

Assessment of Perception of Medical Students Regarding Competency Based Medical Education [CBME]: A Cross-Sectional Study

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Abstract

The current research evaluates the effectiveness and perceptions of Competency-Based Medical Education (CBME) among 400 medical students. The survey explored CBME's focus on medical competencies, clarity of learning objectives, adequacy of feedback, engagement in self-directed learning, and the value of clinical-oriented practical experiences. Results indicate that CBME encourages a focused approach to learning competencies, offers clearer objectives, and improves clinical readiness. Participants reported receiving adequate feedback and viewed self-directed learning positively within their medical education. Clinical-oriented practical experiences were highly valued, enhancing motivation and preparedness for future practice. Areas for improvement include the foundation course for CBME and enhancing clinical practical experiences. Challenges in implementing CBME involve adapting teaching methods, ensuring resources, and aligning assessments with competency outcomes. The study concludes that CBME shows promise for preparing future medical professionals, but ongoing adjustments are needed to address challenges and optimize its implementation.

Keywords: CBME, medical education, MBBS, competencies, teaching-learning method, self directed learning.

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Introduction

Competency-Based Medical Education (CBME) represents a paradigm shift in medical education, focusing on the acquisition of specific skills and competencies rather than time-based training. Unlike traditional education methods, CBME emphasizes clear learning objectives, practical experiences, and continuous feedback, aiming to produce healthcare professionals who are better prepared for clinical practice. This approach aligns educational outcomes with the actual needs of healthcare systems, fostering a more direct correlation between training and professional performance.

Despite its potential advantages, the implementation of CBME poses various challenges and raises questions regarding its effectiveness compared to traditional methods. This study seeks to evaluate medical students' perceptions of CBME, examining aspects such as clarity of objectives, feedback adequacy, self-directed learning, and clinical preparedness. By gathering insights from

400 participants, this research aims to identify strengths and areas for improvement within the CBME framework, contributing to the ongoing discourse on optimizing medical education to meet the demands of contemporary healthcare environments.

Aims & Objectives

1. To assess the overall perception of learners towards Competency-Based Medical Education.
2. To identify challenges and obstacles faced by learners in CBME programs
3. To evaluate the learner's views on the assessment methods used in CBME
4. To explore the perceived benefits of CBME from the learner's standpoint.

Material & Methods

Study Design: This research employed a cross-sectional survey design.

Questionnaire Development: A structured questionnaire was meticulously designed to assess medical students and faculty perspective on CBME. The questionnaire consisted of carefully crafted questions covering various aspects of competency based medical education.

Study Population:

The target population for this study are medical students pursuing their MBBS in medical colleges.

Data collection:

Data was be collected through distribution of the structured questionnaire to the selected participants. This can be done via in-person surveys, online survey, or a combination of both depending on the logistical feasibility and preferences of the participants.

Data Analysis: Data analysis encompassed both descriptive and inferential techniques

Ethical Consideration: Ethical consideration, including informed consent from participants, data privacy, and adherence to ethical guidelines, was strictly followed throughout the research process.

Result

We recorded the responses of the questionnaire distributed online to the MBBS students and analysed the responses. A total of 400 participants submitted their responses .In the responses, 50-50 ratio between male and female was found.

The questionnaire was divided in different sections.

Section 1 dealt with few questions to gather general perspective of CBME among medical students.

The responses to the following questions are given in the charts below.

Q 1- CBME encourages a more focused approach to learning medical competencies (Figure 1)

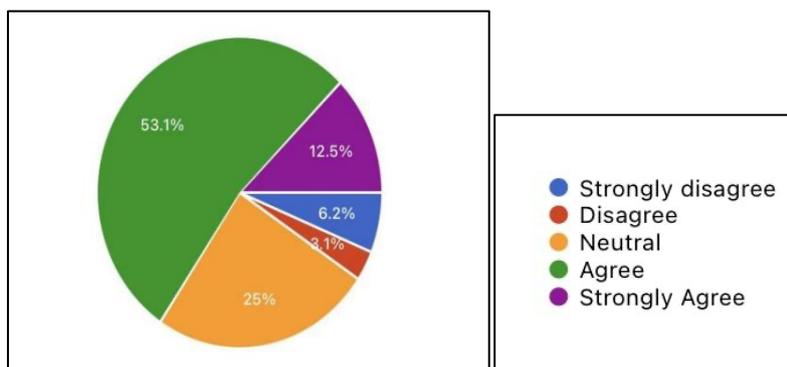


Figure 1:

Q 2-CBME provides clearer learning objectives compared to traditional medical education methods (Figure 2)

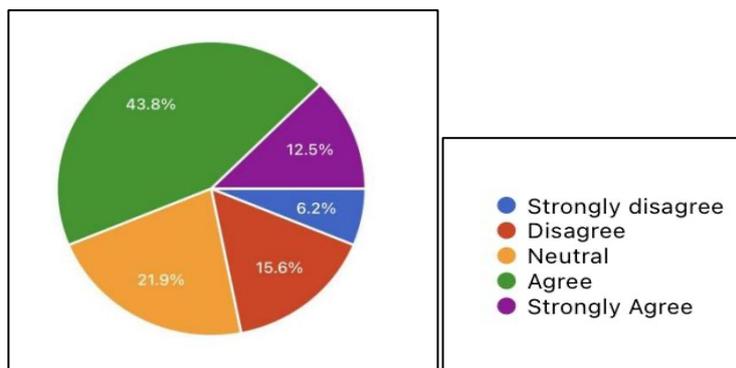


Figure 2:

Q 3- One receives adequate feedback on progress in achieving medical competencies through CBME (Figure 3)

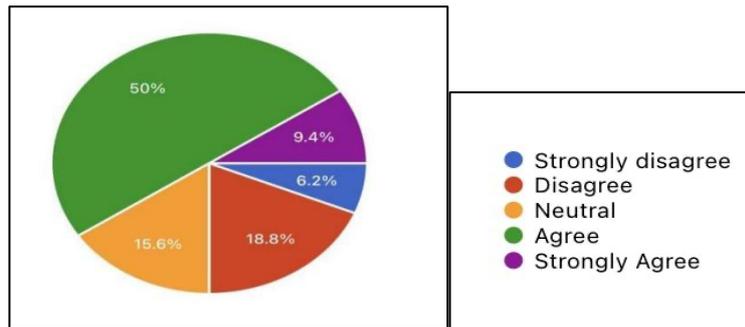


Figure 3:

Q 4- CBME enhances learner's readiness for clinical practice. (Figure 4)

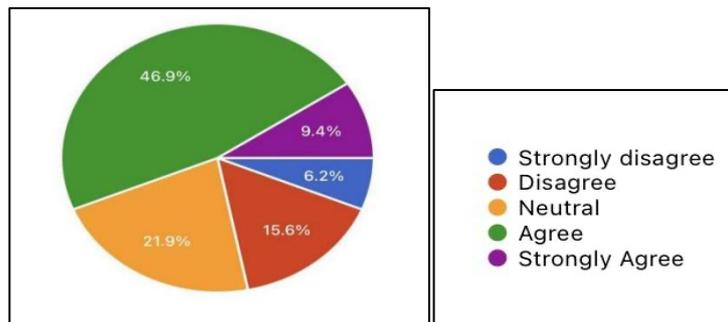


Figure 4:

Q 5- CBME increases learner's motivation to learn and improve in medical competencies. (Figure 5)

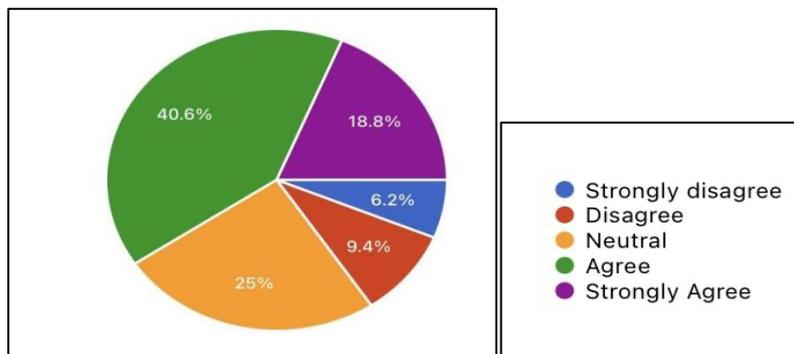


Figure 5:

Q 6- Do you believe CBME will better prepare the new generation for future medical practice compared to traditional medical education methods. (Figure 6)

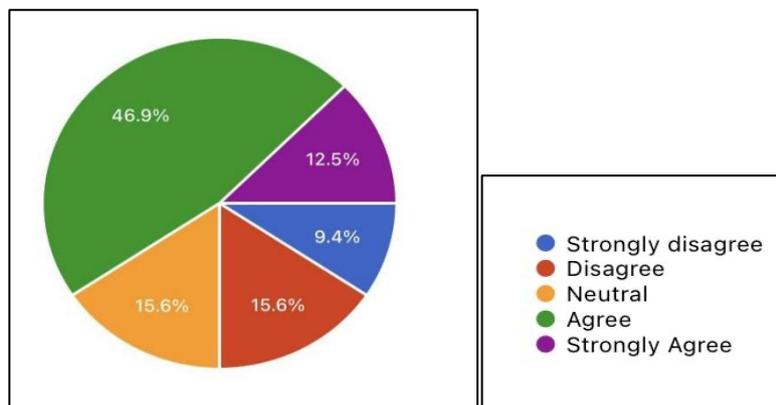


Figure 6:

Section 2 dealt with the perception of foundation course and Self directed learning [SDL] in CBME

Q7- In what ways could the foundation course for CBME be improved? (Figure 7)

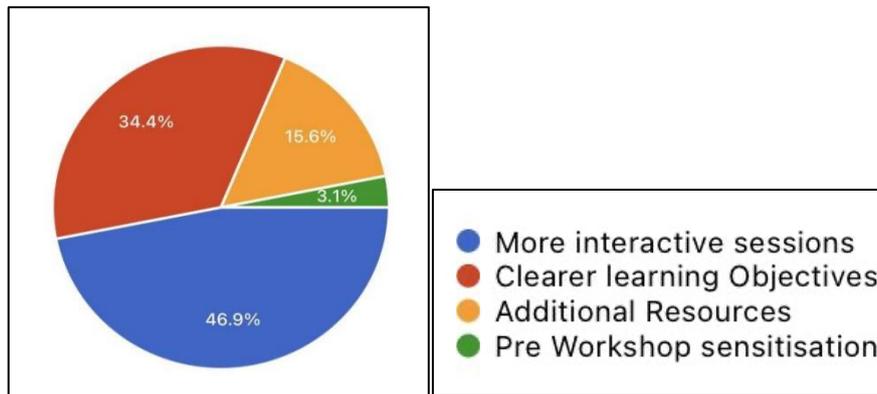


Figure 7:

Q 8-To what extent do you think that learner's engage in self-directed learning activities as part of CBME? (Figure 8)

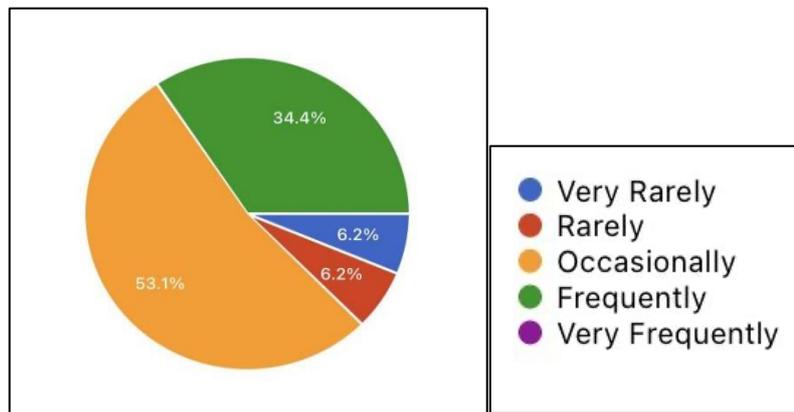


Figure 8:

9-How do you perceive the role of SDL in learner's overall medical education experience?(Figure 9)

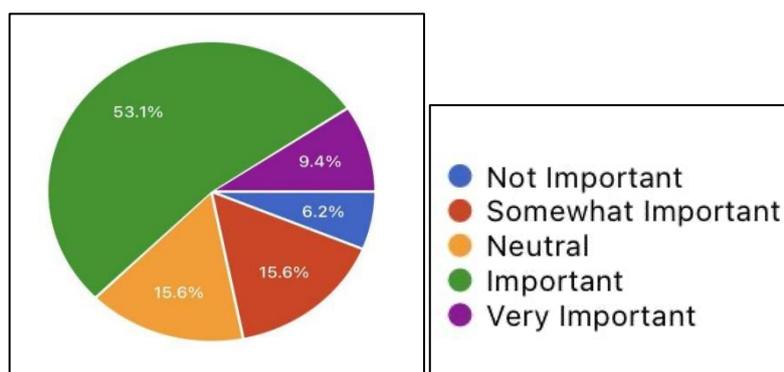


Figure 9:

Section 3 dealt with the clinical oriented practical experience in CBME

Q 10-How valuable do you find the clinical-oriented practical experiences provided to the learner within the CBME framework? (Figure 10)

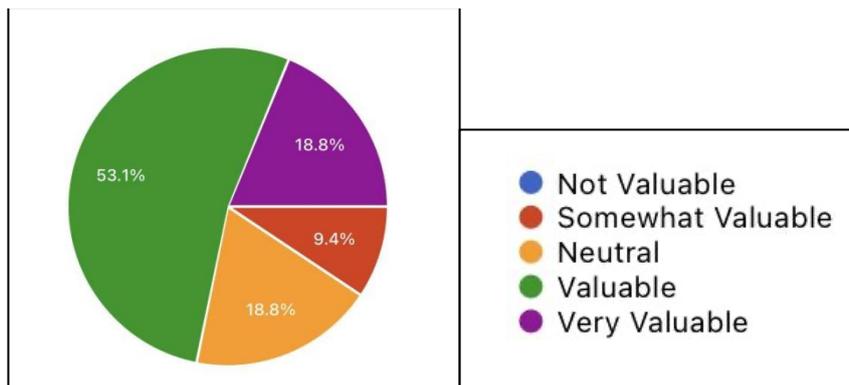


Figure 10:

Section 4 dealt with challenges and concerns in CBME

Q 11- What challenges do you foresee with the implementation of CBME in medical education? (Figure 11)

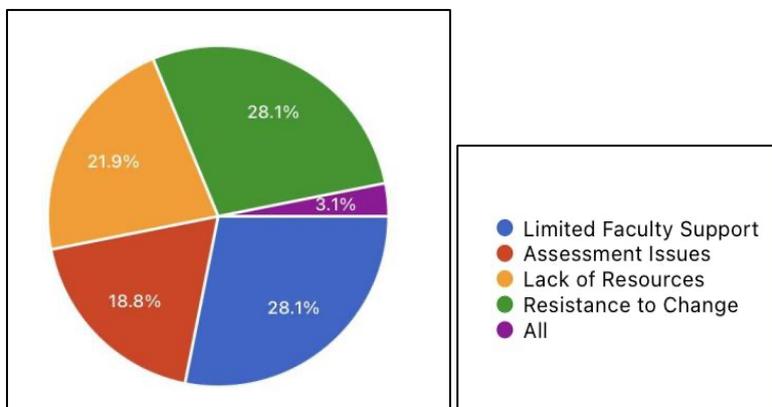


Figure 11:

Discussion

The present study explored perceptions of 400 medical students regarding the CBME curriculum.

A high percentage of participants supported CBME’s value in clinical readiness, self-directed learning, and a shift from passive learning to interactive, integrated teaching methods (Hawkins et al., 2015). These findings resonate well with trends reported in national-level literature, particularly the review by Gehlawat et al. (2024) on CBME implementation in India.

Focused Approach and Clinical Preparedness: [1-7]

In our study, 83% of participants agreed that CBME encourages a more focused approach to learning, particularly in acquiring clinical competencies. This reflects CBME’s central philosophy as described by Gehlawat et al., who highlighted that CBME was designed to overcome the passive, theory-heavy limitations of traditional medical education and shift toward practical, competency-oriented outcomes [Gehlawat et al.].

Clarity of Learning Objectives:[1-7]

78% of respondents in our study found CBME offers clearer learning objectives. This aligns with the structured teaching-learning strategies mentioned in the review, which emphasizes how the CBME framework in India includes specific, observable outcomes and stage-wise responsibilities—making expectations more transparent for both students and faculty.

Feedback and Assessment:[1-7]

In our results, 72% reported receiving adequate feedback, a critical component of competency-based curricula.

However, a contrasting insight from the review article suggests that less than half (47%) of students in previous studies had a clear understanding of the assessment schemes under CBME, and many found logbooks and frequent assessments burdensome. This discrepancy may indicate that while feedback is acknowledged, the volume and clarity of assessments need streamlining.

Self-Directed Learning (SDL):[1-7]

Our study noted 65% of participants viewed SDL positively, and 60% appreciated its role in

education. Yet, Gehlawat et al. pointed out that many students initially resist SDL, finding it time-consuming and lacking in clear structure.

This suggests an ongoing need to train students in effective SDL techniques and to integrate this mode of learning more gradually and supportively. Small group discussions gives each student the opportunity to interact and actively participate (Manchanda & Patil, 2019).

Perceptions of the Foundation Course (FC):[1-7]

When evaluating the Foundation Course, many participants in our study felt it lacked engagement and clinical relevance. Similarly, Gehlawat et al. noted that while FC has wide acceptance among students (especially modules like BLS training and field visits), its components need revamping to improve perceived value and student interest.

Value of Clinical-Oriented Practical Experiences:[1-7]

81% of our respondents highly valued clinical-oriented experiences under CBME, echoing the review article's support for early clinical exposure (ECE), case-based learning (CBL), and problem-based learning (PBL). These modern teaching approaches were consistently favored by Indian students, with 80% endorsing CBL as more engaging and clinically relevant, according to cited studies.

Challenges in Implementation:[1-7]

Our findings identified challenges such as lack of faculty training and resistance to change. These were also major concerns in the Gehlawat et al. review, which highlighted that only 13% of faculty were aware of CBME, and a majority felt underprepared to adopt new teaching methodologies without further training. This highlights the pressing need for expanded Faculty Development Programs (FDPs) and sustained support through initiatives like the Curriculum Implementation Support Program (CISP).

Conclusion

This study highlights the evolving perceptions of students regarding the Competency-Based Medical Education (CBME) system implemented in Indian medical colleges. The majority of respondents recognized CBME as a positive step forward, appreciating its emphasis on focused competency development, clearer learning objectives, increased readiness for clinical practice, and the value of self-directed learning. However, mixed feedback on the foundation course and the burden of assessments underscore areas requiring improvement.

Comparison with the literature, especially the study by Gehlawat et al. (2024), confirms that while CBME has introduced progressive changes in the

Indian medical education landscape, significant challenges remain in its implementation. These include resistance to self-directed and active learning among students, insufficient faculty training, and infrastructure limitations. (Sulena et al., 2024)

To fully realize the potential of CBME, continuous curriculum evaluation, regular feedback collection, expanded faculty development programs, and learner-centered innovations must be prioritized. With appropriate reforms and sustained commitment, CBME can equip Indian medical graduates with the clinical competence, communication skills, and ethical grounding needed for modern healthcare practice.

The goal of this study is to improve medical education as much as possible so that students can learn more effectively. The findings of this study indicates that CBME is seen in a good light by students. Focus on clinical competence, early clinical exposure, clarity of objectives were valued. Hands on, clinically focused training were highly appreciated as it enhances student's motivation and preparedness for clinical practice. Although faculty training, old methodology, assessment burden are some areas requiring improvement. Addressing these gaps can further strengthen CBME's role in producing well prepared and clinically capable medical graduates.

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