Biomedical and Biopharmaceutical Research
Abbreviation: Biomed. Biopharm. Res.
Volume: 22: Issue: 02 |Year: 2025
Page Number: 151-157

EFFECTIVENESS OF A TRAINING PROGRAMME IN INCREASING KNOWLEDGE AND AWARENESS OF COMPETENCY BASED MEDICAL EDUCATION (CBME)

Dr. K.V. Phani Madhavi[1], Dr. T. Charitha[2], Dr. V.V. Durga Prasad[3]

[1]Associate Professor, Department of Community Medicine, Government Medical College, Rajamahendravaram, East Godavari District, Andhra Pradesh
[2]Associate Professor, Department of Community Medicine, Government Medical College, Kadapa, Andhra Pradesh.
[3]Associate Professor, Department of Community Medicine, Government Medical College, Rajamahendravaram, East Godavari District, Andhra Pradesh

Corresponding Author

Dr.K.V. Phani Madhavi

Associate Professor, Department of Community Medicine, Government Medical College, Rajamahendravaram, East Godavari District, Andhra Pradesh.

Article Received: 28-05-2025

Article Accepted: 24-06-2025

Abstract

Background: CBME - Competency Based Medical Education is a novel approach designed to meet the expectations of an Indian Medical Graduate (IMG). Implementation of CBME remains still a challenge. Hence the present research was conducted to study the Effectiveness of a training programme in increasing Knowledge, changing the attitude and perceptions regarding Competency-based medical education (CBME).

Materials and methods: An Interventional exclusive training programme was conducted amongst 28 Faculty and Tutors of Community Medicine Department in Govt. Medical College, Visakhapatnam. Pre-test and Post test self-administered questionnaire was used to measure the difference in Knowledge. Likert scale was used to assess their attitude towards CBME implementation. Perceptions were studied using open ended questionnaire. Paired T Test was used to test the difference in knowledge.

Results: Among 28 participants enrolled for the study the Mean Pre-test Knowledge score was found to be 7.71 $\pm$ 3.13 and Mean Post-test Knowledge score was 13.21 $\pm$ 2.81. On applying Paired T test, it was found that statistically significant increase in the knowledge in terms of mean scores with p value of 0.000. Almost 96.4% in strongly agreed to follow blue printing for assessment and to include electives in Community Medicine postings for undergraduates during post-test. Almost 96.4% felt that commitment towards CBME implementation important.

Conclusions: Training in CBME must be made mandatory to all the faculty and administrators should provide adequate resources and infrastructure for effective implementation of CBME.

Keywords: Competency based Medical Education (CBME), Medical education, Faculty, Perceptions, Knowledge, Interventional exclusive training programme.

INTRODUCTION

The Medical Council of India (MCI) is the apex statutory body for establishing standards of medical education. In alignment with the global movement toward competency-based learning, the MCI had undertaken a comprehensive revision of the undergraduate medical curriculum, after the last amendment done in 1998. The new curriculum titled "Competency Based Undergraduate Curriculum for the Indian Medical Graduate" is being implemented across the country, from the academic year 2019 to 2020.[1]

The medical education in India is going through a radical change with the implementation of competency-based medical education (CBME) curriculum.

The CBME is an outcome-based approach where the emphasis is on producing a competent Indian Medical Graduate (IMG). The salient features of the new CBME are the "competencies" that are the main focus of the curriculum.

A competency can be defined as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served." Competency-based medical education (CBME) is an approach to ensure that the graduates attain the competencies required to discharge their professional duties as health-care personnel. It de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness.[2] This innovative curriculum has introduced many new curricular elements to the existing undergraduate medical training.

The IMG is expected to be a physician of first contact who has to essay the roles of a clinician, leader, professional, communicator, and lifelong learner.[3] The new Graduate Medical Education Regulations (GMER) states that the learning process should include living experiences, problem-oriented approach, case studies, and community health care activities. Hence, CBME is learner-centric with the teaching–learning activities concentrating on skill acquisition and clinical experiences with the didactic lectures not exceeding one-third of the schedule.
Therefore, the majority of teaching schedule would include interactive sessions, practical sessions, and small group discussions. The present curriculum is not aligned with societal needs and lays more emphasis on knowledge than skill acquisition with no formal training on attitudes.

The new CBME curriculum gives priority to the doctor–patient relationship, ethical values, and the communication process. The development of ethical values and overall professional growth as an integral part of the curriculum shall be implemented through a structured longitudinal and dedicated program on professional development and ethics called Attitude Ethics and Communication (AETCOM). It will be delivered by well-defined modules, role plays, project work, field trips, medical camps, and voluntary services.1 One of the biggest challenges in implementing CBME would be the horizontal alignment between different subjects in a single phase and vertical integration across phases.

The CBME curriculum document lists 2949 outcomes (competencies) to be mastered by the undergraduates along with suitable teaching–learning (TL) and assessment methods. The shift from knowledge accumulation to skill acquisition is considered as the pivot of the new undergraduate curriculum. Alignment and integration among different disciplines is one of the core strategies in implementing the new curriculum.[4,5,6] New curricular elements include the foundation course (FC), early clinical exposure (ECE), attitudes, ethics and communication (AETCOM), elective postings (EP), alignment and integration, clinical clerkships, and more. Incorporation of structured feedback, maintenance of log books are other notable features of the CBME.[4,5,6,7,8,9]

New educational roles of the young medical aspirants: instead of passive listening, students must take personal responsibility for learning by adopting self-directed learning (SDL) methods (library/on-line access), performing under observation in skills laboratory and, encountering real and simulated patients. The learner must demonstrate and document the evidence of acquisition of competency. [10]

This new curriculum as a system-based approach focuses on competencies that would need more efforts and dedication on the part of the faculty to make it a success. The faculty would no longer be givers of knowledge but will become facilitators in the students' acquisition of knowledge. To sensitize and train the faculty about CBME, the Curriculum Implementation Support Program (CISP) workshops are being held in various colleges across India.

Faculty preparedness and internalization of the new initiative have been heterogeneous. In spite of multiple rounds of curriculum implementation support programs, the rollout has reportedly not been uniform across the nation.

Implementation of CBME remains a challenge as the many of the faculty have not been trained in CISP Curriculum Implementation Support Programme. Hence an exclusive training programme was conducted for training the faculty of Community Medicine Department to study the Effectiveness of a training programme in increasing Knowledge, changing the attitude and perceptions regarding Competency based medical education (CBME).

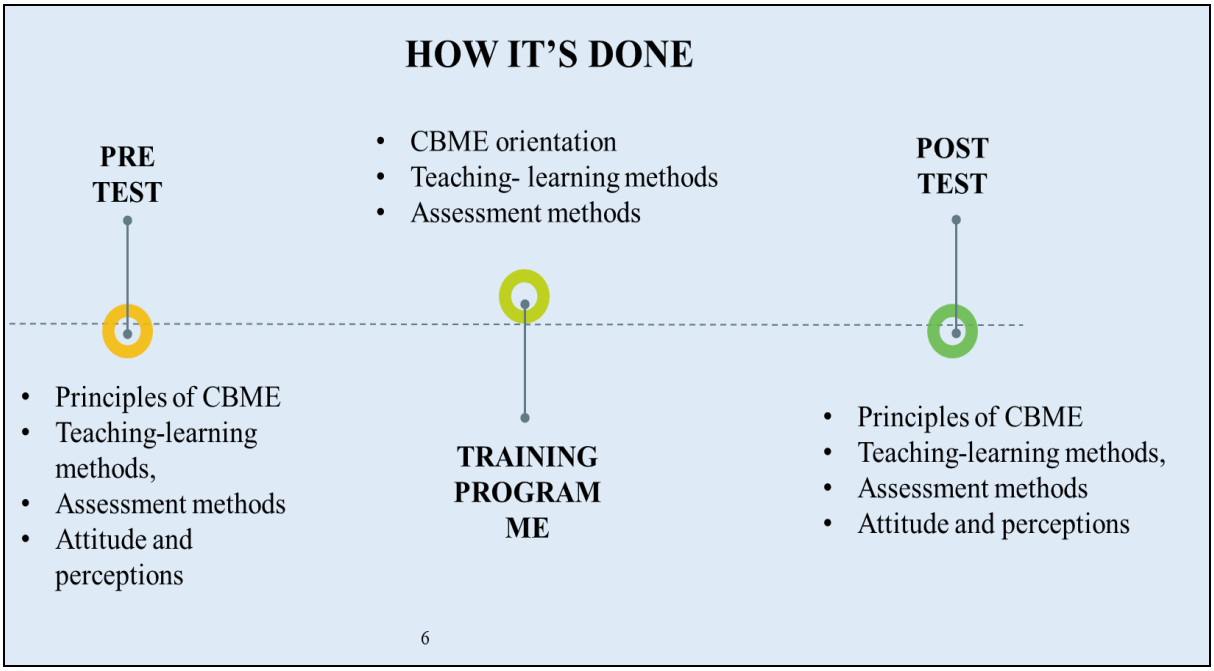
AIM

To study the Effectiveness of a training programme in increasing Knowledge, changing the attitude and perceptions regarding Competency based medical education (CBME).

METHODOLOGY

Study design: Interventional Study
Study setting: Govt. Medical College, Visakhapatnam, Andhra Pradesh
Sample size: 28 Study Participants:
INCLUSION CRITERIA: Faculty and Tutors of Community Medicine Department.

EXCLUSION CRITERIA: Faculty who have undergone training in ACME and members of Medical Education Unit were excluded.
STUDY TOOL: Pre-test and Post test self-administered questionnaire was used to measure the difference in knowledge. Likert scale was used to assess their attitude towards CBME implementation. Perceptions were studied using open ended questionnaire.
DATA ANALYSIS: Data was entered and analysed using MS EXCEL. Paired T Test was used to test the difference in knowledge. P value < 0.05 was considered as significant. Institutional Ethics committee approval was obtained before conducting the study. A written informed consent was obtained from the faculty who are willing to participate in the study.



RESULTS
A total of 28 faculty which includes tutors were enrolled for the study.
Pre-test and Post test self-administered questionnaire was used to measure the difference in knowledge. Likert scale was used to assess their attitude towards CBME implementation. Perceptions were studied using open ended questionnaire.

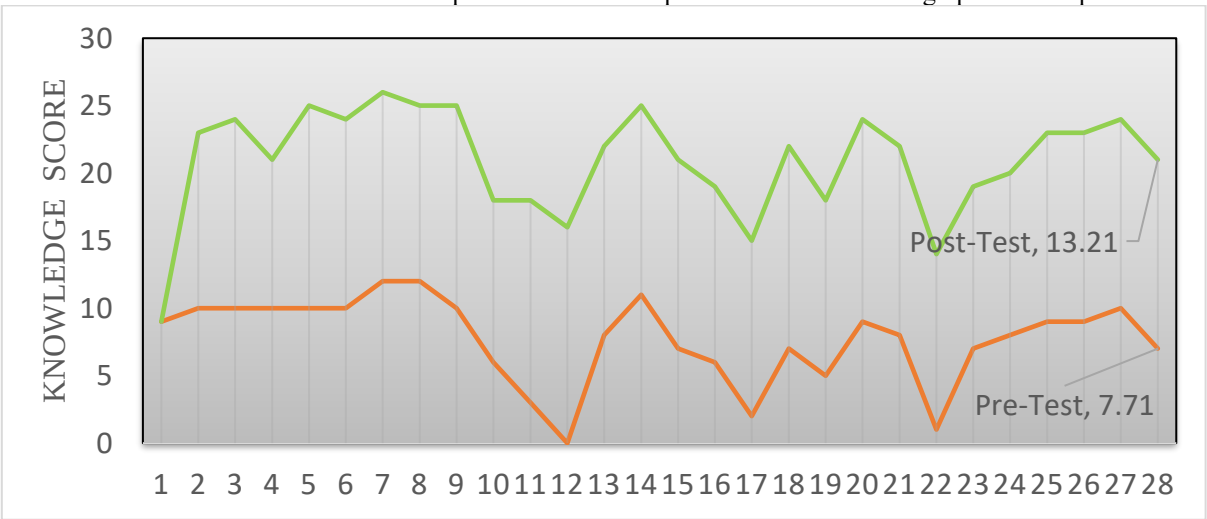


Figure: 2 Showing Pre-test and Post-Test Knowledge scores of study participants

Attitude: 64.2% strongly agreed for inclusion of online T-L methods for teaching purposes and 96.4% in strongly agreed to follow blue printing for assessment and to include electives in Community Medicine postings for undergraduates during post-test.

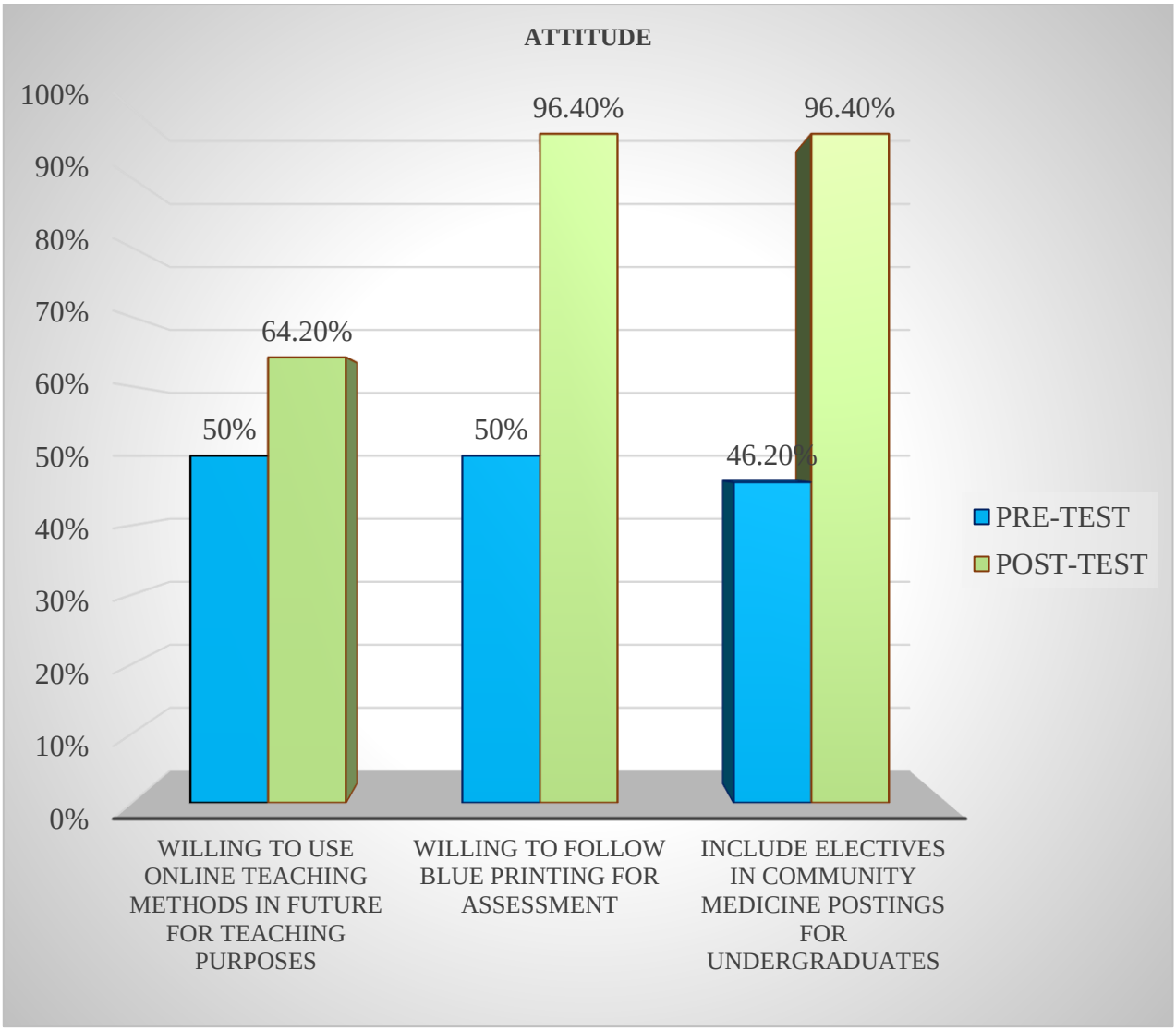


Figure: 3 Showing Pre-test and Post-Test attitudes of study participants

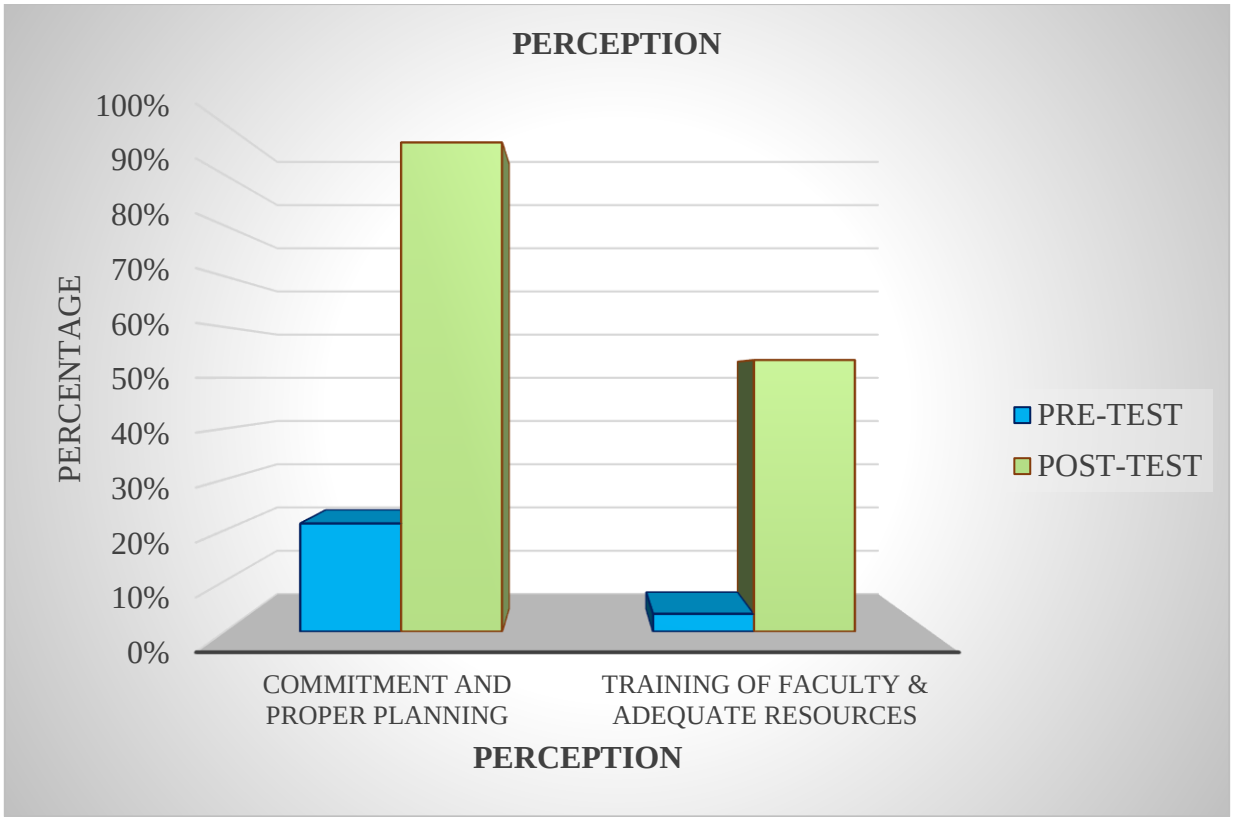


Figure:4 Showing Pre-test and Post-Test Perceptions of study participants towards implementation of CBME.

KNOWLEDGE:

KNOWLEDGE SCORE	Mean ± SD
Pre-test Mean Knowledge Score	7.71 ± 3.13
Post -test Mean Knowledge Score	13.21 ± 2.81

On applying Paired t test, statistically significant increase in the knowledge in terms of mean scores was observed in post test as compared to pre-test with a t value of -6.930 and p value of 0.000.

ATTITUDE

The present study findings showed that 50% of the study participants during pre-test and 64.2% in post-test strongly agreed for inclusion of online T-L methods in future for teaching purposes.

The present study findings showed that 50% of the study participants during pre-test and 96.4% in post-test strongly agreed to follow blue printing for assessment.

The present study findings showed that 46.4% of the study participants during pre-test and 96.4% in post-test strongly agreed to include electives in Community Medicine postings for undergraduates.

PERCEPTIONS

Almost more than half (57.1%) in pre-test and 89.2% in post-test felt that CBME should be effectively implemented at our institution and is a positive step forward in improving the present system of medical education.

About 21.3% in pre-test and 96.4% in post-test felt that commitment towards CBME implementation was the most important factor.

Only 3.5% in pre-test and 53.5% in post-test felt that proper planning, training of faculty and adequate resources were the most important steps to be followed to facilitate CBME implementation.

Only 7.1% of the study participants felt that lack of awareness, coordination among faculty and lack of infrastructure and resources might be the Challenges for effective implementation of CBME.

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.

In the present study, almost more than half (57.1%) in pre-test and 89.2% in post-test felt that CBME should be effectively implemented at our institution and is a positive step forward in improving the present system of medical education.
In the present study, on applying Paired t test, it was found that statistically significant increase in the knowledge in terms of mean scores was observed in post-test as compared to pre-test with a t value of -6.930 and p value of 0.000.

The present study findings showed that 50% of the study participants during pre-test and 64.2% in post-test strongly agreed for inclusion of online T-L methods in future for teaching purposes.

The present study findings showed that 50% of the study participants during pre-test and 96.4% in post-test strongly agreed to follow blue printing for assessment.

The present study findings showed that 46.4% of the study participants during pre-test and 96.4% in post-test strongly agreed to include electives in Community Medicine postings for undergraduates.

In a study done by **Shaifaly M Rustagi el in 2019,** [11]12.9% of faculty were not even aware that CBME is being implemented from the 2019 batch. Of the 51 faculty members who were aware of the new curriculum, only 25 (43.1%) members felt that its implementation would lead to better doctors in future. Majority of the faculty (86.2%) members were in agreement with the concept of exposing the first-year students to ECE.

In the present study, almost more than half (57.1%) in pre-test and 89.2% in post-test felt that CBME should be effectively implemented at our institution and is a positive step forward in improving the present system of medical education.
About 21.3% in pre-test and 96.4% in post-test felt that commitment towards CBME implementation was the most important factor.

Only 3.5% in pre-test and 53.5% in post-test felt that proper planning, training of faculty and adequate resources were the most important steps to be followed to facilitate CBME implementation. Only 7.1% of the study participants felt that lack of awareness, coordination among faculty and lack of infrastructure and resources might be the Challenges for effective implementation of CBME.

In a study done by **Shaifaly M Rustagi el in 2019**, the faculty perceives that a major challenge in implementation of CBME would be shortage of teachers for small group teaching. Presently, there is a gross mismatch between MCI-stated faculty requirements in departments and actual numbers available in each department to implement small group teaching, early clinical exposure, electives, and formative assessment. This is more pertinent for clinical departments as their faculty members have to take time from their busy clinical schedules to do the small group teaching.

So far, CBME has been experimented in India only in few medical colleges for postgraduate education with good results but the outcome for undergraduates is awaited. [12]

Systematic planning needs to be done, and the approach to medical education needs to be a given a new direction. As faculty members are the forebearers to this new change, our study is an attempt to analyze the perceptions of the faculty and the likely challenges to be faced about the new curriculum. This knowledge can be used for proper implementation, conduct, and assessment of CBME.

CONCLUSION:
Training in CBME must be made mandatory for all the faculty in teaching hospitals. Administrators should provide adequate resources and infrastructure for effective implementation of CBME.

RECOMMENDATION:
The new pool of faculty members joining every year have been trained in the previous curriculum and would not be aware of the finer aspects of the new curriculum. This requires that all medical institutions to keep up with the continuous efforts of updating their faculty. members in form of CISPs, RBCWs, and advanced courses in medical education supported by MEU units under guidance of the MCI.

REFERENCES:

1.The tyranny of the Medical Council of India's new (2019) MBBS curriculum: Abolition of the academic discipline of family physicians and general practitioners from the medical education system of India. J Family Med Prim Care. 2019; 8:323–5.
2.Frank JR, Mungroo R, Ahmad Y, Wang M, De Rossi S, Horsley T. Toward a definition of competency-based education in medicine: A systematic review of published definitions. Med Teach. 2010; 32:631–7.
3.Sharma R, Bakshi H, Kumar P. Competency-based undergraduate curriculum: A critical view. Indian J Community Med. 2019; 44:77–80.
4.Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate. Vol. 1. New Delhi: Medical Council of India; 2018.
5.Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate. Vol. 2. New Delhi: Medical Council of India; 2018.
6.Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate. Vol. 3. New Delhi: Medical Council of India; 2018.
7.Medical Council of India. Early Clinical Exposure for the Undergraduate Medical Education Training Program. 2019:1–43.
8.Medical Council of India. Attitude, Ethics and Communication (AETCOM). Competencies for the Indian Medical Graduate. New Delhi: Medical Council of India; 2018. [Last accessed on 2020 Mar 7]. Available from: https://www.mciindia.org/CMS/wp-content/uploads/2020/01/AETCOM_book.pdf .
9.Medical Council of India. Alignment and Integration Module for Undergraduate Medical Education Program. New Delhi: Medical Council of India; 2019. pp. 1–34.
10.Chacko TV. Moving toward competency-based education: Challenges and the way forward. Arch Med Health Sci. 2014; 2:247–53.
11. Rustagi SM, Mohan C, Verma N, et al. Competency-based Medical Education: The Perceptions of Faculty Med Acad. 2019;2(1):1–5.
12. Shrivastava SR, Shrivastava PS. Qualitative study to identify the perception and challenges faced by the faculty of community medicine in the implementation of competency-based medical education for postgraduate students. Family Medicine and Community Health 2019;7:e000043.