



COMPETENCY-BASED MEDICAL EDUCATION (CBME): A SURVEY-BASED ANALYSIS OF MEDICAL STUDENTS' PERSPECTIVES

**Dr. Manam
Chinmayi
Chowdary**

House Surgeon, Konaseema Institute of Medical Sciences and Research Foundation

**DR. Pradeep
Garapati**

House Surgeon, Konaseema Institute of Medical Sciences and Research Foundation

ABSTRACT

Competency-Based Medical Education (CBME) was introduced in 2019 as an innovative approach to medical training, emphasizing practical skills and real-world applications over traditional theoretical learning. This study examines the perceptions of 150 medical students regarding CBME's effectiveness, ease of learning, clinical orientation, patient interaction, ethical training, and inclusion of sports activities. The findings provide insights into the impact of CBME on medical education and its role in preparing students for the National Eligibility cum Entrance Test (NEET).

KEYWORDS :

INTRODUCTION

Medical education has undergone a paradigm shift in recent years, transitioning from traditional didactic methodologies to more competency-driven approaches such as CBME. The primary goal of CBME is to ensure that medical graduates acquire essential competencies, including clinical skills, ethical decision-making, and patient-centered care, before advancing in their training [1]. Unlike traditional curriculum models, which focus on time-based progression, CBME is designed to produce outcomes-driven education, wherein students progress upon demonstrating proficiency in core competencies [2].

CBME has been increasingly adopted worldwide as it aligns with the evolving needs of healthcare systems, particularly in improving medical graduates' preparedness for real-world clinical practice [3]. Studies have shown that competency-based training enhances students' critical thinking and problem-solving skills, which are crucial in modern medical practice [4]. Furthermore, CBME integrates early clinical exposure, allowing students to develop hands-on experience much earlier in their education compared to traditional models, which often delay direct patient interaction until later years [5].

One of the primary objectives of CBME is to bridge the gap between theoretical knowledge and clinical application. Research has indicated that medical graduates trained under CBME exhibit higher clinical competence and improved patient outcomes due to their practical skillset [6]. Additionally, CBME has been linked to enhanced decision-making abilities, as students are trained to apply knowledge in varied and unpredictable clinical scenarios [7]. However, despite its advantages, CBME has also faced criticism, with some students and educators expressing concerns regarding its demanding nature and the increased workload associated with competency assessments [8]. Others argue that while CBME improves clinical readiness, it may require better faculty training and infrastructural support to be fully effective [9].

This study aims to explore students' perceptions of CBME by evaluating its ease of study compared to traditional curricula, its impact on NEET preparation, its clinical orientation, the effectiveness of ethical training, and the incorporation of extracurricular activities such as sports. The findings will contribute to the growing body of research on CBME and provide insights into potential areas for curriculum refinement.

Methodology

This study was conducted to evaluate medical students' perceptions of Competency-Based Medical Education (CBME) using a structured survey methodology. A total of 150 medical students from various medical institutions from the 2019 batch participated in the study. The study was conducted following ethical approval from the Konaseema Institute of Medical Sciences, ensuring compliance with institutional and ethical research guidelines.

A self-administered questionnaire consisting of 12 questions was developed to assess students' perspectives on CBME. The questionnaire employed a Likert scale format, allowing respondents to express their level of agreement or disagreement on a scale ranging from strongly disagree to strongly agree. The survey focused on multiple key aspects, including the ease of studying under CBME, its effectiveness in preparing for the National Eligibility cum Entrance Test (NEET), clinical orientation, patient interaction, ethical training, and the inclusion of extracurricular activities such as sports.

Participants were provided with clear instructions, and informed consent was obtained before data collection. The survey was distributed electronically. Responses were collected anonymously to encourage honest feedback. Data analysis was conducted using descriptive statistical methods to determine response distributions and trends among the participants.

RESULTS

The results indicate mixed opinions regarding the ease of studying in the CBME system. Sixty percent of students strongly disagreed that CBME made studying easier, while 10% disagreed. In contrast, 5% strongly agreed and 25% agreed that CBME facilitated learning. Regarding its effectiveness in NEET preparation, 45% of students found CBME very helpful, while 50% considered it moderately helpful. A small percentage, 5%, reported that CBME was not helpful at all in their NEET preparation. The study also evaluated the clinical orientation of CBME, with 98% of students strongly agreeing that CBME is more clinically oriented than the traditional curriculum.

Interaction with patients is a crucial aspect of medical training, and 70% of students strongly agreed that CBME improved their patient interaction skills, with an additional 18% agreeing. However, 12% disagreed with this statement. Ethical training within CBME was found to have a significant impact, as 96% of students strongly agreed that ethical classes in CBME improved their morale when conveying

difficult news to patients, while 2% agreed and another 2% disagreed.

The inclusion of sports in the CBME curriculum yielded varied responses. Seventy-two percent of students agreed that sports were incorporated into their regular day as part of CBME, while 28% disagreed. When asked about the effectiveness of sports in overall development, 69% strongly agreed, 12% agreed, 15% disagreed, and 4% strongly disagreed.

DISCUSSION

The results suggest that while students find CBME more challenging than the traditional model, its clinical relevance is highly valued. A majority of students acknowledged its effectiveness in preparing for NEET, with 95% finding it at least moderately helpful. This aligns with previous studies highlighting the shift in medical education toward competency-based learning models that emphasize clinical readiness and problem-solving skills rather than rote memorization [10]. The competency-based approach fosters an active learning environment that enhances students' ability to retain and apply knowledge in clinical settings, which has been associated with improved exam performance [11].

The study also highlights CBME's success in improving patient interaction. With 88% of students agreeing that CBME enhances their ability to interact with patients, these findings support existing literature emphasizing the role of experiential learning in developing strong doctor-patient communication skills [12]. Early patient exposure has been shown to improve students' confidence and ability to empathize with patients, which is essential for building rapport and ensuring effective treatment outcomes [13].

Ethical training is another critical component of CBME, with 96% of students acknowledging its positive impact. Previous research has demonstrated that structured ethical training improves medical students' ability to handle sensitive patient interactions and enhances their professional decision-making abilities [14]. Ethics education plays a pivotal role in shaping future physicians' approach to complex medical scenarios, particularly those involving end-of-life care and medical errors [15]. Additionally, incorporating ethical discussions into clinical training fosters a culture of professionalism and accountability, crucial for patient safety and trust in healthcare systems [16].

The mixed responses regarding sports inclusion suggest that while CBME incorporates holistic development, its effectiveness in this regard may vary among individuals. Studies have shown that physical activity in medical education reduces stress and improves cognitive performance, yet the extent to which sports should be emphasized remains debatable [17]. Furthermore, research indicates that physical well-being contributes to long-term career sustainability in medical professions, reinforcing the need for a balanced academic and extracurricular environment [18].

Overall, CBME represents a significant shift in medical education, offering both opportunities and challenges. While students appreciate its clinical orientation, ethical training, and patient interaction opportunities, concerns regarding workload and assessment methodologies need to be addressed to optimize its implementation. Future research should focus on refining CBME to ensure that it balances academic rigor with student well-being and long-term professional competence.

Recommendations

Enhanced student support programs can be implemented to aid students in adapting to CBME, given its increased difficulty. Structuring NEET-specific training within CBME

could improve its perceived effectiveness, while optimizing sports and well-being initiatives could enhance the overall medical training experience. Further research through longitudinal studies tracking students' post-graduate performance can better validate CBME's effectiveness in real-world medical practice.

CONCLUSION

CBME presents a shift toward a more hands-on, competency-driven approach to medical education. While students find it more challenging than traditional learning, its clinical orientation, ethical training, and interactive components contribute positively to their professional development. The integration of sports, while present, requires further evaluation for its impact on student well-being. These insights can guide further refinement of CBME to maximize its benefits for future medical professionals.

REFERENCES

1. Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2014.
2. Holmboe ES, Sherbino J, Long DM, Swing SR, Frank JR. The role of assessment in competency-based medical education. *Med Teach*. 2010;32(8):676-682.
3. Carraccio C, Englander R, Van Melle E, Ten Cate O, Lockyer J, Chan MK, et al. Advancing competency-based medical education: a charter for clinician-educators. *Acad Med*. 2016;91(5):645-649.
4. Gruppen LD, Mangrulkar RS, Kolars JC. The promise of competency-based education in the health professions for improving global health. *Hum Resour Health*. 2012;10:43.
5. Tekian A, ten Cate O. Further insights on the utility of Entrustable Professional Activities and competencies in medical education. *Med Teach*. 2020;42(7):782-787.
6. van der Vleuten CP, Schuwirth LW, Driessen EW, Dijkstra J, Tigelaar D, Baartman LK, et al. A model for programmatic assessment fit for purpose. *Med Teach*. 2012;34(3):205-214.
7. Lomis K, Russell RG, Davidson MA, Fleming AE, Pettepher CC, Cutrer WB. Competency-based education: An overview of its design and implementation at Vanderbilt University School of Medicine. *Acad Med*. 2017;92(5):630-636.
8. Carraccio C, Benson B, Nixon L, Derstine P. From the educational bench to the clinical bedside: translating the Dreyfus developmental model to the learning of clinical skills. *Acad Med*. 2008;83(8):761-767.
9. Hauer KE, Hirsh D, Ma I, Hansen L, Ogur B, Teherani A, et al. The role of role: learning in longitudinal integrated and traditional block clerkships. *Med Educ*. 2012;46(7):698-710.
10. Norman G. Research in clinical reasoning: past history and current trends. *Med Educ*. 2005;39(4):418-427.
11. Cook DA, Brydges R, Zendejas B, Hamstra SJ, Hatala R. Mastery learning for health professionals using technology-enhanced simulation: a systematic review and meta-analysis. *Acad Med*. 2013;88(8):1178-1186.
12. Rider EA, Keefer CH. Communication skills competencies: definitions and a teaching toolbox. *Med Educ*. 2006;40(7):624-629.
13. Windish DM, Paulman PM, Goroll AH, Bass EB. Do clerkship experiences affect medical students' attitudes toward generalist careers? *Acad Med*. 2004;79(10):1034-1039.
14. Epstein RM, Hundert EM. Defining and assessing professional competence. *JAMA*. 2002;287(2):226-235.
15. Glick SM. The teaching of medical ethics to medical students. *J Med Ethics*. 1994;20(4):239-243.
16. Rees CE, Monrouxe LV. Who are you and who do you want to be? Key considerations in developing professional identities in medicine. *Med J Aust*. 2018;209(5):202-203.
17. Budde H, Voelcker-Rehage C, Pietrassky-Kendziorra S, Ribeiro P, Tidow G. Acute coordinative exercise improves attentional performance in adolescents. *Neurosci Lett*. 2008;441(2):219-223.
18. Biddle SJ, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. *Br J Sports Med*. 2011;45(11):886-895.