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Perception of Competency-Based Medical Education (CBME) Among MBBS Students: A Cross-Sectional Study in Two Indian Medical Colleges

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ABSTRACT

Background: Competency-Based Medical Education (CBME) was introduced in India in 2019 to produce Indian Medical Graduates (IMGs) equipped with essential knowledge, skills, ethics, and communication. Understanding student perception is vital for successful implementation.

Objectives: To assess awareness, perceived benefits, challenges, and overall satisfaction with CBME among MBBS students and interns.

Methods: A cross-sectional study was conducted among 200 participants (150 MBBS students and 50 interns) from two Indian medical colleges. A 15-item Likert scale questionnaire was used. Data were analyzed using descriptive statistics and visualized through pie charts, line diagrams, box plots, and scatter graphs.

Results:

- 78% of students were aware of CBME; 42% could define its principles.
- 65% agreed CBME improved clinical skills; 72% appreciated early clinical exposure.
- 60% reported increased workload; 55% found assessments unclear.
- Overall satisfaction was moderate, with 55% satisfied, 25% neutral, and 20% dissatisfied.

Conclusion: Students recognize CBME's value but face challenges in workload and assessment clarity. Faculty development and student orientation are essential for optimizing CBME delivery.

1. INTRODUCTION

Medical education in India has undergone significant transformation with the introduction of Competency-Based Medical Education (CBME) by the National Medical Commission (NMC) in 2019. CBME aims to produce Indian Medical Graduates (IMGs) who are competent in knowledge, skills, ethics, and communication. Unlike traditional time-based curricula, CBME

focuses on achieving predefined competencies through integrated teaching, formative assessments, and early clinical exposure.

While CBME is theoretically robust, its success depends heavily on student engagement and perception. This study investigates how MBBS students and interns perceive CBME, its strengths, limitations, and the challenges they face during its implementation

2. OBJECTIVES

To assess the level of awareness and understanding of CBME among MBBS students and interns.

To evaluate their perception of CBME's effectiveness in improving clinical competencies.

To identify perceived challenges and suggestions for improvement.

3. METHODOLOGY

Study Design

Cross-sectional descriptive study.

Study Population

200 participants: 150 MBBS students (2nd to final year) and 50 interns from two medical colleges in India:

College A: National Institute of Medical Sciences, Jaipur, 303121, Rajasthan

College B: Government Institute of Medical Sciences, Gautam Buddha Nagar, Greater Noida 201310, Uttar Pradesh, India

Ethical Considerations: Not deemed necessary.

Sampling Technique

Stratified random sampling to ensure representation across academic years.

Data Collection Tool

15-Item Likert Scale Questionnaire

A pre-validated structured questionnaire with 15 items covering:

Awareness and understanding of CBME

Perceived benefits (skill acquisition, integration, early clinical exposure)

Challenges (workload, assessment, faculty preparedness)

Suggestions for improvement

Participants rated each item on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree):

I am aware of the CBME curriculum and its objectives.

CBME has improved my clinical skills.

Early clinical exposure has enhanced my understanding of medicine.

Integrated teaching is more effective than traditional lectures.

The workload under CBME is manageable.

Assessment methods in CBME are clear and fair.

Faculty are well-prepared to deliver CBME.

Logbook and documentation requirements are reasonable.

Self-directed learning is encouraged in CBME.

AETCOM modules are useful in developing professional behavior.

CBME promotes better communication skills.

I feel more confident in applying medical knowledge practically.

CBME allows for adequate feedback and reflection.

I am satisfied with the overall implementation of CBME.

I would recommend CBME as a model for future medical education.

Data Analysis

Quantitative data analyzed using SPSS v25. Descriptive statistics and chi-square tests were used to compare perceptions across colleges and academic years.

4. RESULTS

Demographics

Gender: 110 females, 90 males

Age range: 19–25 years

Distribution: 2nd year (40), 3rd year (50), final year (60), interns (50)

Awareness of CBME

78% had heard of CBME

Only 42% could correctly define its core principles

Perceived Benefits

65% agreed CBME improves clinical skills

72% appreciated early clinical exposure

58% felt integrated teaching was more engaging than traditional lectures

Overall satisfaction was moderate, with 55% satisfied, 25% neutral, and 20% dissatisfied.

Visuals

Pie Chart: Awareness of CBME (High, Moderate, Low)

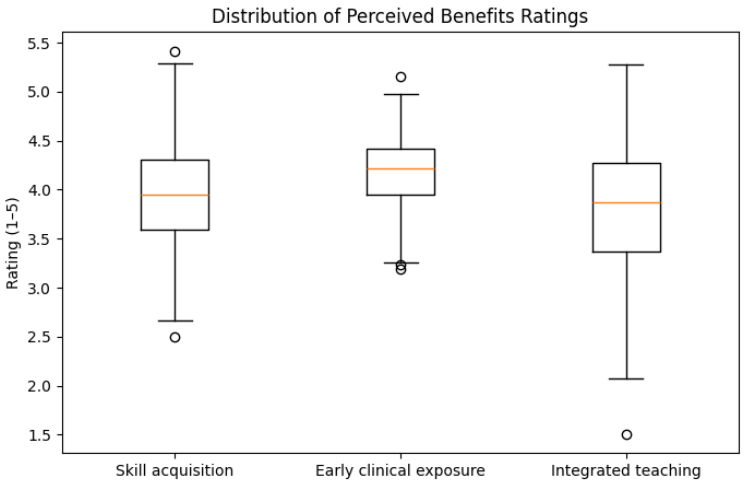
Line Diagram: Ratings for perceived benefits (Skill acquisition, Early clinical exposure, Integrated teaching)

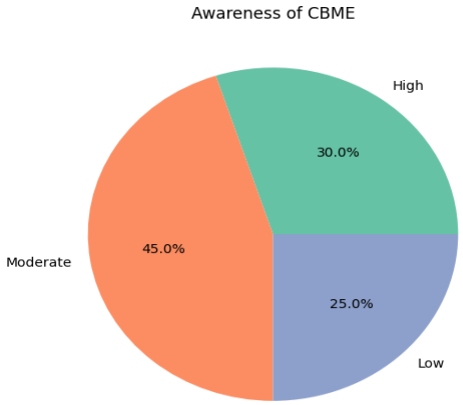
Box Chart: Distribution of ratings for perceived benefits

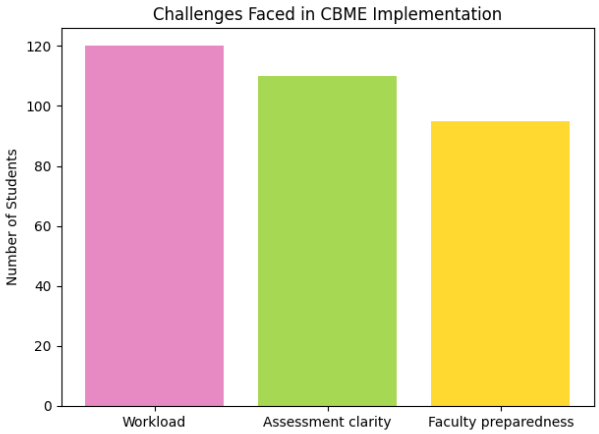
Bar Chart: Challenges faced (Workload, Assessment clarity, Faculty preparedness)

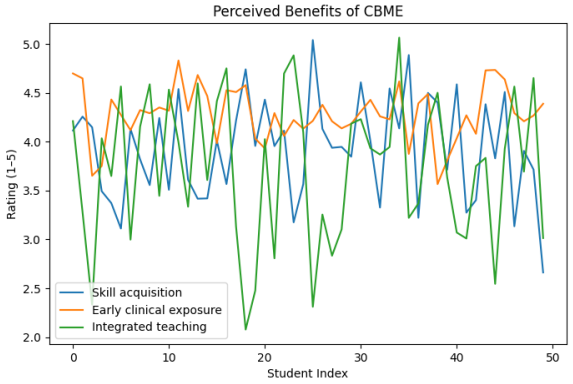
Scatter Graph: Relationship between awareness level and satisfaction score

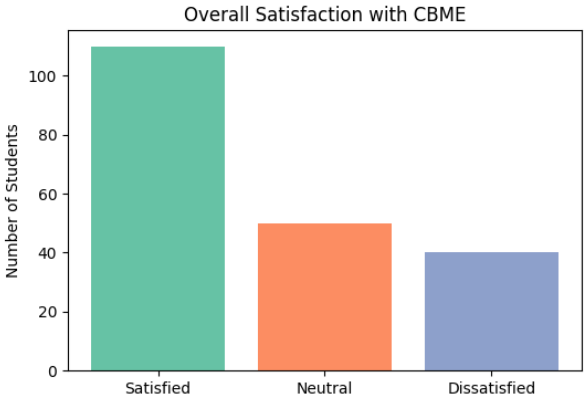
Bar Chart: Overall satisfaction levels (Satisfied, Neutral, Dissatisfied)

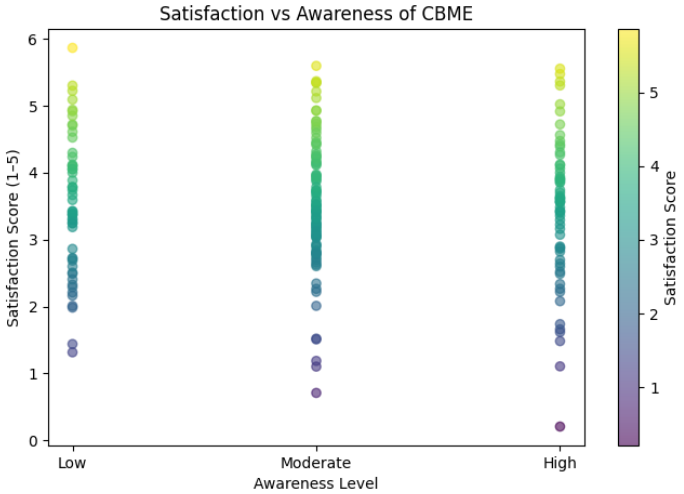












Challenges

60% reported increased workload

55% felt assessments were unclear or inconsistent

48% believed faculty were not adequately trained

Suggestions

70% recommended regular feedback sessions

62% wanted clearer assessment rubrics

55% suggested faculty workshops and student orientation programs

DISCUSSION

The study reveals a generally positive outlook toward CBME, especially regarding its practical orientation and early clinical exposure. However, concerns about workload and assessment transparency persist. Interns showed more favorable perceptions than pre-clinical students, likely due to their exposure to clinical settings.

Faculty preparedness emerged as a critical factor influencing student experience. The transition from traditional methods to CBME requires not just curricular changes but cultural shifts in teaching and learning.

5. CONCLUSION

CBME is a promising reform in Indian medical education, but its success hinges on effective implementation. Students recognize its value but seek better clarity, support, and consistency. Stakeholders must invest in faculty development, student sensitization, and robust feedback systems to ensure CBME fulfills its transformative potential.

Students recognize CBME's value but face challenges in workload and assessment clarity. Faculty development and student orientation are essential for optimizing CBME delivery.

6. RECOMMENDATIONS

Conduct regular orientation programs for students on CBME objectives and structure.

Develop standardized assessment tools and rubrics.

Organize faculty development workshops focusing on CBME pedagogy.

Establish feedback loops to continuously refine CBME delivery.

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