

# ASSESSMENT OF KNOWLEDGE, ATTITUDES, AND PRACTICES OF MEDICAL TEACHERS TOWARDS COMPETENCY-BASED MEDICAL EDUCATION (CBME)

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Received : 05/09/2022  
Received in revised form : 28/10/2022  
Accepted : 14/11/2022

**Keywords:**  
CBME, medical teachers, knowledge, attitudes, practices, KAP.

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DOI: 10.47009/jamp.2023.5.2.245

Source of Support: Nil,  
Conflict of Interest: None declared

*Int J Acad Med Pharm*  
2023; 5 (2); 1156-159



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## Abstract

**Background:** Competency-Based Medical Education (CBME) is an innovative approach to medical education that emphasizes the acquisition of specific competencies by medical students, rather than traditional curriculum-based learning. The success of CBME depends on the Knowledge, Attitudes, and Practices (KAP) of medical teachers, who play a crucial role in its implementation and evaluation. This study aims to evaluate the KAP of medical teachers towards CBME. **Materials and Methods:** A cross-sectional study was designed to collect data from medical faculty in the study place. A structured pre-tested questionnaire was used to collect data which was pre tested. The questionnaire included questions related to their knowledge and understanding of CBME, attitudes towards its implementation, and practices related to teaching and assessment. **Result:** The findings revealed that while the majority of the respondents had a good understanding of CBME, some misconceptions and knowledge gaps still exist, highlighting the need for re-training and educational resources to be provided to support CBME implementation. **Conclusion:** The present study's findings provides insights into the KAP of medical teachers towards CBME and highlight the areas where further research and support are required.

## INTRODUCTION

Competency-based medical education (CBME) is gaining traction across the world. The Medical Council of India has defined the fundamental competencies expected of an Indian medical graduate and created a competency-based curriculum focused on attitudes and communication. The widespread adoption of a competency-based approach to medical education would represent a paradigm shift in the existing approach to medical education. As a result, CBME must be evaluated for its applicability and limitations in the Indian context.<sup>[1]</sup>

The present medical education system is built on a subject-centered and time-based curriculum. The majority of assessments are summative, with minimal room for criticism. The teaching-learning activities and evaluation systems emphasize knowledge above attitude and abilities. As a result, graduates may have exceptional knowledge but lack the fundamental clinical skills necessary in practice.

Furthermore, they may lack soft skills such as communication, doctor-patient relationships, ethics, and professionalism.<sup>[2]</sup>

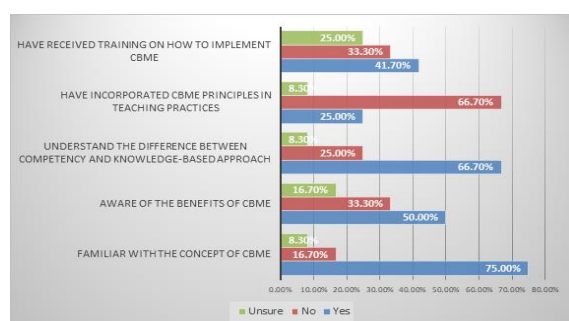
## MATERIALS AND METHODS

A cross-sectional study design was used to collect data from medical teachers at Dr SS Tania Medical College, Hospital and Research Center in Sri Ganganagar, Rajasthan. The study was conducted in June 2022 and included medical teachers who were involved in teaching undergraduate medical students. A structured questionnaire was used to collect data on the Knowledge, Attitudes, and Practices (KAP) of medical teachers towards CBME. The questionnaire was designed based on a literature review and pretested for validity and reliability. It consisted of three sections: Knowledge, which included questions on medical teachers' understanding of CBME; Attitudes, with questions on medical teachers' attitudes towards CBME; and Practices, with questions on medical

teachers' teaching and assessing practices under CBME.

The collected data were entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 23.0. Descriptive statistics such as frequencies and percentages were used to summarize the data. The study was conducted after obtaining ethical clearance from the institutional review board. Informed consent was obtained from all participants, and their participation was voluntary. The confidentiality of the participants was maintained by keeping the data anonymous and confidential.

## RESULTS

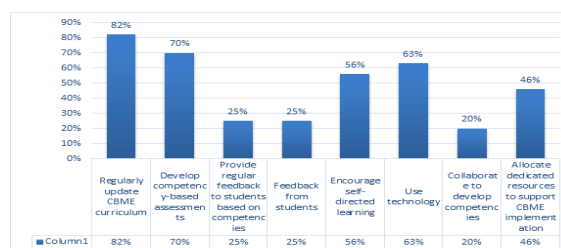


**Figure 1: Knowledge of study participants about CBME.**

Questionnaire was responded by 60 medical teachers on voluntary basis. The participants were evenly split between male and female (50% each) and covered a wide range of ages, with 25% of the participants being between 25-34 years old, 33.3% being between 35-44 years old, 20% being between 45-54 years old, and 21.7% being 55 years or older. In terms of academic rank, the majority of the participants were either assistant professors (36.7%) or tutors (30%), with associate professors and professors comprising the remaining 33.3%. Regarding teaching experience, the participants were also fairly evenly distributed, with 16.7% having less than 5 years of experience, 33.3% having 5-10 years of experience, 30% having 11-20

years of experience, and 20% having over 20 years of experience. [Table 1]

Out of the total participants, 75.0% were familiar with the concept of CBME, 16.7% were not familiar, and 8.3% were unsure. Regarding awareness of the benefits of CBME, 50.0% of the participants responded positively, 33.3% responded negatively, and 16.7% were unsure. Moreover, 66.7% of the participants reported that they understand the difference between competency and knowledge-based approach, while 25.0% did not, and 8.3% were unsure. In terms of incorporating CBME principles in teaching practices, only 25.0% of the participants reported that they have incorporated these principles, while 66.7% have not, and 8.3% were unsure. Lastly, 41.7% of the participants reported that they have received training on how to implement CBME, 33.3% have not, and 25.0% were unsure. These results indicate that although the majority of the participants were familiar with CBME, there is still a need for training and further understanding of its benefits and implementation. [Figure 1]



**Figure 2: Practices related to CBME among the study participants.**

The results indicate that a large proportion of respondents (82%) regularly update the competency-based curriculum, followed by 70% who develop competency-based assessments for students, and only one fourth (25%) provide regular feedback to students based on competencies indicating a potential area for improvement. Almost half (46%) of the respondents reported allocating dedicated resources to support CBME implementation. [Figure 2]

**Table 1: Demographic Characteristics of Medical Teachers Participating in the Study.**

Characteristic	Classification	N (%)
Age	25-34	15 (25%)
	35-44	20 (33.3%)
	45-54	12 (20%)
	55 and above	13 (21.7%)
Gender	Male	29 (50%)
	Female	31 (50%)
Academic Rank	Tutor	18 (30%)
	Assistant Professor	22 (36.7%)
	Associate Professor	15 (25%)
	Professor	5 (8.3%)
Teaching Experience	<5 years	10 (16.7%)
	5-10 years	20 (33.3%)
	11-20 years	18 (30%)
	>20 years	12 (20%)

**Table 2: Attitudes of the study participants related to CBME.**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
CBME is a more effective approach to medical education compared to traditional methods.	15 (25%)	35 (58.3%)	5 (8.3%)	5 (8.3%)	0 (0%)
CBME is a better way to prepare medical students for the demands of modern healthcare.	20 (33.3%)	30 (50%)	10 (16.7%)	0 (0%)	0 (0%)
CBME encourages students to take ownership of their learning process.	30 (50%)	25 (41.7%)	5 (8.3%)	0 (0%)	0 (0%)
CBME helps to identify and address individual learning needs of students.	25 (41.7%)	30 (50%)	5 (8.3%)	0 (0%)	0 (0%)
CBME requires more resources and support than traditional medical education.	5 (8.3%)	20 (33.3%)	25 (41.7%)	10 (16.7%)	0 (0%)

[Table 2] displays the attitudes of medical teachers towards CBME. The table presents five statements related to CBME and the percentage of respondents who strongly agreed, agreed, neutral, disagreed, or were strongly disagreed with each statement. The results indicate that the majority of respondents (58.3%) agree that CBME is a more effective approach to medical education compared to traditional methods, while 8.3% of respondents disagreed. Similarly, the majority of respondents (83.3%) either strongly agreed or agreed that CBME is a better way to prepare medical students for the demands of modern healthcare. Furthermore, 50% of respondents strongly agreed that CBME encourages students to take ownership of their learning process, and 41.7% agreed that CBME helps to identify and address individual learning needs of students. However, 41.7% of respondents felt that CBME is a new and unfamiliar concept to them. Overall, the results suggest that medical teachers have positive attitudes towards CBME, with a few reservations about resource allocation.

## DISCUSSION

The aim of the present study was to investigate the knowledge, attitudes, and practices of medical teachers towards competency-based medical education (CBME). The findings of the study indicate that a majority of the participants (75.0%) were familiar with the concept of CBME and understood the difference between competency and knowledge-based approaches (66.7%). However, only half of the participants were aware of the benefits of CBME, and a minority of them had incorporated CBME principles in their teaching practices (25.0%). The results suggest that while medical teachers may have a basic understanding of CBME, they may not fully appreciate the benefits of this approach or have the necessary skills and training to implement it effectively in their teaching practices. In a study by Ramanathan R et al., more than 80% of respondents believe that faculty members in departments are insufficient for successful CBME implementation. 60.2%, 70.4%, and 45.5% of the faculty approved of reflective learning, early clinical exposure, and elective posting, respectively. During Phase I MBBS, around 81.8% preferred horizontal integration, whereas only 54.2% preferred vertical integration.<sup>[3]</sup> During the last few years, the Medical Council has trained thousands of medical instructors through basic course workshops and advanced courses in medical education. However, several medical schools still have a significant backlog of faculty who need such basic training.<sup>[4]</sup> In a similar study, out of the total 60 (39 trained+21 untrained faculty) participants included in the study, the maximum of 28 (46.67%) were aged between 30-40 years {males were 38 (63.33%) and 22 (36.67%) were females}. A total of 37 faculties knew "what is competency," 37

participants responded for the difference between CBME and traditional Medical education, 22 participants responded for stages of competency, 22 responded on steps and strategy for its implementation, and 38% answered on the merits and demerits of the current curriculum.<sup>[5]</sup> Selva P and Rithikaa M's study expressed a real opinion on the requirement of CBME at the global and national levels and stated that gradual acceptance and this time-consuming process will evolve into a strong shift in medical education quality.<sup>[6]</sup> In another similar study regarding the perception of CBME, 87.9% of the 58 faculty members were aware of CBME, and only 51.7% believed that its adoption would produce better doctors. Eighty-one percent were aware that small group teaching should account for two-thirds of total teaching hours in a topic, but few could employ small group teaching methods. Over 86.2% of respondents believed that students should have early clinical exposure. The planned improvements to internal evaluation in CBME were unknown to 41.4% of respondents.<sup>[7]</sup> Most of the medical faculty were aware of the need and had acquired a positive attitude towards the implementation of CBME, as reported in research conducted in 2021.<sup>[8]</sup>

## CONCLUSION

In conclusion, this study explored the knowledge, perceptions, attitudes, and practices of medical teachers towards competency-based medical education (CBME). The study also found that medical teachers generally had positive attitudes towards CBME, recognizing it as a learner-centered approach that aims to prepare students for real-world practice by emphasizing the development of competencies. However, some challenges related to

the implementation of CBME were identified, including the need for dedicated resources and a lack of clarity on how to develop competency-based assessments. On a positive note, the study found that a large proportion of medical teachers reported using practices related to CBME, such as regularly updating the competency-based curriculum and providing regular feedback to students based on competencies. These practices reflect a commitment to the implementation of CBME and the improvement of medical education. Overall, the study highlights the importance of ongoing support and resources to facilitate the successful implementation of CBME. By addressing the identified challenges and building on existing positive practices, medical schools can ensure that their students are well-prepared to meet the demands of real-world medical practice.

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