

Competency-based Medical Education: The Perceptions of Faculty

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ABSTRACT

Introduction: Competency-based medical education (CBME) is being implemented across India in medical colleges from the 2019 batch. The new aspects of this curriculum are introduction of a foundation course (FC); early clinical exposure; longitudinal program on attitudes, ethics, and communication; electives; emphasis on small group learning methods; assessment changes; and most importantly, a horizontally aligned and vertically integrated method of teaching–learning. The faculty members of medical colleges are the prime movers for implementing the CBME. The Medical Council of India (MCI) is imparting training about the new curriculum to the faculties of all medical colleges across India. All faculty members have not been able to get the requisite training in the latest changes as required for the new curriculum. This study is an attempt to analyze the awareness and perceptions of the faculty and the challenges envisaged in the implementation of CBME.

Materials and methods: All faculty members of our college were e-mailed a self-structured, prevalidated Google questionnaire. The results were analyzed by the inbuilt available Google statistical software.

Results: A total of 58 faculty members responded to the questionnaire. Of the 58 faculty members, 87.9% were aware about the CBME but only 51.7% felt that better doctors would be produced as a result of its implementation. Eighty-one percent were aware that small group teaching needs to be two-thirds of the total teaching hours in a particular subject but the small group teaching methods only few could enlist. Around 86.2% agreed that students should have early clinical exposure. Around 41.4% were not aware of the changes in internal assessment as proposed by CBME.

Conclusion: The faculty lacked uniformity in awareness and there was ambiguity on various aspects and constituents of CBME as proposed by the MCI. The proper implementation of CBME would require more clarity and continuous efforts by Medical Education Units (MEU) under guidance of the MCI to update their faculty in the form of Curriculum Implementation Support Programs (CISPs), Revised Basic Course Workshops (RBCWs), and advanced courses in medical education.

Keywords: Challenges of CBME, Competence based medical education, Faculty awareness, Faculty perspectives, Medical education.

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INTRODUCTION

The medical education in India is going through a radical change this year with the implementation of competency-based medical education (CBME) curriculum. The CBME is an outcome-based approach where the emphasis is on producing a competent Indian Medical Graduate (IMG).¹ The salient features of the new CBME are the “competencies” that are the main focus of the curriculum. A competency can be defined as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.”²

The IMG is expected to be a physician of first contact who has to essay the roles of a clinician, leader, professional, communicator, and lifelong learner. The new Graduate Medical Education Regulations (GMER) states that the learning process should include living experiences, problem-oriented approach, case studies, and community health care activities. Hence, CBME is learner-centric with the teaching–learning activities concentrating on skill acquisition and clinical experiences with the didactic lectures not exceeding one-third of the schedule. Therefore, the majority of teaching schedule would include interactive sessions, practical sessions, and small group discussions.

The present curriculum is not aligned with societal needs and lays more emphasis on knowledge than skill acquisition with no formal training on attitudes. The new CBME curriculum gives priority to the doctor–patient relationship, ethical values, and the

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communication process. The development of ethical values and overall professional growth as an integral part of the curriculum shall be implemented through a structured longitudinal and dedicated program on professional development and ethics called Attitude Ethics and Communication (AETCOM). It will be delivered by well-defined modules, role plays, project work, field trips, medical camps, and voluntary services.¹

One of the biggest challenges in implementing CBME would be the horizontal alignment between different subjects in a single

phase and vertical integration across phases. This new curriculum as a system-based approach focuses on competencies that would need more efforts and dedication on the part of the faculty to make it a success. The faculty would no longer be givers of knowledge but will become facilitators in the students' acquisition of knowledge. To sensitize and train the faculty about CBME, the Curriculum Implementation Support Program (CISP) workshops are being held in various colleges across India. The aim of this study was to assess the attitude, awareness, and perception of faculty about CBME and the challenges likely to be faced in its implementation.

MATERIALS AND METHODS

This study was carried out in our college as a cross-sectional questionnaire-based study. The consent of the dean and ethics committee approval were taken. The questionnaire was administered online in the form of a Google form. All faculties were sent the form through e-mail. Consenting faculty filled the form online. Responses were received from 58 faculties members. The questionnaire included both open- and closed-ended questions. It comprised of seven sections. The first part focused on the awareness and training of faculty in form of Revised Basic Course Workshops (RBCWs), AETCOM sensitization workshops, and CISP workshops. The subsequent parts had questions pertaining to awareness of faculty on FC, early clinical exposure (ECE), electives, teaching-learning methods, and assessment changes. The last section had open-ended questions to know about the likely challenges in implementation and their suggestions to make it successful. The responses were analyzed by an inbuilt Google Statistics available with Google forms.

RESULTS

Of the 70 faculty members, 58 faculty members responded. Of the 58 faculty members who answered the questionnaire, 12.9%

of faculty were not even aware that CBME is being implemented from the 2019 batch. Of the 51 faculty members who were aware of the new curriculum, only 25 (43.1%) members felt that its implementation would lead to better doctors in future.

The numbers of faculty who attended the RBCW, AETCOM, and CISP workshops are given in Table 1.

Regarding the newly introduced FC, 81% of faculty were aware that such a course of 1 month was being introduced at the beginning of the new curriculum. Around 70.7% of the faculty had also seen the uploaded timetable of the FC in the college website.

Competency-based medical education has incorporated a new module of ECE, which is being introduced as a teaching tool in classroom, hospital-based, and community settings. Around 89.7% of faculty were aware that the new curriculum mandates ECE for undergraduate students. Suggestions were asked from faculty members about the cases that were more important for ECE for the fresher students. The suggestions are listed in Table 2.

The perceptions of faculty on lectures and small group teaching-learning methods are listed in Table 3. Majority of the faculty were aware that the new curriculum limits "lectures" to only one-third of the total teaching hours allotted to a particular subject and that "small group" teaching-learning methods would now account for two-third of the total teaching hours (Table 4).

Electives have been a new addition in the CBME curriculum. The new curriculum mandates 2 months of elective postings for undergraduate students between 3rd prof part-1 and part-2 was known to 67.2% of the faculty. The topics suggested by our faculty for electives are given in Table 5.

Table 1: Number of faculty members who attended the RBCW, AETCOM, and CISP workshops

Topic	Attended (n)	Not attended (n)
Revised Basic Course Workshop (RBCW)	32 (44.8%)	26 (55.2%)
Attitude Ethics and Communication (AETCOM) Workshop	44 (24.1%)	14 (75.9%)
Curriculum Implementation and Support Programme (CISP) Workshop	35 (39.7%)	23 (60.3%)

Table 2: Topics suggested by faculty for ECE (in random order)

Topics suggested		
Acute abdomen	Chest pain	Inguinal hernia
Jaundice	Anaphylaxis	Varicose veins
Myocardial infarction	General fever case	Pulmonary tuberculosis
Water-borne and food-borne disease	Hospital-acquired and community-acquired pneumonia	Communicable and noncommunicable (lifestyle) disorders
Anemia	Thyroid disorders (hyper or hypothyroidism)	Chronic renal failure
Diabetes mellitus	Hypertension and anemia in pregnancy	Bell's palsy
Hypertension	A case of ascites	Notifiable diseases under Integrated Disease Surveillance Program (IDSP)
Malnutrition	Malaria	Weight loss
Congenital heart disease	Spinal nerve injuries	Cranial nerve injuries
Immunization clinic	Pain abdomen	Poison ingestion
Dehydration	Dialysis center	Insect bites
Dengue	Tuberculosis	Seizure disorder
Gastroenteritis	Stroke	Prostate hypertrophy
First aid in trauma and emergency care	Pleural effusion	Paraplegia
Blunt injury case	Chronic liver disease	Respiratory distress

Table 3: Faculty responses on lectures/small group learning methods

S. no.	Question asked	Aware	Unaware
1	Are you aware that the new curriculum limits “lectures” (as a teaching–learning method) to only one-third of the total teaching hours allotted to a particular subject?	46 (79.3%)	12 (20.7%)
2	Are you aware that the new curriculum mandates “small group” teaching–learning methods for two-third of the total teaching hours allotted to a particular subject?	47 (81%)	11 (19%)
3	Do you know of any “small group” teaching learning methods?	42 (72.4%)	16 (27.6%)

Table 4: Small group learning methods suggested by the faculty

Methods suggested		
Seminar	Tutorials	Focused group discussion
Fish bowl	Think pair share	Problem-based learning
Snow ball	Case-based discussion	Flipped classroom
E-Learning	Jigsaw	Role-playing
Buzz groups	Simulation	Bedside teaching

Table 5: Topics suggested for electives by faculty in random order

General elective	Clinical elective
Statistics/biostatistics	Emergency medicine
Research methodology	Dialysis unit
Molecular techniques in diagnostics	Transfusion medicine
Sports/exercise physiology	Cosmetic dermatology
Dietetics	Psychological evaluation in pediatrics
Computer skills	Critical care
Organ donation and transplant units	Oncopathology
Genetics	Lab medicine
Hospital management	Toxicology lab
Assisted reproductive technology unit	Rehabilitative medicine
Immunology unit	Neonatology
Regenerative medicine	Palliative care
Community projects	Rheumatology

Table 6: Faculty awareness about assessment changes

S. no.		Yes	No
1	Are you aware that the MCI mandates regular formative assessment under CBME?	44 75.9%	14 24.1%
2	Are you aware of the changes in weightage of internal assessment in the final result?	34 (58.6%)	24 (41.4%)

Table 7: Innovative assessment methods for formative assessment

Daily feedback	Muddiest point	Log book with reflection writing
Objective structured practical examination (OSPE)	One minute perceptor	Objective structured clinical examination (OSPE)
Mini clinical evaluation exercise (Mini-CEX)	Class quiz series	360 degree evaluation
Work place based assessment (WPBA)	Portfolio	Mock case presentation
MCQ	Clinical encounter card	Chart simulated recall

The assessment methods have been modified from the previous curriculum. The responses of the awareness of the changes have been tabulated in Table 6.

The faculty suggestions for formative assessment included the following “Innovative Assessment Methods” (Table 7).

In the last section of the questionnaire, the faculty members were also asked to give their views on the challenges faced by them. Thematic analysis of qualitative responses is given below (Table 8).

DISCUSSION

The introduction of CBME has led to a paradigm shift in medical education across India. However, it is yet to be seen whether the promises of CBME will be able to prepare the next generation of doctors effectively to meet the health needs of the country. Faculty members across various medical colleges in India are putting in their whole-hearted efforts to make this successful. The timetable of first-year MBBS has been uploaded on the websites of respective medical colleges.

Table 8: Thematic analysis of qualitative responses of faculty about likely challenges in CBME implementation

Inadequate number of faculty members to implement CBME	Logistics-related issues
Shortage of faculty members for small group teaching would be a major challenge	Required new setups in UG lab due to addition of new practicals
Gross mismatch between MCI-stated faculty requirements in departments and actual requirement to implement small group teaching and formative assessment	Lack of clinical forensic medicine cases and unpreparedness of the clinicians to share situations of medicolegal relevance and significance
Faculty to take out time from busy schedule to do the small group teaching everyday especially faculty in clinical departments	First-time exposure to a new teaching method will create hurdles
Lack of faculty would lead to improper implementation, conduct, and assessment	Horizontal and vertical integration of different departments
A dedicated faculty will be required to devote time for these students	Difficulty in the integration of all topics with other departments as the contents length differ in different departments
A dedicated faculty will be required to devote time for these students	Training and sensitizing all faculty for the same
Ratio of faculty and students is very less	There should be enough cooperation between the faculty members Logistics of conducting small groups in clinical settings in wards Assessment and feedback for each and every activity Piecemeal coverage of topics Faculty to be made aware of proper guidelines Implementation of new TL activity As I am from FMT, and now we have to teach for 2 years and its assessment will be in the end of the course. I think they will not take seriously in first of the forensic class Faculty to take out time from busy schedule to do the small group teaching everyday, three batches of students across three semesters with different topics going on for each semester The teething problems of having a curriculum that fits every parallel department It would take a lot of careful planning and execution initially but it would be fruitful in the end Development of objective skill assessment and feedback
Procurement issues	Time-related issues
New instruments and new kits	Time management issues
Required new setups in UG lab due to addition of new practicals	Syllabus completion could be a problem Will require better time management Time management in imparting skills necessary Managing teaching hours balancing already previous curriculum batches The faculty will have to put in more number of hours to plan small group activities; for example, for case-based learning they need to draft cases for common clinical problems, so they will have to be motivated and kept free of other duties to do justice to CBME

The awareness and knowledge about the salient features and new aspects of CBME was not uniform across faculty members. Although majority of them were aware of the changes, around 10% were unaware. The new pool of faculty members joining every year have been trained in the previous curriculum and would not be aware of the finer aspects of the new curriculum. This requires that all medical institutions to keep up with the continuous efforts of updating their faculty members in form of CISPs, RBCWs, and advanced courses in medical education supported by MEU units under guidance of the MCI.³

The FC as proposed by GMER has recently been concluded in most medical colleges across India.⁴ The FC is a 175-hours module covered in 25 days, which includes the following components: skills

module, field visit to community health center, and professional development including ethics, language, and communication skills. The students admitted to the MBBS course being from diverse backgrounds need training in local language to be able to communicate effectively with patients. Imparting basic computer skills training is also a component of FC. Eighty-one percent of our faculty were aware of the one-month FC, and 70.7% of faculty members knew about the above-mentioned components of FC.

Early clinical exposure has been introduced in CBME to impart clinical relevance to the basic sciences. This is also expected to engrain empathy and compassion toward patients. Early clinical exposure can be in the form of case scenarios, paper cases, lab reports, ECG, photographs, and “actual patients.” This can be



imparted in the classroom setting, hospital setting, and community visits.¹ Around 89.7% of the faculty members were aware that the new curriculum mandated ECE, and majority of the faculty (86.2%) members were in agreement with the concept of exposing the first-year students to ECE.

Electives are another new introduction in the CBME curriculum. They are brief courses available to the learners to explore their interests in different medical fields consisting of one general elective and one clinical elective. They are being introduced for the first time to sensitize the students to various career options that are available after completing their graduation by having direct experiences in diverse areas. It is mandatory that all students take up any two elective topics for 2-month duration after completion of 3rd MBBS part 1 and before commencement of 3rd MBBS part-2. However, one-third of our faculty members were not even aware that the new curriculum mandates 2 months of elective postings.

Competency-based medical education enables the alignment of assessment with teaching-learning in actual workplace settings.^{5,6} Assessment modifications in the weightage of internal assessment as per the GMER document were known to 58.6% of our faculty members. However, the recent clarification from MCI states that a minimum of 40% marks are required individually in theory and practical of every subject and an aggregate of 50% score in the internal assessment is mandatory to be able to appear for summative assessment. Three-fourth (75.9%) of the faculty members were aware about the changes in regular formative assessments under CBME.

The faculty perceives that a major challenge in implementation of CBME would be shortage of teachers for small group teaching. Presently, there is a gross mismatch between MCI-stated faculty requirements in departments and actual numbers available in each department to implement small group teaching, early clinical exposure, electives, and formative assessment. This is more pertinent for clinical departments as their faculty members have to take time from their busy clinical schedules to do the small group teaching.

So far, CBME has been experimented in India only in few medical colleges for postgraduate education with good results but the outcome for undergraduates is awaited.⁷ Systematic planning needs to be done, and the approach to medical education needs to be given a new direction.⁸

As faculty members are the forebearers to this new change, our study is an attempt to analyze the perceptions of the faculty and the likely challenges to be faced about the new curriculum. This knowledge can be used for proper implementation, conduct, and assessment of CBME.

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