

Perspectives of Teachers at Medical Colleges Across India regarding the Competency based Medical Education Curriculum – A Qualitative, Manual, Theoretical Thematic Content Analysis

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Abstract

Background: Competency-based medical education (CBME) curriculum has been implemented in India since 2019 with a goal to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values, and responsiveness.

Objectives: To explore teachers’ perceptions across India at medical colleges on the newly implemented competency-based medical education curriculum.

Methods: This was a qualitative cross-sectional study conducted among teachers working at medical colleges across India, between February and April 2022 (n=192). The data collection was done using Google forms online survey platform on teachers’ perception regarding CBME, its specific components, and perceived bottlenecks. We analyzed this qualitative data using manual, theoretical thematic content analysis following the steps endorsed in Braun and Clarke’s six-phase framework.

Results: The majority of the teachers (64.1%) have positively responded to the CBME curriculum’s implementation. However, it came with a caution that the curriculum should continuously evolve and adapt to regional demands. The foundation course, early clinical exposure, and the family adoption program were the specific components of CBME curriculum over which the teachers raised concerns. The need for additional teachers in each department (department-specific teacher or faculty per hundred students ratio to be worked out) and the need for enabling faculty preparedness through adequate training was highlighted. Concerns were also raised regarding implementing CBME with teachers without a medical background (especially in preclinical departments).

Conclusion: It is the need of the hour for the curriculum to incorporate a systematic feedback mechanism built into the system, through which such critical appraisals can be meaning collated and acted upon, to ultimately evolve, thereby creating an “Indian Medical Graduate” for the needs of today’s society.

Keywords: Cross-Sectional Studies, Feedback; Goals, Search Engine, Curriculum, Faculty, Students, Attitude.

INTRODUCTION

Over the past two decades, medical education has witnessed a paradigm shift towards competency-based medical education (CBME).^[1] However, any medical education system focuses on training graduates to become effective healthcare providers.^[2] CBME is a concept where teaching, learning and assessment are driven by the population’s needs, which in turn direct

the kind of competencies learners should attain to address those needs.^[3] In India, the regulations on graduate medical

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education (1997, Amendment notification dated 4th November 2019) notified the introduction of CBME curriculum for MBBS courses starting from the academic year 2019-20 onwards.^[4] The national goals of the curriculum include (but not limited to) creating an “Indian Medical Graduate” (IMG) with the ability to recognize “health for all” and health right of all citizens, practice holistic medicine, develop scientific temper; acquire educational experience for proficiency in profession; and fulfilment of social and professional obligation by observance of medical ethics.^[5] The set of roles expected from an IMG are being a clinician, life-long learner, communicator, leader, and professional.^[6-8] Some of the newer elements under the CBME curriculum include a foundation course, early clinical exposure and integration, self-directed learning, electives, pandemic modules, family adoption program, revamped examination, and assessment patterns in addition to modules on attitude, ethics, and communication (AETCOM).^[9]

As with any change in curriculum, teaching faculty are supposed to play a catalyst role in moderating the transition; understanding, adopting, and implementing frameworks of CBME.^[10] They also play a pivotal role in motivating the stakeholders to be a competent physician.^[11] The charge of carrying the curriculum forward demands a distinctive intellectual and scholarly cast of medical educators.^[12] The multidimensional roles of the teacher in medical colleges is summarized in Figure 1.^[13-15] Teachers at medical institutions may not be able to provide adequate training for the students without being formally trained because the concept of faculty development as a whole is still evolving. A well-planned faculty development strategy can address the deficiencies in training of health professionals and accelerate the possibility of successful implementation of CBME towards improved health outcomes.^[16,17]

Against this background, the primary aim of this study was to explore the perceptions of teachers at medical colleges across India on the newly implemented competency-based medical education curriculum.

METHODS

This qualitative cross-sectional study was conducted among teachers working at medical colleges across India between February and April 2022. We considered being Assistant Professor as the minimum eligibility to participate in the study. The study was approved by Institute Human Ethics Committee (IHEC), KMCH Institute of Health Sciences and Research, Coimbatore, Tamil Nadu, India. The participant information sheet (PIS) in English was provided to the study participants digitally and were enrolled in the study only after obtaining informed digital consent.

The study questionnaire was designed to capture teachers perception on various facets of competency based undergraduate curriculum. The data collection was done using Google forms online survey platform that included

Table 1: General perception towards CBME

Codes	Participant responses (Verbatims)
For CBME	Verbatim 1.1.1: “Integration is the key to CBME. Very good initiative”
	Verbatim 1.1.2: “CBME is evolving, and it will continue to do so”
	Verbatim 1.1.3: “Uptake of competency-based training curriculum is much appreciated. However, it is being implemented in haste, Change is drastic”
Against CBME	Verbatim 1.2.1: “Old curriculum with certain improvements would have been sufficient”
	Verbatim 1.2.2: “The new curriculum is nothing new from the old one with regards to what student ultimately learns. It is a consortium of new terminologies”
	Verbatim 1.2.3: “CBME is literally great stress and harassment to very young Indian medical students and their teachers”

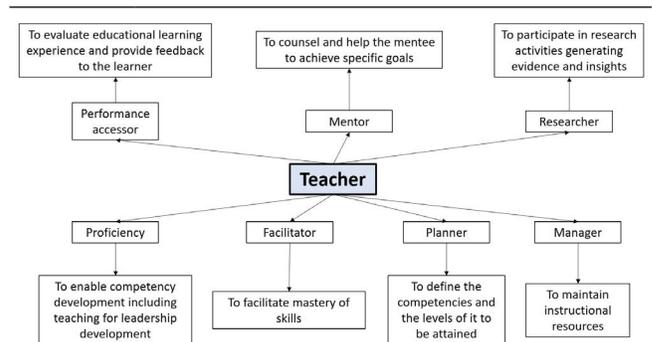


Figure 1: Roles of a teacher

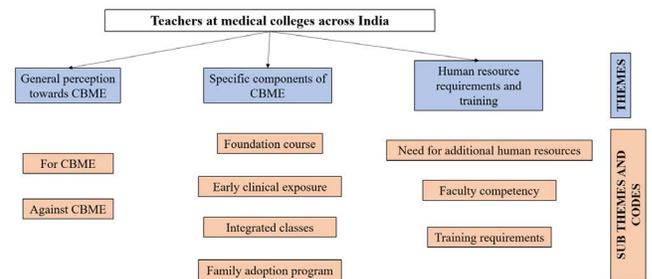


Figure 2: Overview of results

identification details, perception regarding CBME and its specific components, and perceived bottlenecks. The link to the questionnaire was circulated through existing social media platforms and national level faculty groups (department wise WhatsApp and Telegram groups).

The qualitative data was analyzed using manual, theoretical thematic content analysis following the steps endorsed in Braun and Clarke’s six-phase framework.^[18,19] The transcripts were read and re-read to ensure familiarity with the data corpus. Also, the notes were made, and early impressions jotted down. The data was then organized in a

Table 2: Perception towards specific components of CBME

Codes	Participant responses (Verbatims)
Foundation course	Verbatim 2.1.1: <i>“Though I understand the rationale for having a foundation course (at the time of entry into medical colleges), what I see is that students feel exhausted and create aversion towards the subject”</i>
	Verbatim 2.1.2: <i>“Foundation course can be split into two parts - 15 days each, to deliver the prescribed content in the beginning and mid of the phase 1”</i>
	Verbatim 2.1.3: <i>“1 months foundation course is utter nonsense”</i>
	Verbatim 2.1.4: <i>“Foundation course duration can be reduced to 10 days, with select topics. At present its too long leaving both students and faculty exhausted”</i>
	Verbatim 2.1.5: <i>“Foundation course should be shortened to 2 weeks”</i>
Early clinical exposure	Verbatim 2.2.1: <i>“ECE from phase 1 is overwhelming for the teachers. It distracts the students – jumping to conclusions (for example. signs and symptoms or diagnosis) and not actually understanding the basic science”</i>
	Verbatim 2.2.2: <i>“ECE could be implemented from second half of phase 1, once they are adapted well to new course”</i>
	Verbatim 2.2.3: <i>“2 years are required to learn the basics of medicine; too much of early clinical exposure and integration will not help them in their initial semesters”</i>
	Verbatim 2.2.4: <i>“Admitting MSc faculty in medical colleges for teaching CBME – we can’t expect them to be useful in AETCOM, ECE, foundation course, professional and clinical competencies”</i>
Integrated classes	Verbatim 2.3.1: <i>“Non-medical staff find teaching clinical concepts very difficult”</i>
Family adoption program	Verbatim 2.4.1: <i>“The norms regarding FAP are really vague. The families enrolled should be outside field practice areas, preferably unserved or underserved by existing public health system (rare in Tamil Nadu); five for each student; and should be followed by the department after three years. This means each year 750 new families are to be followed; and in five years 3750 families to be managed by the department”</i>

systematic meaningful way by generating codes. Because each open-ended question was thematically enquired about, the data was thematically sorted to start with. However, it was ensured whether the themes make sense, data supports these themes, trying to fit too much into a theme, overlaps, subthemes within predetermined themes, or other novel themes within the data. The results were presented according to themes (n = 3) (Figure 2). Under each theme, codes and supportive manually chosen verbatims were provided.

Table 3: Human resource requirements and training

Codes	Participant responses (Verbatims)
Need for additional human resources	Verbatim 3.1.1: <i>“There is dire need for improving the faculty number as soon as possible”</i>
	Verbatim 3.1.2: <i>“Faculty student ratio is not at all adequate. Especially with more small group activities increasing faculty strength should be prioritized”</i>
Training requirements	Verbatim 3.2.1: <i>“Faculty preparedness is inadequate”</i>
	Verbatim 3.2.2: <i>“Faculty training is the need of hour”</i>
	Verbatim 3.2.3: <i>“Most of our clinical departments are not aware of this CBME based new curriculum; training is essential and should be done urgently”</i>
	Verbatim 3.2.4: <i>“CBME can be implemented after training all the faculty for better results”</i>
	Verbatim 3.2.5: <i>“Quicker and more sessions of faculty training on RBMET & CBME - CISP, are needed first. Or else we won’t be able to achieve the objectives of CBME”</i>
Faculty competency	Verbatim 3.3.1: <i>“In the vision of training an Indian Medical Graduate, non-medical faculty should be eliminated from pre and para clinical departments”</i>
	Verbatim 3.3.2: <i>“Faculty with MSc qualification can be used as tutors ONLY for teaching paramedics, Not CBME”</i>

RESULTS

The results included perspectives of 192 teachers of cadre Assistant Professor and above working in medical colleges across India on the newly introduced CBME curriculum. Of the 192 medical teachers, 108 (56.3%) were from government medical colleges and 84 (43.7%) were from private medical colleges. More than one third, 67 (34.9%) were Assistant Professors, 96 (50.0%) were Associate Professors and 29 (15.1%) were Professors.

Theme 1 - General perception towards CBME: The results of the present study show that majority (n = 123, 64.1%) of the teachers have received the introduction of CBME curriculum positively. However, it came with a rider that the curriculum should continuously evolve and adapt to regional ground level demands (Table 1). On the contrary, we found that a significant number (n = 69, 35.9%) of teachers considered CBME curriculum a stressor. Few verbatims read CBME to be a *“Consortium of new terminologies”* and *“Old wine in new bottle”* for the teaching methods already in practice. Teachers perceived that ‘too much’ is being implemented ‘too quickly’.

Theme 2 - Specific components of CBME (regarding): The perspectives of medical teachers towards specific components of CBME are summarized in Table 2. Almost all the teachers opined that the current duration and contents of foundation

course is creating dislike towards the core medical subjects among medical students. In their perception, it may be attributed to the exhaustive nature of foundation course. The teachers suggested that the contents and duration of foundation course should be revisited. The duration may range from ten days to two weeks as a one-time event or with reinforcement after six months into the course.

Early clinical exposure aims at providing a context that will enhance basic science learning. However, many of the preclinical teachers opined that phase 1 is too early to introduce students to clinical scenarios. They added that early clinical exposure may be implemented in the second half of phase 1, preferably from phase 2. Also, presence of teachers without medical backgrounds in basic science departments adds to the burden of the department in relation to effective implementation of AETCOM, early clinical exposure, foundation course, and professional and clinical competencies.

Concerns regarding the clarity of family adoption program choice of area, follow-up of families after documented three years of student follow-up, requirement of additional human resources and logistics were raised by teachers from department of Community Medicine.

Theme 3 - Human resource requirements and training

Regarding human resource requirements, almost all (n=190, 98.9%) expressed the need for additional teachers in each department. The common reasons specified were, CBME demanding increased individual student attention through small group teaching; need for teachers' feedback on many aspects of the curriculum including increasing assignments, logbooks, records, and reflections, and increased need for multiple documentation with the introduction of CBME (Table 3).

Similarly, all the teachers included in the study indicated the need for training teachers being a part of CBME curriculum. A specific verbatim read "*Faculty preparedness is inadequate*" highlighting the lack of orientation to newly introduced competency based medical curriculum. Teachers documented the necessity to conduct training of trainers (ToT) for faculty development programs, increase the number of training centers, training sessions and number of participants per session.

One other concern regarding the implementation of CBME was availability of teachers without a medical background (for instance, M.Sc. in any preclinical subject). This is important with CBME aiming at an effective outcome-based, student-centered strategy for medical education – through introduction of clinically correlated components including attitude, ethics, and communication (AETCOM) modules, foundation course, early clinical exposure and integration, self-directed learning, electives, family adoption program, revamped examination, and assessment patterns.

DISCUSSION

The present study qualitatively summarizes the perceptions of medical teachers across India on their perception regarding

competency based medical education curriculum, its specific components, and perceived bottlenecks.

The medical teachers have favored the introduction of competency based medical education curriculum. However, they opined that it should be dynamic, with scope to evolve considering the heterogeneity associated with India in terms of geography, human resources, health systems and disease burden. Literature evidence also supports such a notion – any curriculum should incorporate a subject centered approach, interest curriculum approach, structure-of-knowledge approach, and the humanistic approach with sufficient flexibility for contextual variations.^[20] The strength of competency based medical curriculum is that it focuses on outcomes, be it at individual, departmental or institutional level.^[21] It considers the fact that each learner is unique and learns at his/her own pace. It understands that the art of medicine can be attained not only through knowledge and skill but requires the right attitude and communication. It promises greater accountability because the assessments are very close to what would actually be done in real life situations.^[22] However, more than one third teachers in the present study considered CBME curriculum a stressor. This may be attributed to bringing about a paradigm shift, that is drastic and hasty, in regular teaching–learning and assessment methods. Also, this may stem from the inadequacy of competency-based curriculum to convince the teachers in terms of student relationship, students' academic performance, and job satisfaction.^[23] In a recent review it was documented that competency-based training in medical education provides very little benefit for doctors in training; and disapproved the emphasis on individual skills rather than overall learning experience.^[24] Another study highlighted the inadequacy of CBME to describe the higher order skills necessary for professional practice, suggesting the need to emphasize workplace learning.^[3, 25]

The foundation course, early clinical exposure, and the family adoption program were the specific components of CBME curriculum over which most of the concerns were raised by the teachers. The perceptions of teachers regarding foundation course revolved primarily around the contents and duration of the course. It was made clear that the current duration of course should be cut down to about ten to fifteen days, and to go with it the contents of the course. Few opined that the course can be repeated (probably with updated additional contents) after six months into the course for better uptake. The existing literature of longitudinal studies highlight that the stress levels among medical students were high during the initial months of joining the course and during examinations.^[26, 27] Stress during examinations is relatable, however, stress during initial months of joining the course needs further exploration. Though foundation course, aims at orienting the students to entire system of medical education and hospital functioning, ease students into medicine in the immediate months of joining the course, it is understood in

the present study that students feel overwhelmed. Teachers perceived that the students may feel apprehensive towards the curriculum and environment, personal competence, and endurance, with concerns regarding time outside medical school or life outside medical school.^[28]

Teachers opined that early clinical exposure should be built upon knowledge of basic sciences, not alongside it and definitely not before it. They perceived that the students priority towards basic sciences takes a backseat with early clinical exposure. The teachers from non-medical backgrounds have a limited role in implementing attitude, ethics and communication modules, early clinical exposure, and other integrated sessions. Family adoption program is one other initiative under the CBME curriculum. To provide an experiential learning opportunity to Indian Medical graduates towards community-based healthcare and thereby enhance equity in health, the initiative mandates each student to longitudinally visit a minimum of five families from villages not covered under primary health centers adopted by the medical college for three academic years.^[29] By the end of these three years, the department has to continue with the follow-up for the subsequent years – by which time the department will also have three parallel family adoption programs running for the subsequent batches. This definitely is laborious; however, the need for additional human resources in terms of teachers, social workers, or medical counselors have not been considered in the family adoption program guideline. To give a broader context, the department of Community Medicine also enrolls, maintains, and follows up families under rural and urban field practice areas.^[30]

It is the need of the hour to formulate department specific teacher or faculty per hundred students ratio. This ratio should be department specific taking into consideration the number of batches of students a department handles at any point in time, the modules or initiatives under CBME, the requirements for effective small group discussions and valid assessment of logbooks, assignments, records and reflections. Such standardization will allow teachers to allocate sufficient time in intra departmental or inter departmental or extramural research activities.^[31] The present study also found that presence of teachers in medical colleges with non-medical background actually limits the effective number of human resources. This is particularly noticeable following introduction of competency-based curriculum that requires clinical correlation to effectively implement AETCOM, early clinical exposure and integrated classes.

To the best of our knowledge, this is the first of its kind study to document the perceptions of teachers in medical colleges across India regarding newly introduced CBME curriculum. However, the study is not without limitations. Firstly, at this point in time only departments of phases 1, 2 and 3 have implemented the curriculum, that is, predominantly the pre and para clinical departments – the perceptions documented in the present study may not be the same for

teachers of clinical departments. Secondly, we did not present disaggregated analysis for government and private medical college teachers; regional analysis (that is, east, west, north, and south); and departments. Thirdly, online data collection, volunteer bias and COVID-19 related disruptions should be considered while interpreting the results of the study.

CONCLUSION

The present study summarizes the perceptions of teachers at medical colleges across India regarding competency-based medical education curriculum. It is the need of the hour for the curriculum to incorporate systematic feedback mechanism built into the system, though which such critical appraisals can be meaning collated and acted upon, to ultimately evolve, thereby creating an “Indian Medical Graduate” possessing requisite knowledge, skills, attitudes, values, and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant.

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Nil.

CONFLICTS OF INTEREST

There are no conflicts of interest.

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