Keywords: Early clinical exposure, Medical Council of India

Introduction:
Today, India has the highest number of medical colleges in the world. This unprecedented growth has occurred in the past two decades in response to increasing health needs of the country. The most significant challenge for regulatory bodies like the Medical Council of India has been to balance the need for more medical colleges with the maintenance and improvement of quality standards. The globalization of education and health care and India’s potential as a destination of choice for quality education and health care has brought the issue into sharper focus. Medical education and pattern of training varies considerably across the world. Various teaching methodologies have been utilized in medical education, which is an active area of educational research.

Traditional medical curricula have been based on the model of teaching that kept medical students in classrooms and laboratory settings for the first year of their education, with an introduction to clinical medicine coming abruptly. The rapid pace of change in health care and medicine is giving rise to corresponding rapid changes in the content and process of medical education. It is now becoming more commonly recognized that the traditional structure of medical education created an almost
impenetrable wall between the so-called preclinical basic sciences years and the clerkship years.  

Changes in Medical Education pattern:
Recently MCI has introduced number of changes and updates in medical education including introduction of competency based education. It involves Early clinical exposure, Vertical and horizontal integration approaches, introduction of bioethics, communication skills, foundation course etc. 

Changes in health care have led to experimentation by medical colleges, with the introduction of clinical experience into the in replacing didactic form of traditional first year teaching. Most attempts at early clinical experiences (ECEs) have been confined to limited patient contact in an introductory course of first year on patient interviewing, a beginning physical examination skills course, or elective opportunities. 

Early clinical exposure, and the accompanying knowledge and skills development, does not replace the basic and clinical sciences, but rather enriches and contextualises that learning and offers a wider variety of teaching and learning methods.

Early clinical exposure and its concomitants, therefore, ensure well integrated knowledge of the basic sciences, clinical sciences and social functions. Curricula across the world now emphasise early clinical exposure towards horizontal and vertical integration and contextual learning in the local setting. Different teaching-learning methods have been used in teaching basic medical sciences (Anatomy, physiology & Biochemistry) for the first year medical students, so as to increase their interest and enhance their learning. Keeping in mind the implications of early clinical exposure, MCI has recommended early clinical exposure in new proposed syllabus.

Historical aspects:
It all started in the mid-19th century when medical education was in shambles in the USA owing to the burgeoning “Proprietary Medical Colleges” that lacked disciplined teaching protocols and were busy churning out “doctors” of far too lack of competency. A revolution to curtail this deleterious trend in medical education arose in the 20th century and soon led to the establishment of what we may call a “Hopkins Circle.”

The result was the release of the famous “Flexner Report” also called as “the Carnegie Foundation Bulletin Number Four” in 1910. Aside from other guidelines, the report laid down the foundation of what we are still implementing today (a century later) - “the pedagogic pattern of training in medical schools.”

The distinctive feature of this report is the two years exclusive training on basic sciences (preclinical) followed by 2 years of clinical (patient) exposure. Clearly, the preclinical or the basic training has been siloed from the clinical training in this traditional format. This pattern was needed at that time, and much good came by implementing the same.

Following this, the “Report by Lancet Commission in 2010” and by the “Howard Hughes Medical Institute” also emphasized on competence-based education which have been published subsequently. Following this the concept of ECE and integration approach was accepted and promoted by number of countries worldwide. In India, Medical Council of India introduced MCI Vision 2015 in 2011 and started acting over it. The concept of IMG was introduced following to it. MCI also started promoting Medical bioethics as mandatory new area of interest to format and build up attitude in medical graduates.
In last two decades there are observed tremendous changes in medical education reforms & changing learning styles / approaches. These innovative approaches found helpful while some are until under experimental state. Their impact on medical education & medical students is seriously under study process by International medical healthcare education communities.\textsuperscript{17}

**Current scenario:**

Today, however, we are experiencing tectonic changes in medical knowledge, technology, and practice. Changes to the clinical environment, the expectation of patients, the accountability to stakeholders, and the understanding of learning and its theoretical basis demand new, effective approaches to the learning, and the preparation of learners to be fit for purpose.\textsuperscript{18} Responding to these changes within and outside of medicine mandates introspection to the existing lacunae in medical education and refurbishing the system to align with the shifting times.\textsuperscript{19}

The Medical Council of India (MCI) has advocated early clinical exposure for students in medical colleges. In its ‘Vision-2015’ document for further reforms in undergraduate medical education, the MCI underlined the need for clinical teaching from first year onwards in medical colleges. It said that the clinical training should start with a foundation course focusing on communication, basic clinical skills and professionalism. It pointed out that most medical colleges across the world start clinical training in the first year with communication, interviewing skills and basic examination skills through skills laboratories and students practising examination of each other. Medical council of India has also proposed integrated teaching in medical curriculum including horizontal as well as vertical integration for MBBS students.\textsuperscript{20,21}

**Implementation of ECE:**

It can have three basic forms of implementation. The first one is a college or a classroom setting wherein a patient (uncomplicated and cooperative) can be brought to the classroom and the basic science and clinical science teacher can discuss in detail with the students.\textsuperscript{22} In the second form, the students can be taken to the hospital “wards/clinics” and made to understand the protocols and patterns. These two “patient encounters” can help the student enhance their skills and understand diseases and ailments. The third form of patient exposure is that of the “community or underserved opportunity program.” The object here is to provide a context for basic science learning by integrating it with clinical dimension, but more importantly societal perspective (socioclinical relevance and context to basic science learning).\textsuperscript{23} It creates awareness about how people live, how their living conditions influence health, and need of health services in a given population. By this form of exposure, students look beyond signs and symptoms of disease and think in terms of prevention of disease and promotion of health.\textsuperscript{24}

**Integration approach and early clinical exposure:**

ECE is an archetype of “vertical integration” in medical education, with an immense interdisciplinary contribution. A tremendous teamwork and planning is required, and the same is encouraged for the success of this offbeat yet resourceful format. At the same time, the teachers (both basic science and clinical) are primarily facilitators, like a lighthouse, showing the path that the students take.\textsuperscript{25} This imparts the students a sense of responsibility and encourages them with self-directed learning.\textsuperscript{26}
Providing finer minutiae in relation to ECE is beyond the scope of this editorial. However, my main intent is to sensitize one and all about the prospect of ECE as the same has a strong formative influence that can be used to foster a socially responsive carrier orientation.27

The initial years of medical education are critical to form the pre-conceived attitudes of medical students towards medicine and to familiarize them with the roles they will play in the future as a physician.1 Accordingly, along with the drive toward the reforms of medical curricula, there has been a growing consideration to provide some opportunities for integration of pre-clinical and clinical phases.2,3 Many medical schools around the world, in response to these needs, implement various types of vertically and horizontally integrated practical experience into the early years of curriculum to introduce important issues in medicine to pre-clinical medical students.4-7

Early clinical exposure (ECE) is a way to integrate the knowledge of basic and clinical sciences and the psychosocial aspects of medical practice.8 There is some evidence showing that delivery of ECE programs in the early years of medical curricula may move medical education towards the real context of practice.28

Indian scenario, ECE and its need:
In India, the curriculum is mainly discipline based. Medical students for generations spend preclinical years in classrooms, dissection hall and laboratories. They find it hard to understand the importance of preclinical subjects and the purpose of their learning that takes place.29 They also are not able to relate the concepts of preclinical and clinical subjects, as they are not exposed to patients and their disease states. Teaching them remains in separate academic departments, without integration to interrelate the subjects. They look forward to dealing with patients and interact with them. Exposing medical students to the patients or community at the very first year is the need of current scenario. Early Clinical Exposure (ECE) is nothing but preparing the first year MBBS students to meet and learn from the patients. In MCI Vision 2015 document, there are proposed plans for undergraduate medical education in which ECE is one of the reforms to improve quality of medical education.30

Indian Medical curriculum being discipline based, there is a line of demarcation between preclinical and clinical subjects.31 The challenges in medical education include the methods that would enhance the clinical education quality; one such method been Early Clinical Exposure (ECE). ECE can help to instill the skill component of medical education in the first year students helping to minimize the line of demarcation.32

Vaughan & Hogg (1995) defined attitude as, ‘A relatively enduring organization of beliefs, feelings and behavioral tendencies towards socially significant objects, groups, events or symbols or a general feeling or evaluation (positive/ negative) about some people, objects or issues.5’6 Studies indicate that attitudes have the highest chance of change during university studies32. These attitudes can be generated for students by producing motivations and imagination of the future goals. Success and reaching goals are results of a positive attitude towards that goal or action. Various factors affect the formation and development of attitudes during life. Psychologists have studied these factors using different methods and have reached different points of views33.
Advantages and implementation of early clinical Exposure:
Early clinical experience helps the medical students socialized to their chosen profession (5). 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.34

Soloman sathishkumar, Nihal Thomas, Elizabeth Tharion Nithya Neelkantan and Rashmi Vyas. Attitude medical students towards early clinical exposure in learning endocrine physiology.35

A basic science like anatomy should be learned as a relevant subject, for application in the clinical practice. Gaining a vast amount of knowledge may not always mean that the student will be able to apply that knowledge in a clinical setup or in patient care. An ideal knowledge of Anatomy will be a clear understanding of its clinical applications, and will subsequently lead to a sound clinical practice. Hence Anatomy would be better understood, retained and later practically applied, if learned in a clinically significant set-up.36 Introducing clinically relevant material along with didactic teaching will most likely result in the information being retained longer by the student.

The goals of ECE are to provide significance to basic sciences along with expansion of medical knowledge so as to establish the cognitive component of professional learning 31. Concurrently, the students will develop some fundamental clinical skills as well as a moral attitude (to practice with integrity and respectability). All this will help the students to overcome their pressures and anxieties and motivate them to develop a better insight into the medical profession 32. It will also lead to a positive influence in the attitude of the student towards medical education which will help them to achieve social as well as professional satisfaction 37.

Conclusion:
In conclusion as students face eternally growing amount of information in the medical sciences, ECE will increase their exposure to clinical problems and thus prepare them to be up-to-date physicians throughout their careers.

Abbreviations:
ECE : Early clinical exposure
MCI : Medical council of India

References:


26. Johnson, A K; Scott, C S ; Relationship between early clinical exposure and first-year students' attitudes toward medical education , Academic Medicine , April 1998 ; 73: 04: 66-74.


