

“Faculty experience during transition to new Competency Based Medical Education Curriculum” – A nationwide survey from India

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Abstract

Background: CBME was introduced in 2019 for medical students with various new teaching learning methods and assessment of competencies using skill certifications, formative and summative assessments. However, imparting knowledge and skills could be challenging with current curriculum due to various factors.

Objective: This study was undertaken to understand the progress and various current challenges faced by faculty for appropriate implementation of CBME curriculum.

Materials and Methods: A cross sectional study was conducted among teaching faculty from various medical colleges across India. A structured questionnaire was prepared considering various parameters that have been implemented as a part of CBME curriculum. The questionnaire was uploaded as Google forms and the link was sent to medical teachers through electronic platforms. Data was analysed using descriptive and inferential statistics.

Results: A total of 165 responses collected from teaching faculties from various medical colleges. 82% of the faculty had undergone FDP programme. 53% of faculty responded that allotted time was sufficient to complete the syllabus, 60% of the teachers felt that there were enough resources for skill certification and CBL was accepted as a more useful learning tool for students by 78% of the faculty followed by SGD (56%), SDL (55%) & AETCOM (55%).

Conclusion: Even though faculty supported CBME, regular and frequent FDP, improving student to staff ration and ensuring sufficient resources will help in overcoming the lacunae for successful and uniform nationwide implementation of curriculum.

Keywords: Implementation; Faculty development programme; Competency based medical education; Teaching learning methods; Certification.

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Introduction

Competency Based Undergraduate Curriculum was implemented for MBBS batch admitted in the year August 2019 by Regulatory body to improve growing needs of health care sector of the country. Competency based medical education (CBME) is an outcome-based approach using the guiding structure of competencies for implementation, assessment and evaluation of a medical education program (Frank et al., 2010). The goal of CBME is to produce an Indian Medical Graduate (IMG) who is regarded as a doctor fulfilling the roles of clinician, leader, communicator, professional and lifelong learner (Gopalakrishna et al., 2022; NMC, 2019)

The teaching regulations were almost 20 years old which was time based, focused on acquiring knowledge and summative assessment (Jacob et al., 2019). The main focus in the new regulations is progression in speculation of medical education by making it more structured, organized, outcome based and patient oriented (MCI, 2018).

This change was needed in view of increasing emerging and re-emerging diseases, ability of diseases to cross borders due to ease of commute as well as advances in science and technology which helps in faster identification and prevention of diseases and keeping ourselves abreast.

Apart from Lectures, new curriculum suggests various teaching learning methods like self-directed learning, integration of topics horizontally and vertically, SGD (small group discussion). Competencies are assessed using DOAP, Skill certifications and also formative and summative assessments (Ananthakrishnan, 2018).

Along with it a dedicated curriculum time is allocated for AETCOM (attitude, ethics & communication), to train students on attitude, ethics and communication skill which will help the

students to build a strong professionalism. At the end of the course an undergraduate student is expected to demonstrate set of competencies, skills and apply same in-patient care management. (Setlur et al., 2021)

However, imparting knowledge and skills could be challenging with current curriculum due to factors such as preparedness of teaching faculty for new curriculum, duration of the course, number of teaching faculty for different aspects of teaching methods, infrastructural and resource availability will impact the uniformity in teaching and assessment pattern across the nation. This study was undertaken to understand the progress and various current challenges faced by faculty for appropriate implementation of CBME curriculum.

Materials and Methods

A cross sectional study was conducted among teaching faculty from various medical colleges across India. This study was conducted between March to July 2022, after the approval from institutional ethics committee. A structured questionnaire was prepared considering various parameters that have been implemented as a part of CBME curriculum.

Questionnaire was divided into following headings: Syllabus, resources and teaching learning methods. Each heading consists of 3-6 related questions (See supplementary data). Questionnaire also included demographic details of participants and challenges faced in their institution during implementation of the course. Informed consent was also included in the questionnaire so that faculty who were giving consent will proceed further.

The questionnaire was validated by two external and two internal experts in medical education who have undergone Medical education training. The questionnaire was uploaded as Google forms and the link was sent to medical

teachers through electronic platforms like e-mail and WhatsApp. Participants are requested to opine using 10 point Likert scale. Open ended questions were framed for Challenges section of the questionnaire to know the difficulties faced by each faculty.

Statistical analysis

Data was analysed using descriptive and inferential statistics. Chi-square for 2 proportions was used to test the level of significance. P-value < 0.05 was considered statistically significant.

Results

A total of 165 responses collected from teaching faculties from various medical colleges. Out of which 75.8% of the staffs belonged to private colleges and 24.2% were from government college. The proportion of faculty who have undergone basic course and curriculum implementation support programme were 67.27% and 32.43% respectively. Around 18% faculty had undergone institutional

Faculty development programme (FDP). (Table.1) describes various faculty responses with regards to implementation of CBME curriculum. Of the 165 faculty participated in the survey, 53% of faculty responded that allotted time was sufficient to complete the syllabus, Majority of them opined that they were able to integrate more than 80% of the topics in horizontal & vertical integration according to the timetable.

With regards to resources, only 60% of the teachers felt that there were enough resources for skill certification, sufficient staff to conduct SGD (40%), adequate stations for DOAP (56%) and adequate sensitisation of staff towards AETCOM (53%). Among the various new teaching learning methods that are introduced in CBME curriculum, CBL was accepted as a more useful learning tool for students by 78% of the faculty followed by SGD (56%), SDL (55%) & AETCOM (55%).

Table 1. Faculty perception on implementation of CBME curriculum

Characteristics	Value			p Value
	*IS n(%)	N n(%)	**S n(%)	
1. Time related				
• Allotted time was sufficient to complete syllabus	30 (18%)	48 (29%)	87 (53%)	< .00001.
• Able to synchronize topics in Horizontal integration as per timetable	18 (11%)	66 (40%)	81(49%)	< .00001.
• Able to synchronize topics in Vertical integration as per timetable	24 (15%)	66 (40%)	75 (45%)	< .00001.
• Sufficient time was available to conduct frequent skill certification during entire course	30 (18%)	57 (35%)	78 (47%)	< .00001.
2 Resources associated				
• Sufficient resources were available to conduct Skill certification	24 (15%)	42 (25%)	99 (60%)	< .00001.
• Teaching staffs are adequate to conducts SGD	48 (29%)	51 (31%)	66 (40%)	< .00001.

• Availability of stations for DOAP / Skill lab was adequate for students teaching during classes	18 (11%)	54 (33%)	93 (56%)	< .00001.
• Sensitization of staff towards concept of AETCOM was sufficient	18 (11%)	60 (36%)	87 (53%)	< .00001.
3 usefulness of various Teaching Learning Concepts				
• Case based learning helped students to understand the subject better	3 (2%)	33 (20%)	129 (78%)	< .00001.
• SGD helped students to interact with the teachers and understand the topic better	15 (9%)	57 (35%)	93 (56%)	< .00001.
• Students were able to learn and understand small topics on their own	21 (13%)	54 (33%)	90 (55%)	< .00001.
• Students were able to understand & develop reasoning, critical thinking & communication skills	9 (5%)	66 (40%)	90 (55%)	< .00001.

Challenges in implementing CBME curriculum shown in (Fig.1). Transition from the old to the new curriculum was a challenge for 64% of the faculty. Other challenges included preparing the timetable, integrating the

topics to other subjects, and uploading timetable to the website (62%), as well as infrastructure facilities (49%) and 71% of faculty felt workload for teachers has increased.

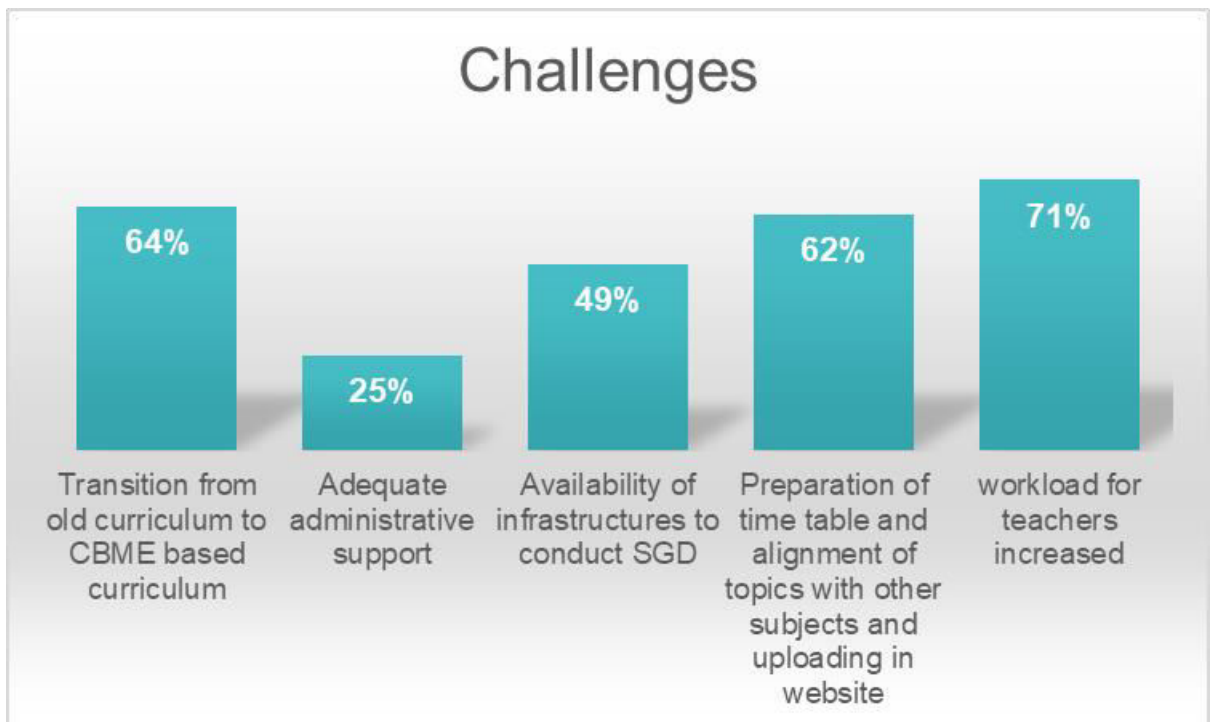


Fig.1. Challenges faced by faculty during implementation of CBME

Discussion

Implementing CBME curriculum was challenging for faculties with available resources, insufficient staff to student ratio and inadequate administrative support. CBME curriculum mainly focuses on acquiring knowledge, skills and attitude to become competent doctor. To achieve these, medical students must have expected level of defined competencies and faculty also needs to undergo sensitization through faculty development programmes (Setlur et al., 2021).

In the present study, higher number of faculties (>80%) have undergone training in either Basic course or CISP (Curriculum Implementation Support Program) when compared to other previous studies (Sharma et al., 2019). Similar to our study Gopalkrishnan et al documented 64.5% faculty trained in rBCW (Revised Basic Course Workshop) and 74.9% trained in CISP which shows significant improvement in sensitization staff through FDP (Gopalkrishnan et al., 2022). The remaining faculty opined lack of opportunity as reason for not undergoing FDP. FDP is needed for medical teachers to enhance their knowledge on newer teaching methods, regular assessments and overall knowledge of CBME as they have undergone conventional teaching method. So administrative support is needed to create more opportunities through medical education unit (MEU) by organizing FDP for all faculties.

In our study, 53% of faculty responded that allotted time was insufficient to complete the syllabus and majority of them opined that they were able to integrate more than 80% of the topics. Main aim of integration is to bridge the gap between basic and laboratory services with clinical relevance by teaching similar topics in single class by respective faculty simultaneously. According to MCI document, integrations should not exceed 20% and should not go beyond “correlation” as per Harden’s

ladder (Ananthkrishnan, 2018). In this study majority of faculty opined that they were able to do horizontal and vertical integration of more than 80% of the allotted topics. Though idea of integration found to be good but was difficult to implement due to time constraints, bringing different subjects with different weightage together, less staff and also requires cooperation of staff from other subjects (Ramanathan et al., 2021; Siddanagoudra et al., 2022).

Majority of faculty opined that resources are insufficient for skill certification (40%), inadequate staff to conduct SGD (40%) and DOAP (56%). Similar studies by Siddanagoudru, et al mentioned 88% of faculties perceived, the need of more resources such as need of more number of faculties for conducting SGD, DOAP and OSCE (Objective structured clinical examination) (Siddanagoudra et al., 2022). Singh SP et al mentioned that more than 90% faculty well perceived learning of new skills but 6.6–48.3% faculty opined feasibility is poor due to lack of resources and increasing number of students (Singh and Nagmoti, 2021). These challenges can be overcome by administrative support such as providing enough resources for developing skill labs, increasing faculty ratio in each department.

Major change in the CBME curriculum is introduction of CBL (Case based learning), SGD, SDL (Self directed learning) and AETCOM module (Eissa et al, 2020; Thistlethwaite et al, 2012). Majority of faculty (75%) in this study accepted CBL as more useful learning tool for students. Various other studies also showed CBL as a tool to achieve defined competencies (Lall and Datta, 2021; Williams, 1969; Gruppen et al., 2012; Modi et al., 2015). More than 50% of faculty in this study opined SGD and SDL helped students to understand the topic better and made them to interact with the teachers. Even though SGD and SDL found useful for students, many of them

found difficulty in implementation due to insufficient staff, inadequate training, infrastructure and resources. In a study by Siddanagoudra et al 88% of faculty perceived, need for more demonstration rooms for small group discussion in infrastructure criteria by MCI (Siddanagoudra et al., 2022).

AETCOM mainly focuses on soft skills like professionalism, communication and ethical behaviour which are not emphasised in previous curriculum (Ananthkrishnan, 2018). In our study 47% faculty responded that sensitization of staff towards concept of AETCOM module was insufficient. Majority of faculty preferred need for faculty training for AETCOM (Ramanathan et al., 2021; Sharma 2019)

Transition from the old to the new curriculum, preparing master timetable and uploading in the website, vertical integrating of the topics and inadequate infrastructure facilities were some of challenges faced during implementation of CBME curriculum. Various other studies also showed similar challenges (Kulakarni et al., 2019; Gopalkrishnan et al., 2022; Herur et al., 2016). A study by Teli et al reports inadequate faculty training and unanticipated holidays are the challenges for implementation (Teli et al., 2021). According to Nagarala et al the competency for faculty also need to be defined to implement the CBME, through longitudinal faculty development programme (Nagarala and Devi, 2021).

Conclusion

In the current study, the majority of the faculty supported CBME, which placed an emphasis on acquiring skills that would allow IMG to offer compassionate, all-encompassing care to the community. However, to promote consistency in teaching, assessment methods, and successful curriculum implementation across the country, FDP must be conducted frequently, staff-to-student ratios must be improved, and resources

must be sufficient and time must be managed properly.

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