Section: Anatomy

Original Research Article

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PERSPECTIVES OF TEACHING FACULTY MEMBERS CONCERNING THE NEWLY IMPLEMENTED MBBS CURRICULUM

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ABSTRACT

Background: Medical education in India is undergoing a major transformation from traditional methods to Competency-Based Medical Education (CBME), which emphasizes skill acquisition and holistic development. CBME redefines the role of the Indian Medical Graduate as not just a clinician, but also a communicator, leader, lifelong learner, and professional. This study aimed to assess the knowledge, attitude, and perspectives of teaching faculty regarding the newly implemented CBME curriculum. **Materials and Methods:** A cross-sectional analytical study was conducted among teaching faculty of Sri Siddhartha Medical College, Tumkur, using a self-administered, validated questionnaire. Simple random sampling was used to select 61 faculty members across pre-clinical, para-clinical, and clinical departments. The questionnaire, comprising both open- and closed-ended items, was distributed electronically after obtaining informed consent. Data were entered in Microsoft Excel and analyzed using SPSS v22, with results presented as proportions or means. **Result:** A total of 61 faculty members participated in the study from various departments of our medical college. Out of these 61 faculties 37.7% were professors 29.5% were associate professors and 18% were assistant professors. Among these faculties 90.2% were aware of the CBME curriculum and 54.1% were trained in CISP program. 90.2% of the faculties were aware of the expected competencies of an Indian medical graduate and 85.2% are aware of their role as faculty in CBME curriculum. About 55.7% of the faculties are completely prepared for the implementation of the CBME Curriculum and about 9.8% of the faculties were not prepared for the implementation of the CBME Curriculum. **Conclusion:** The training program as CISP or revised MET has definitely improved quality of faculty. Significant barriers do exist however in the form of manpower and resources which need to be addressed by political commitment and administrative spearheading. Alignment and integration of various departments are the unique concepts of CBME which brings about a multidisciplinary holistic approach to health care. Increased frequency and feedback lead assessment help improve the quality of medical education among students in CBME.

INTRODUCTION

Medical education in India is experiencing a shift from traditional curriculum to competency-based medical education (CBME).[1] CBME involves the attainment of observable abilities by students in a time-independent, learner-centred manner.[2] The core feature of CBME is to produce a competent Indian Medical Graduate through skill-based training and to equip them with metacognition.[3] The role of the medical graduate is to go beyond the traditional knowledge and skill components as per competency-based medical education curriculum. It adds four roles for medical graduate as clinician, communicator, leader of health-care team, life-long learner and professional—which was not addressed by the old traditional syllabus.[4] Indian Medical education requires training in various domains like human interactions and interpersonal relationships in different settings like hospital, and community.[5]
There is a need for faculty to understand the ideology behind the CBME and its designed competencies for

proper implementation. There is a considerable shift in teacher's role due to emphasis on outcome-based teaching/learning and assessment methods along with inclusion of attitude, ethics, and communication module (AETCOM). Therefore, faculty training forms the essential component of CBME.[6] It is essential to analyze the anticipated barriers for the implementation and rectify the process of implementation.[7] Thus, this study was intended to evaluate the faculty and perception and concepts toward the CBME.

After obtaining data of the faculty opinion on the CBME curriculum, the faculty can be oriented to the new curriculum via various faculty development programmes intended for filling up the lacunae and it will help in smooth implementation of the CBME.

The aim of the study was to assess the knowledge, attitude, and perspectives of teaching faculty members concerning the newly implemented MBBS curriculum based on Competency-Based Medical Education (CBME). The specific objectives were to evaluate the anticipated barriers to its implementation, identify strengths and weaknesses in the newer teaching methods, assess faculty knowledge and attitude toward CBME, and explore their overall perspectives regarding the curriculum change.

MATERIALS AND METHODS

In a Cross-sectional analytical studyconducted in Sri Siddhartha medical college Tumkur, Karnataka, knowledge and attitude of faculty towards CBME was evaluated.

Sampling Method: Simple random sampling

Sample size: Considering proportion of faculties who are aware of competencies as 61.67 with 20% relative precision and 95% confidence interval, the sample size calculated to be 61.

Study Population: All the teaching faculty members of Sri Siddhartha medical college Tumkur will be included in the study

Inclusion Criteria

Teaching faculty of pre-clinical, Para-clinical and clinical subjects who will volunteer to participate in the study will be included in our study.

Exclusion Criteria

Teaching faculty members who are not willing to participate in the study will be excluded.

This study was conducted as a cross-sectional questionnaire-based study. The institutional ethics committee approved the study proposal. The informed consent form with a brief summary of the purpose of our study was circulated to all the teaching faculty members of our college. The questionnaire included both open and closed ended questions. Questionnaire was prepared by authors, was pilotted within members of medical education unit. Its face validity and content validity was checked by curriculum sub-committee members and modifications undertaken as per their recommendations. Questionnaire was distributed in electronic format to participants and responses were received and analysed

Data Analysis

Data was entered in MS excel and analyzed using SPSS v22. The continuous variables were expressed as mean or median with standard deviation or inter quartile range, respectively. Categorical variables were expressed as proportion. The proportions of individuals aware of CBME were expressed as percentage with 95% confidence interval. Associations of factors with knowledge were statistically tested using appropriate parametric or non-parametric test. P value less than 0.05 was considered as statistically significant. Strength of association was expressed in odds ratio.

RESULTS

A total of 61 faculty members participated in the study from various departments of our medical college. Out of these 61 faculties 37.7% were professors 29.5% were associate professors and 18% were assistant professors. [Table 1]

Table 1: Participants as per designation

Designation	Frequency	Percent
Senior resident	4	6.6
Assistant professor	11	18.0
Associate Professor	18	29.5
Professor	23	37.7
Professor and HOD	5	8.2
Total	61	100.0

Among the faculties who participated in the study 63.9% of the faculty had teaching experience ranging from 6-15 years, and 24.6% of the faculty had teaching experience of more than 16 years and 11.5% of the faculty had teaching experience of less than 5 years. [Table 2]

Table 2: Teaching experience (in years) after post-graduation

Teaching experience	Frequency	Percent
<=5	7	11.5
6-15	39	63.9
>=16	15	24.6
Total	61	100.0

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Among the faculties who participated in the study 90.2% were aware of the CBME curriculum and 54.1% were trained in CISP program. 90.2% of the faculty were aware of the expected competencies of an Indian medical graduate and 85.2% are aware of their role as faculty in CBME curriculum. [Table 3]

Table 3: Awareness of CBME among faculty members

	Yes	No	Maybe
Are you trained – CISP	33 (54.1%)	28 (45.9%)	0 (0.0%)
Are you aware of the new MBBS curriculum?	55 (90.2%)	3 (4.9%)	3 (4.9%)
Did you know that foundation course, yoga and meditation has been brought up in the curriculum?	60 (98.4%)	1 (1.6%)	0 (0.0%)
Did you know that NMC has added the curriculum committee, CSC (curricular subcommittee) and AIT (alignment and integration team) to oversight the curriculum at institutional level.	47 (77.0%)	11 (18.0%)	3 (4.9%)
Are you aware that in phase II, the students have 2 semesters instead of 3?	49 (80.3%)	9 (14.8%)	3 (4.9%)
Are you aware of expected competencies of an Indian medical graduate?	55 (90.2%)	3 (4.9%)	3 (4.9%)
Do you know about your role as faculty in CBME curriculum?	52 (85.2%)	5 (8.2%)	4 (6.6%)

Table 4: Knowledge Scores (Out of 7)

Score	Frequency	Percent
2.00	5	8.2
3.00	1	1.6
4.00	8	13.1
5.00	3	4.9
6.00	17	27.9
7.00	27	44.3
Total	61	100.0

Among the faculties who participated in the study, 44.3% of the faculties had a knowledge score of seven out of seven and 27.9% of the faculties had a score of 6. [Table 4]

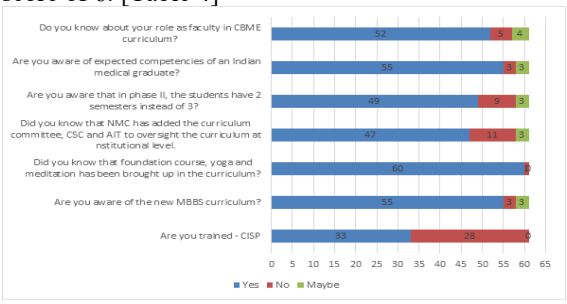

Figure 1: Awareness of CBME among faculty members

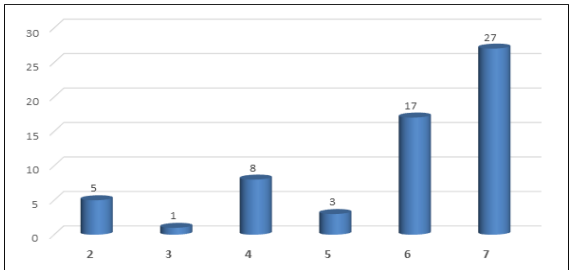

Figure 2: Knowledge levels (Scores Out of 7)

The attitude questions were asked to the faculties who participated in the study. Majority of the faculty responded in the strongly agree and agree group on a five pointlikert scale. [Table 5]

Table 5: Attitude of faculties towards the CBME curriculum

Attitude	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Do you feel assessment should be compulsory after completion of every competency?	23 (37.7%)	31 (50.8%)	4 (6.6%)	3 (4.9%)	0 (0.0%)
Are you interested in CBME implementation?	25 (41.0%)	28 (45.9%)	5 (8.2%)	1 (1.6%)	2 (3.3%)
Do you feel that integration and alignment will improve Medical Education?	26 (42.6%)	32 (52.5%)	2 (3.3%)	0 (0.0%)	1 (1.6%)
I support the implementation of the new curriculum in MBBS that would be most helpful to achieve roles and goals of Indian medical graduate (IMG) at a stipulated time	28 (45.9%)	29 (47.5%)	2 (3.3%)	1 (1.6%)	1 (1.6%)
Do you think AETCOM implementation will be a challenge in CBME	12 (19.7%)	34 (55.7%)	10 (16.4%)	4 (6.6%)	1 (1.6%)
Do you think, vertical integration can be achieved in CBME?	20 (32.8%)	32 (52.5%)	5 (8.2%)	3 (4.9%)	1 (1.6%)
I prefer the newly revised curriculum over the previous one	17 (27.9%)	32 (52.5%)	7 (11.5%)	4 (6.6%)	1 (1.6%)
In CBME we should combine teaching of theoretical aspects with practice	28 (45.9%)	33 (54.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 6: How much you are prepared for implementation of CBME?

Preparedness	Frequency	Percent
Completely prepared	34	55.7
Not prepared	6	9.8

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Doubtful about preparation	21	34.4
Total	61	100.0

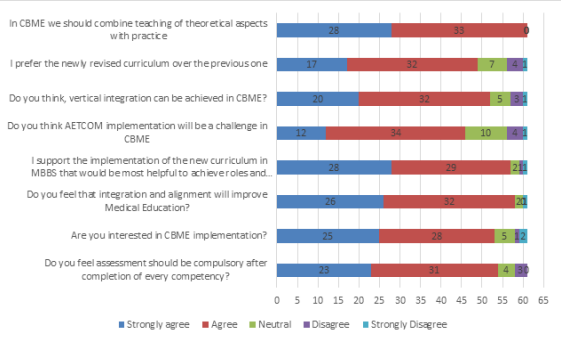

Figure 3: Attitude of faculties towards the CBME curriculum

About 55.7% of the faculty are completely prepared for the implementation of the CBME Curriculum and about 9.8% of the faculty were not prepared for the implementation of the CBME Curriculum. [Table 6] The participant faculties were asked to respond to questionnaire to know the perspectives of the faculty towards the CBME curriculum which had a five pointlikert scale. The questionnaire and the response were recorded on [Table 7]. Majority of the faculty responded as strongly agree and agree on a five pointlikert scale.

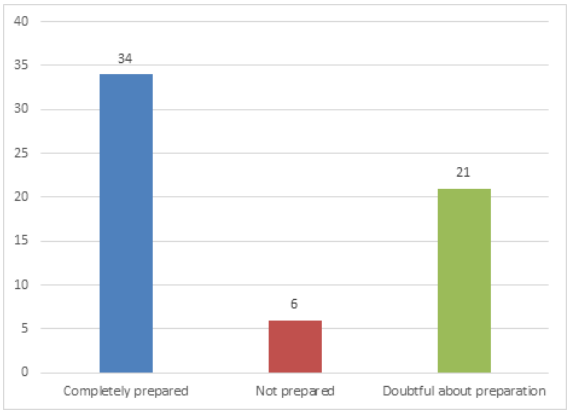

Figure 4: Preparedness of the faculty for implementation of CBME

Table 7: Perspective of the faculties towards the CBME curriculum

Aspects	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
CBME represents an important trend in current methods of medical education	24 (39.3%)	33 (54.1%)	2 (3.3%)	1 (1.6%)	1 (1.6%)
CBME involves the integration of education and productive work within the learning process	21 (34.4%)	35 (57.4%)	3 (4.9%)	2 (3.3%)	0 (0.0%)
CBME is associated with efforts to involve students and educational institutions in national development	24 (39.3%)	31 (50.8%)	3 (4.9%)	2 (3.3%)	1 (1.6%)
In CBME, student activities are related to plan educational goals and objectives	19 (31.1%)	39 (63.9%)	2 (3.3%)	1 (1.6%)	0 (0.0%)
CBME gives students more opportunities than previous curriculum to learn about the social, cultural, and ethnic aspects of medical practice	24 (39.3%)	28 (45.9%)	6 (9.8%)	3 (4.9%)	0 (0.0%)
CBME is not scientifically based (based only on soft sciences) and basic sciences are neglected	4 (6.6%)	11 (18.0%)	9 (14.8%)	32 (52.5%)	5 (8.2%)
CBME requires a synthesis of clinical skills, knowledge, capabilities, and attitudes	25 (41.0%)	33 (54.1%)	2 (3.3%)	1 (1.6%)	0 (0.0%)
CBME is directed toward priority health needs	14 (23.0%)	38 (62.3%)	6 (9.8%)	3 (4.9%)	0 (0.0%)
CBME trains students to work together as a multidisciplinary team (involving students, teachers, community members, and representatives of health and other sectors)	20 (32.8%)	36 (59.0%)	3 (4.9%)	2 (3.3%)	0 (0.0%)
CBME focuses mainly on the health of the community, not the individual	8 (13.1%)	18 (29.5%)	19 (31.1%)	15 (24.6%)	1 (1.6%)
CBME produces community health doctors/specialists	11 (18.0%)	38 (62.3%)	8 (13.1%)	4 (6.6%)	0 (0.0%)
CBME can help graduates consider the well-being of patients, families, and the community	16 (26.2%)	41 (67.2%)	2 (3.3%)	2 (3.3%)	0 (0.0%)
CBME gives students a foundation for a holistic approach to health-care delivery	21 (34.4%)	34 (55.7%)	4 (6.6%)	2 (3.3%)	0 (0.0%)
CBME keeps the educational process up to date by continuously confronting students with reality	13 (21.3%)	43 (70.5%)	3 (4.9%)	2 (3.3%)	0 (0.0%)
CBME improves the quality of health services	15 (24.6%)	38 (62.3%)	6 (9.8%)	2 (3.3%)	0 (0.0%)
CBME may contribute to equity in health services delivery	14 (23.0%)	31 (50.8%)	15 (24.6%)	1 (1.6%)	0 (0.0%)
CBME may equip students with competencies they would never learn otherwise, e.g., leadership skills	16 (26.2%)	36 (59.0%)	2 (3.3%)	7 (11.5%)	0 (0.0%)
CBME may equip students with competencies they would never learn otherwise, e.g., the capability to interact with the community	16 (26.2%)	31 (50.8%)	5 (8.2%)	8 (13.1%)	1 (1.6%)
CBME may equip students with competencies they would never learn otherwise, e.g., the ability to work in a team	17 (27.9%)	31 (50.8%)	5 (8.2%)	7 (11.5%)	1 (1.6%)
Graduates from CBME programs are not competent in dealing with patients, as they spend most of their time in the community	3 (4.9%)	5 (8.2%)	10 (16.4%)	36 (59.0%)	7 (11.5%)

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CBME keeps the curriculum updated, since the priorities of health problems constantly change	13 (21.3%)	41 (67.2%)	3 (4.9%)	4 (6.6%)	0 (0.0%)
One of the challenges of CBME is giving priority to student improvement rather than health services improvement	7 (11.5%)	18 (29.5%)	20 (32.8%)	16 (26.2%)	0 (0.0%)
One of the main challenges of CBME is lack of complete faculty commitment to it	13 (21.3%)	21 (34.4%)	8 (13.1%)	19 (31.1%)	0 (0.0%)
Resistance from health professionals responsible for health services is one of the difficulties expected	9 (14.8%)	28 (45.9%)	13 (21.3%)	10 (16.4%)	1 (1.6%)
CBME is expensive and requires more resources than do traditional approaches	10 (16.4%)	30 (49.2%)	11 (18.0%)	9 (14.8%)	1 (1.6%)
Lack of financial support from health and academic institutions to update the infrastructure will hinder the implementation of CBME	17 (27.9%)	35 (57.4%)	6 (9.8%)	2 (3.3%)	1 (1.6%)

Table 8: Perspective of the faculties towards the CBME curriculum continued.

Aspects	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Early clinical exposure is a boon to budding doctors.	22 (36.1%)	34 (55.7%)	3 (4.9%)	2 (3.3%)	0 (0.0%)
Early clinical exposure (ECE) allows the students to recognize the basic science in diagnosis, patient care and treatment.	22 (36.1%)	35 (57.4%)	1 (1.6%)	3 (4.9%)	0 (0.0%)
Forensic medicine has been shifted to the 6th semester. Do you think it's better?	6 (9.8%)	29 (47.5%)	11 (18.0%)	14 (23.0%)	1 (1.6%)
Is there a need for CBME implementation in medical education in India?	17 (27.9%)	36 (59.0%)	4 (6.6%)	2 (3.3%)	2 (3.3%)
Will CBME implementation increase academic workload over faculty?	31 (50.8%)	23 (37.7%)	3 (4.9%)	4 (6.6%)	0 (0.0%)
Do you feel that Smart class/Virtual classes can replace the traditional teaching?	6 (9.8%)	19 (31.1%)	8 (13.1%)	20 (32.8%)	8 (13.1%)
Assessment is a vital component of competency based medical education (CBME) to improve learning skills of the student	21 (34.4%)	37 (60.7%)	2 (3.3%)	1 (1.6%)	0 (0.0%)
Boosts up the enthusiasm of students to set their professional career from the beginning	10 (16.4%)	44 (72.1%)	6 (9.8%)	1 (1.6%)	0 (0.0%)
Electives provide opportunities for students to acquire diverse learning experiences	20 (32.8%)	38 (62.3%)	3 (4.9%)	0 (0.0%)	0 (0.0%)
Improves quality and standards of health management system in coming years	13 (21.3%)	35 (57.4%)	10 (16.4%)	2 (3.3%)	1 (1.6%)
Should it have been revised and implemented earlier?	5 (8.2%)	35 (57.4%)	17 (27.9%)	4 (6.6%)	0 (0.0%)

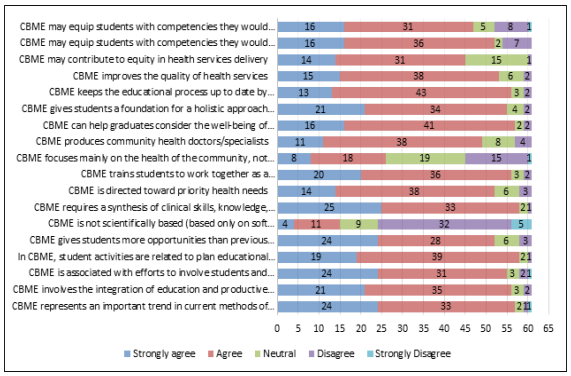

Figure 5: Perspective of the faculties towards the CBME curriculum

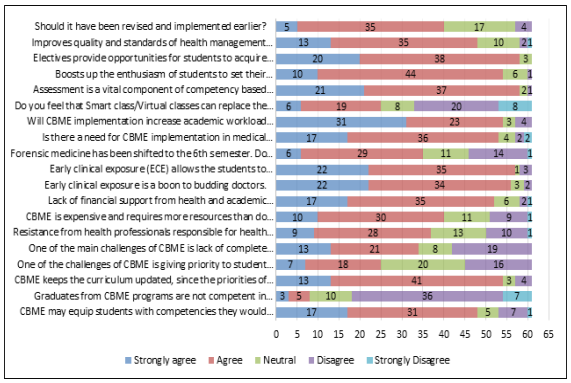

Figure 6: Perspective of the faculties towards the CBME curriculumcontinued.

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. A total of 61 faculty members participated in the study from various departments of our medical college.

In this study about 4.9% of the faculties were not aware of the CBME curriculum. About 18% of the faculties were not aware of curriculum committee, CSC (curricular subcommittee) and AIT (alignment and integration team) to oversight the curriculum at institutional level. About 14.8% of the faculties did not know that phase II have only two semesters instead of three and 3% of the faculties were not aware of expected competencies of an Indian medical graduate. 8.2% of the faculty did not know about their role as faculty in CBME curriculum. About 3.3% of the faculties were not interested in the CBME curriculum. 1.6% of the faculty felt thatthe integration and alignment will not improve Medical Education. 1.6% of the faculty thinks that the AETCOM implementation will be a challenge in CBME. About 1.6% of the faculty did not prefer the

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newly revised curriculum over the previous curriculum.

The knowledge on stages of competency and strategy to implement was lesser. Frank J et al., had proposed the significant implications for the planning of Medical curricula to reshape it.[8] Modi J et al., emphasized to promote orientation and training for faculty regarding entrustment and assessment part of CBME which is actually crucial to make CBME strong.[9] The positive response regarding CBME is shown in study by Telang A et al,[10] whereas, the current article has shown less positive response to implement because of low manpower, infrastructure and finance. Rustogi S et al., reported the ratio of trained and untrained faculties and gathered various suggestions about small group teaching, topic of electives, mode of seminars etc.[11] According to Teli A et al., coordination between the preclinical, para clinical and clinical departments and proper lesson plan are factors responsible for effective implementation whereas inadequate faculty training and unanticipated holidays are the challenges for implementation.[12] Study by Shrivastava S and Shrivastava P revealed about entrustable professional activities and their assessment tools are crucial areas in CBME.[13]

To implement the CBME, the competency for faculty also need to be defined and they should progress from 'knows' level to 'does' level through longitudinal faculty development program as mentioned by Nagarala M and Devi R in their study.[14] Study by Selva P and Rithikaa M, discussed a genuine view on its need at global and national level and concluded, that, gradual acceptance and this time taking process will evolved into robust change in quality of medical education.[15]

CONCLUSION

The new curriculum is a major reform as compared to the older curriculum.There is an existing favorable environment for change from traditional curriculum to CBME. Most of the faculty of medical institutes across the country are aware of the need and have acquired a positive attitude to enforce the educational reform.The training program as CISP or revised MET has definitely improved quality of faculty, but still there is much more to be done to motivate. Significant barriers do exist however in the form of manpower and resources which need to be addressed by political commitment and administrative spearheading.Alignment and integration of various departments are the unique concepts of CBME which brings about a multidisciplinary holistic approach to health care. Increased frequency and feedback lead assessment help improve the quality of medical education among students in CBME.

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