

Original Article

**Impact of faculty development in curriculum implementation
support program (CISP II) training on execution of competency-based medical education**Suma S,¹ Suresh I Kumar,² Abeetha S,³ Chitra M,⁴ Hari V Prasad⁵¹Department of Physiology, Saveetha Medical College and Hospital, SIMATS, Saveetha University, Chennai²Department of Transfusion Medicine, Saveetha Medical College and Hospital, SIMATS, Saveetha University, Chennai³Department of Physiology, ACS Medical College and Hospital, Chennai⁴Department of Physiology, ACS Medical College and Hospital, Chennai⁵Department of Forensic Medicine, Panimalar Medical College Hospital and Research Center**Correspondences to:** Dr. Abeetha S, Department of Physiology ACS Medical College and Hospital, Chennai.**Email:** msrenu01@gmail.com **Phone:** 9952255381**Abstract**

Background: Medical education in our country has so far been commendable and comparable with international standards in terms of educating a competent medical practitioner. However certain unaddressed pitfalls have been identified and rectified by the implementation of competency-based medical education. **Aim And Objective:** To study the impact of the Curriculum Implementation Support Program amongst medical faculty on knowledge of competency-based medical education. **Methodology:** Study participants were faculty included from various medical colleges across the country. After obtaining consent and collecting the basic demographic and academic experience details, an online questionnaire was circulated, and adequate time was given to respondents. The responses were analysed, and data was presented as percentages and proportions. Mann-Whitney 'U' test was employed to study the impact of curriculum implementation support programs on competency-based medical education. **Results:** There is a significant difference in knowledge scores in relation to competency-based medical education based on training in CISP amongst faculty with a p-value of 0.001. **Conclusion:** Curriculum implementation support program training had a significant impact on faculty training and more such faculty development programs are essential to ensure the successful implementation of competency-based medical education with a view to raising competent Indian Medical Graduates.

Keywords: *Competency-based medical education, Curriculum implementation support program, Faculty development.***Introduction**

Our traditional system of medical education has been in vogue for decades and has proven to raise clinically competent medical practitioners appreciated worldwide. Nevertheless, there are some pitfalls to be addressed. The two-pillar model of medical education has over the years provided the conceptual basis for a four- and half-year undergraduate medical education curriculum comprising biomedical science courses in the pre-clinical years and clinical clerkships in the clinical years. Medical institutions utilizing this construct produced scientifically grounded physicians capable of a high level of clinical practice as well as a subset of doctors who pursued highly successful careers as physician-scientists and academicians.¹

A solid understanding of the pathophysiology of the disease is core to the practice of medicine in any specialty, the medical students must learn the basic mechanisms of disease, their manifestations in major organ systems, and how to apply that knowledge in clinical practice for diagnosis and management of patients.² Hence emphasis on preclinical sciences is mandatory in any system of imparting premium medical education. Although in moderation students also require an early exposure to clinics and patients that would inculcate an interest and better reasoning and correlation between the clinical presentation and the disease manifestation.

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Certain reforms introduced by the erstwhile Medical Council of India brought in horizontal and vertical integration of topics with early clinic exposure to students from the first academic year of medical education. Implementing reformed competency-based medical education (CBME) across the medical fraternity in the country was a prodigious task and the commission came up with faculty development programs for the same. In the initial phase, few faculty were trained in curriculum implementation support programs, and will take some time to train the entire community of medical teachers.

Meanwhile, we conducted this study to assess the knowledge of medical faculty on the newer curriculum based on their CISP training. Comparing the results from the study among CISP-trained and non-trained faculty we would like to emphasise adequate and frequent workshops to train all the faculty to successfully implement CBME thereby ensuring the government's motive of holistically bringing up a globally competent Indian medical graduate.

Results

Table 1: Baseline data characteristics of study participants

Variable	Category	Frequency	Percentage
<i>Trained in CISP</i>	No	9	20
	Yes	36	80
<i>Approximate training date before filling out the questionnaire</i>	Not Applicable	9	20
	Before 1 year	14	31
	Before 2 years	22	49
<i>Years of teaching experience</i>	Less than 5 years	6	13
	5 - 10 years	15	34
	More than 10 years	24	53

The above table shows descriptive data of participants the percentage of participants trained in CISP when they were trained and their teaching experience. Out of the 45 participants, 80% were trained in Curriculum Implementation Support Program. Out of the 80%, 31% were trained before 1 year, and 49% were trained before 2 years. Of the total participants, 53% of them had more than 10 years of teaching experience.

Table 3: Impact of CISP on Curriculum knowledge

	Not Trained	Trained	P - value
<i>Median (IQR)</i>	10 (8.5,11)	16 (12.25,18)	0.001*

*Mann – Whitney 'U' test

There is a significant difference in knowledge scores in relation to training in CISP among faculty with a p-value of 0.001.

Aim And Objective:

To study the impact of Curriculum Implementation support programs amongst medical faculty on knowledge of curriculum-based medical education and its implementation among students.

Materials And Method

A self-explanatory invitation to participate was presented electronically to each of the participants. All the participants gave their informed consent to participate in the study outlined in the consent form with full knowledge of the possible benefits and risks of participation. Study participants were faculty included from various medical colleges across the country. After obtaining consent and collecting the basic demographic and academic experience details of the faculty, an online questionnaire was circulated and adequate time was given to respondents to fill in the questionnaire. The responses were collected and analysed and results were presented as percentages and proportions. Mann-Whitney 'U' test was employed to study statistical correlation on the impact of curriculum implementation support program training on curriculum-based medical education.

Table 2: Distribution of participants according to score

CISP	Median (Q1, Q3)
<i>Not trained</i>	10 (8.5,11)
<i>Trained</i>	16 (12.25,18)

Table 2 shows the median scores (Q1, Q3) of knowledge were 10 (8.50,11.0) and 16 (12.25,18) among the participants who have not undergone training in CISP and among CISP trained respectively. The median scores were higher among those participants who were trained in CISP.

Discussion

Our study aimed to assess the knowledge level of medical faculty on the newer revised curriculum-based medical education program for undergraduate medical education. We also understand that the Erstwhile MCI /National Medical Commission has been trying to equip the colleges with the necessary infrastructure and train the faculty for implementation of the same. However the process of training faculty is not complete and hence each faculty has a limited and distinguished knowledge of vertical and horizontal integration, self-directed learning, early clinical exposure, foundation courses, and many other elements improvised and methodically put in curriculum-based medical education.

The National Medical Commission (NMC), the governing body of the medical education system in India, did conceptualize the idea of a competency-based medical education (CBME) system. They revamped the existing curriculum to an outcome-based approach to design, implement, assess, and evaluate students based on organizing a framework of competencies rather than the existing traditional model where educational objectives rely profoundly on predetermined biased outputs. The traditional curriculum was subject-orientated and time-based, which places its emphasis more on knowledge and to some extent on skill acquisition, while the other important domains like attitude, ethics, communication, and proper certification of clinical skills were not given much importance.³ Presently these competencies are framed with an intent to amass teaching and assessment methods that can facilitate the systematic progressive development of the student.⁴

Although many institutions and faculties as per their discretion have been following different teaching styles which may have included the above education modules partly or in a reformed nature, establishing a uniform curriculum was made mandatory since the GMER amendment 2019. From then on the medical education unit of the medical colleges under National Medical Council Guidance has been conducting workshops to train faculty in curriculum-based medical education to ensure its implementation uniformly throughout the country.

Studies have found that the CBME system has proved successful in decreasing the prevalence of anxiety among undergraduate medical students in the early academic years, although some ambiguity does persist for depression and stress mental health scales that may probably improve with time when both the faculty members and the students adapt better to the revised curriculum.⁵

As per the International Competency-based Medical Education (ICBME) Collaborators, CBME is an approach to educating physicians for practice that is fundamentally structured to graduate outcome abilities catering to the community and organized around competencies derived from an analysis of societal and patient needs.⁶

Although there is widespread agreement about the academic need for competencies to aim beyond more traditional study framework, such as clinical skills and knowledge, major folk have also expressed skepticism about the successful extent of training programs in educating the entire medical fraternity to perform unbiased, reliably and accurately the comprehensive assessments required by the CBME approach.^{7,8}

Current evaluation of the scenario strongly suggests that faculty training is the key to the upbringing of the CBME model of curriculum. It is recognized that current faculty are insufficiently trained and a global initiative of faculty development program is the need of the hour to implement CBME successfully throughout the country.^{9,10} Literature search emphasizes that faculty will need substantial help in improving both their core competencies as well as new ones in teaching and assessment. Most learning still occurs through the care of actual patients in a variety of clinical settings, although we need to increasingly embrace simulation and other assessment technologies in the future and for the same faculty will remain central to the education process.¹¹

Based on the self-reported gains of a small group of peer faculty who have undergone training, it seems that a two-day workshop can increase the knowledge and understanding of competency-based undergraduate curriculum among the faculty members. Although detailed research is required to assess the effectiveness of faculty development workshops about the newer curriculum implementation.¹²

Studies conducted with similar objectives highlight that sensitization of stakeholders, namely students, teachers, and administrative authorities, with an emphasis on handling these challenges is necessary for the smooth implementation of the curriculum. This should go hand in hand with the training of faculty with different teaching, learning, and assessment methods.¹³

Although faculty development programs are gaining momentum in our country through National Medical Council-directed faculty development programs through medical education units functionally comprising medical education-trained faculty, it is yet to be completely materialized in most of the institutions due to a lack of manpower in the medical education unit.^{14,15,16}

A short span of 3 days of curriculum implementation support program may not serve adequate training of faculty to cater to the diverse newer educational roles of the teachers.¹⁷

Adapting to the newer curriculum requires proper knowledge of various terminologies used in Graduate Medical Education Regulations (GMER 2019) for which nationwide faculty need immense training of the same. The efforts put in by the erstwhile MCI and NMC have not warranted requisite training sessions inclusive of all the medical faculty of the country. We understand the limitations involved in mass training of all faculty nationwide in all medical colleges as it is cumbersome to materialise at the stakeholders' level nevertheless compromising on training faculty may backfire with the implementation of competency-based medical education on students.

Limitations of our study include a small sample size. Use of any direct observatory method of evaluating faculty can be employed rather than a questionnaire to obtain better results.

Conclusion

Our study could significantly prove the difference of knowledge amongst untrained faculty in the Curriculum Implementation Support Program. We hope that our study makes its mark on highlighting the originality of deficient faculty training which forms the cornerstone in implementing competency-based medical education for undergraduates.

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Conflicts Of Interest:- None

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