



PERCEPTIONS ABOUT COMPETENCY-BASED MEDICAL EDUCATION IN POSTGRADUATE CURRICULUM AMONG POSTGRADUATES OF A GOVERNMENT MEDICAL COLLEGE, KAKINADA, ANDHRA PRADESH

Community Medicine

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ABSTRACT

Competency-based Medical Education (CBME) has been introduced in Indian medical education by the Medical Council of India (MCI) in 2019, for both Undergraduate (UG) and Postgraduate (PG) curricula. CBME curriculum is more learner-friendly and patient-oriented and enables students to acquire desired skills and competencies required to meet the health needs of society. This study is done with the objective to know the perceptions of postgraduates on the implementation of the CBME PG curriculum. Materials and Methods: A cross-sectional observational study was conducted in November 2022 among 105 postgraduates of a Government Medical College. Permissions required were taken and data was collected using a semi-structured questionnaire with basic information and a Structured Feedback Questionnaire (SFQ) for CBME PG curriculum containing curriculum, assessment, support, and perception components. Data was entered and analysed in MS Excel, 2016 using descriptive statistics. Results: Preliminary analysis suggests that nearly 45% of the postgraduates have heard about CBME in PG curriculum, and nearly 80% of them had an academic schedule but a majority of them were not competency-based. 100% responded that adequate opportunities were available for self-directed learning and 90.5% responded that faculty helped them in research activities. 79% agreed that internal assessment schedule in advance enabled them to prepare well and, having a good team to work with (86.7%) was of major support. Conclusion: Implementation of CBME in PG curriculum requires attention and focused effort.

KEYWORDS

CBME, Postgraduate Curriculum, Perceptions

INTRODUCTION

The concept of Competency-Based Medical Education (CBME) is an old concept and was mentioned by WHO in 1978 in a monograph which explained how a medical education system based on competence will cater to a country's specific healthcare needs. (1) Competency-based education expects a health professional to achieve a level of proficiency with which they can practice medicine to meet the needs of the health system of the country. The curriculum should be globally relevant and envisaged to increase the number of skilled specialists and competent healthcare professionals in the pool to meet the needs of the country and allow a medical graduate to pursue CBME. (2)

CBME is introduced in India to enhance the major qualities of doctors like clinical skills, communication skills, leadership skills, professional skills and quality of lifelong learner. CBME is a learner-friendly process with the teacher playing the role of a facilitator. It is to acquire desired skills by the learners at their own pace and should be globally relevant. CBME focuses on competency which is the habitual and judicious use of various qualities for the improvement of the health of the community and individual. (3)

With an increase in the level of competencies, Undergraduates (UG) and Postgraduates (PG) are better prepared for the real-world challenges that are essential in the medical profession. Even though the need for CBME is acknowledged for some time, medical colleges have yet to move into this transition. The release of medical regulations in India, in 2017 with subject-specific competencies for UG and PG was a positive change towards the implementation of CBME in India. (4) The erstwhile Medical Council of India (MCI) made CBME undergraduate curriculum compulsory in 2019. (5) All the medical colleges throughout India have adopted this curriculum from 2019 admission batch of undergraduates.

The implementation of CBME in postgraduate courses is yet to be explored and not undertaken in many of the institutes. The process of implementation of CBME is not easy as it is resource intensive program and requires careful planning. Understanding the perceptions of the postgraduates about their curriculum, teaching-learning environment, quality of resources etc is important for better implementation in the institutes. (6) The National Medical Commission (NMC) has made guidelines for competency-based postgraduate training programme for various broad and super

specialties mandatory from 2022. (7) Hence, this study aims to understand the perceptions of postgraduates on the curriculum for better implementation.

MATERIALS & METHODS

This is an observational cross-sectional study done in November 2022 among postgraduates in a Government Medical College of Kakinada, Andhra Pradesh. The senior most batch of the postgraduates i.e., the 2020 admission batch were included as the study participants. All the final year postgraduates were included in the study. Those who did not complete at least 2 years study period due to any cause were excluded from the study. After obtaining Institutional Ethics Committee approval, permission from the Head of the institute and informed consent a semi-structured questionnaire was administered through online form. The questionnaire constitutes the details of the postgraduates, perceptions on the implementation of CBME curriculum and a Structured Feedback Questionnaire (SFQ) developed and validated by Sugumar et al. (6) The SFQ is developed to obtain feedback on the CBME curriculum and consists of three factors - Curriculum, Assessment and Support. Each factor has items in detail for feedback. The goodness of fit for the three-factor model was 0.72 and was significant ($p = 0.0001$) and the factors had good internal consistency (Cronbach's $\alpha \geq 0.9$). This questionnaire requires no permission to use and is specifically designed for PG CBME curriculum in India. The study participants were approached twice and responses sent in the online form were included in the study. The response rate was 84.6%, resulting in a sample size of 105 postgraduates. The responses were exported into Microsoft Excel, 2019 and analyzed using descriptive statistics.

RESULTS

Among 105 study participants who responded, 63% were female and 37% were male. 69% of them were in clinical departments and 31% were in pre- and para-clinical departments. When asked about CBME, 72% answered the full form of CBME correctly. 70% of the study participants know CBME was present in the PG curriculum and 70% know what a competency is and only 36.2% know that their department is following CBME. 57.1% of the study participants preferred CBME over traditional learning methods.

Among all the study participants, 88 (84%) mentioned that curriculum schedules were available in advance, 86 (82%) of the study participants said that schedule was useful in daily learning. Only 65

(62%) of postgraduates mentioned that session timing and format matched their expectations. 74 (71%) found that adequate resources were available for obtaining clinical/practical skills. 82 (78%) mentioned that appropriate teaching-learning methods were used by the faculty. About 4/5th of students had faculty guidance to obtain clinical/practical skills, 96 (91%) had faculty's help in research activities and 80 (76%) mentioned that faculty trained their postgraduates in oral/ poster presentation. [Table 1]

Table 1: Perceptions Of Postgraduates On Curriculum Component Of SFQ (n=105)

CURRICULUM	YES (%)	NO (%)
Structured academic schedule by the departments was useful in planning my learning on a daily basis	86(82)	19(18.1)
Structured academic schedule by the departments was available to me well in advance	88(83.8)	17(16.2)
Timing of the sessions and format of the structured academic schedule matched my expectations	65(61.9)	40(38.1)
Adequate patient resources/equipments/opportunities were available to obtain clinical/practical skills.	74(70.5)	31(29.5)
Faculty guided/trained me adequately to obtain clinical/practical skills	85(81)	20(19)
Appropriate teaching-learning methods were used by the faculty to obtain clinical/practical/attitudinal/communication skills	82(78.1)	23(21.9)
Adequate opportunities were available for self-directed learning/active learning such as i) Symposium ii) Seminar iii) Journal club discussions, iv) Didactic lectures taken for UG courses, v) Pedagogy, vi) Others (Specify)	105(100)	0
Faculty helped me in my research activities (Oral/poster presentation/ dissertation)	95(90.5)	10(9.5)
Faculty trained me to do oral/poster presentation in conferences	69(65.7)	36(34.3)

Table 2: Perceptions Of Postgraduates On Assessment Component Of SFQ (n=105)

ASSESSMENT	YES n(%)	NO n(%)
Monthly feedback given by the faculty was very beneficial for improving my learning outcomes	59(56.2)	46(43.8)
Faculty gave constructive feedback	72(68.6)	33(31.4)
I was informed about the structured internal assessment schedule well in advance enabling me to prepare well	83(79)	22(21)
The timing and format of the structured internal assessment was appropriate for my course	76(72.4)	29(27.6)
Common internal assessment at regular intervals improved my confidence towards final exams	68(64.8)	37(35.2)

Orientation and sensitization on objectives, MCI norms at the beginning of 1st year was not done as mentioned by 55(52.4%) of the postgraduates. Good team support 91(86.7%) and cordial relationship with faculty and staff 74 (70.5%) were the positive responses in the support component. 70 66.7% of the postgraduates mentioned they are empowered to manage time and meet the workload demands. [Table 3]

Table 3: Perceptions Of Postgraduates On Support Component Of SFQ (n=105)

SUPPORT	YES	NO
At the start of the first year, I was oriented to the objectives of the Postgraduate (PG) program	55 (52.4)	50 (47.6)
I was sensitized about the MCI norms and program outcomes to be achieved at the end of PG training	55 (52.4)	50 (47.6)
PG training and infrastructure was adequate to achieve what I wanted to learn	53 (50.5)	52 (49.5)
The high-class infrastructure enabled me to be confident of clinical and procedural skills that makes me a better professional in my chosen field	46 (43.8)	59 (56.2)

Facilities for stay, food and library were adequate and appropriate	55 (52.4)	50 (47.6)
I had the opportunity to participate in quality improvement processes such as NAAC, JCI	57 (54.3)	48 (45.7)
I had a good team to work with	91 (86.7)	14 (13.3)
Faculty, staff and other members had a cordial working relationship with me and were always willing and available to help	74 (70.5)	31 (29.5)
I have been empowered to effectively manage time and meet workload demands	55 (52.4)	50 (47.6)

DISCUSSION

The UG CBME curriculum is being implemented across all the medical colleges in India whereas PG CBME curriculum needs to be successfully implemented. An understanding of the perceptions of postgraduates as a learner's perspective on the CBME curriculum is required for planning and implementation.

In the present study, 72% have heard of CBME and know what a competency is. Only 36% know that their respective department is following CBME. Poor comprehension on CBME by students and lack of orientation to faculty and the students may explain the poor knowledge. This finding is similar to an online survey conducted by Chen et al., on Chinese resident physicians on perceptions of CBME which reports only 3.9% had a full understanding of the objectives of CBME.(8) Misra S, Mazumdar V et al., in their study mentioned that more time and effort from faculty is required for implementing CBME.(2)

About 42.9% of the postgraduates prefer traditional teaching over CBME in the present study. The reasons could be dependence on faculty for teaching and poor readiness on side of students for self-learning. Contrasting result was seen in studies such as a Chen et al., in which 90% of the residents felt that implementing CBME could help their professional direction and career planning.(8)

All the postgraduates had opportunities for Self-Directed Learning (SDL). Seminars were the major SDLs being implemented. Few of them had opportunities for journal club discussions, didactic lectures and pedagogy. Faculty guidance was present for obtaining practical skills. Many of the postgraduates need to be sensitized to newer teaching-learning approaches such as blended learning, OSCE, OSPE and group discussions.

Research activities and oral/poster presentations by majority of the postgraduates were guided by faculty. With increase in focus on research, training in research for basic research methodology is being implemented through NIE in the country resulting in an increased interest in research activities.

Assessment methods at regular intervals improved the confidence of the postgraduates. A study done by Misra S, Mazumdar V et al., implemented CBME for PGs in community medicine in a medical college in western India. In this study, relevant feedback from teachers and students was taken. They strongly perceived that a formative assessment would be helpful and should have weightage in final exams.(2)

By offering sensitization and orientation on the goals of the PG curriculum, curriculum material, and content structure at the beginning of the year, the perception of postgraduates can be improved. Deborah E et al., in their study, identified a framework of competencies, milestones, and the emerging availability of valid assessment methods for CBME. They also stated that the key challenge for CBME was assessing competence.(9) In their study on the implementation of CBME in postgraduates, Shrivastava et al. stressed the importance of department faculty and postgraduates meeting together to create a timeline for organizing formative and summative assessments and particular EPAs, which the PG students should have after graduation.(3) The emphasis during the sensitization programs should be on what CBME is, how it differs from the traditional approach to teaching-learning, the principles and pillars of CBME, the necessity of the transition, the benefits associated with CBME and how it reduces the limitations of traditional teaching, and finally, the expectations from the faculty/learners (viz., roles and responsibilities) to enable a smooth transition.

It is crucial that medical colleges in India keep up with the global

paradigm shift toward CBME to comply with the recommendations of the erstwhile MCI and the present NMC about Postgraduate Medical Education. The implementation of CBME is hindered by its integration into the current medical education system, which is already overburdened with lack of staff and resources. (10) Medical education in India also faces unique logistical and cultural problems. So, in order to adopt CBME, management must first be driven and have a clear vision in order to create and implement frameworks that are appropriate for the local circumstances. Moreover, strong leadership and faculty sensitization are need of the hour.

CONCLUSION

The results indicated that postgraduate students still lack understanding and awareness of CBME. To obtain the necessary level of competency for an equitable and efficient delivery of health services, post-graduate training must be refined and expanded to include elements from the competency domains, policies, and regulations. The CBME has the potential to improve medical education in India, but it can only do so with meticulous planning and participation from all key stakeholders.

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REFERENCES

- [1]. Powell DE, Carraccio C. Toward Competency-Based Medical Education. *N Engl J Med*. 2018 Jan 4;378(1):3-5. doi: 10.1056/nejmp1712900. PMID: 29298154.
- [2]. Misra S, Mazumdar V. Competency- Based Curriculum for Post- graduation in Community Medicine at a Medical College located in western India [Version 2]. *MedEdPublish*. 2020;9(1).
- [3]. Shrivastava S, Shrivastava P. Implementation of competency-based medical education for postgraduate courses in India. *International Journal of Advanced Medical and Health Research*. 2019;6(1):5.
- [4]. Shrivastava S, Shrivastava P. How to successfully implement competency-based medical education in India. *Education in the Health Professions*. 2018;1(2):61.
- [5]. Agarwal S. Perception on Competency-based medical curriculum in Indian medical schools: Post-implementation. 2022;46–62.
- [6]. Sugumar R, Kumar AP, Maheshkumar K, Padmavathi R, Ramachandran P, Ravichandran L, et al. Development and validation of a structured feedback questionnaire from postgraduates on various elements of postgraduate medical curriculum. *Med J Armed Forces India* [Internet]. 2021;77:S57–64. Available from: <https://doi.org/10.1016/j.mjafi.2021.01.013>
- [7]. 20220621002535-179032.pdf. <https://www.nmc.org.in/MCIRest/open/getDocument?path=/Documents/Public/Portal/LatestNews/20220621002535.pdf>
- [8]. Chen Q, Li M, Wu N, Peng X, Tang GM, Cheng H, et al. A survey of resident physicians' perceptions of competency-based education in standardized resident training in China: a preliminary study. *BMC Med Educ*. 2022;22(1):1–9
- [9]. Karthikeyan P, Pulimoottil DT. Design and Implementation of Competency Based Postgraduate Medical Education in Otorhinolaryngology: The Pilot Experience in India. *Indian Journal of Otolaryngology and Head and Neck Surgery* [Internet]. 2019;71(s1):671–8. Available from: <https://doi.org/10.1007/s12070-018-1474-5>
- [10]. Orgill BD, Simpson D. Toward a Glossary of Competency-Based Medical Education Terms. *J Grad Med Educ*. 2014;6(2):203–6.
- [11]. Shah JN, Shah J, Shah J, Shrestha A, Pradhan NMS. Postgraduate medical education: The history and development of competency-based training program in Nepal. *J Patan Acad Heal Sci*. 2021;8(1):102–12.
- [12]. Iobst WF, Sherbino J, Cate O Ten, Richardson DL, Dath D, Swing SR, et al. Competency-based medical education in postgraduate medical education. *Med Teach*. 2010;32(8):651–6.
- [13]. Gopalakrishnan S, Catherine AP, Kandasamy S, Ganesan H. Challenges and opportunities in the implementation of competency-based medical education – A cross sectional survey among medical faculty in India. *J Edu Health Promotion* 2022;11:206.