

ORIGINAL ARTICLE

Impact of Curriculum Implementation Support Programme in changing the Knowledge, Attitude and Perceptions of Medical faculties towards Competency Based Medical Education in a Private Medical College

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ABSTRACT

Background: CBME is a skill-based curriculum focusing on the desired competencies stated to be achieved by merits. To sensitize and train the faculty about CBME, the Curriculum Implementation Support Program (CISP) workshops have been held at various colleges across India. **Aim& Objective:** To find out the changes in the knowledge, perceptions and attitudes among medical teachers regarding CBME following CISP training. **Methods and Material:** The study carried out was cross-sectional and the data was collected before and after conduction of the CISP training programme. All the medical teachers who were enrolled in the CISP training were included in the study. The outcome result for knowledge-based questions was recorded as multiple choice options and that for attitudes and perceptions was recorded with a 5-point Likert scale ranging from strongly agree to strongly disagree. **Statistical analysis used:** Descriptive statistics were calculated using numbers and simple proportions. **Results:** There was a significant improvement in the knowledge and perceptions of medical teachers following CISP training showing its impact. The perceived challenges as felt by the faculties also reduced substantially. **Conclusions:** Capacity building programmes must be conducted at regular intervals for faculties for successful implementation of all the components of CBME.

KEYWORDS

CBME, IMG, CISP, Medical faculties, ECE, Electives

INTRODUCTION

National Medical Commission (NMC) introduced Competency Based Medical Education (CBME) in all Medical Colleges across India from the academic year 2019-20 onwards. CBME is a skill-based curriculum focusing on the desired competencies stated to be achieved by merits. IMG (Indian Medical Graduate) is expected to be a physician of first contact who has to essay the roles of a clinician, leader, professional, communicator, and lifelong learner. 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.(1)

An IMG is expected to achieve a set of competencies under CBME in order to become an ideal IMG. 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”.(2)

The 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.(1)There are many challenges towards implementation of CBME as well. It is resource intense, needing more teachers, teaching resources and time. Many of these challenges may however be perceived challenges and can be resolved with adequate capacity building of medical teachers towards the new system of medical education.

To sensitize and train the faculty about CBME, the Curriculum Implementation Support Program (CISP) workshops have been held at various colleges across India. At the end of 2019, nearly 557 CISP trainings were conducted and total no. of faculties trained under the programme were more than 15,509. However, there are limited studies to evaluate the effectiveness and impact of CISP on the

implementation on CBME or in changing the perception of Medical teachers who are at the corner stone of the new implementation.(1,3,4) The objective of this study was to identify the impact of CISP on changed knowledge, attitude and perceptions of medical teachers regarding the various aspects of CBME following CISP training.

MATERIAL & METHODS

The CISP training programme has been introduced for capacity building of the faculties regarding the newer aspects of CBME like Competency based teaching, assessment, early clinical exposure, electives etc. For the training, the faculties are enrolled and then trained with the help of interactive sessions and group activities. The trainers include faculty from the Nodal centre for training under National Medical Commission. The study carried out was cross-sectional in nature and the data was collected before and after the conduction of the CISP training programme.

Ethical Consideration: Before the commencement of the study, permission was sought from the Institutional Ethics Committee.

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The data was collected after obtaining written informed consent from the participants. The participants of the study included 30 Medical teachers who had participated in the CISP training and had consented to be a part of the study. The data was collected after directly questioning the subjects. The data after collection was kept under the custody of the Principal investigator ensuring anonymity of the data.

For assessment of knowledge, attitudes and perceptions, questions were provided to the study participants. The questionnaire was developed by the authors after validation of subject experts from the field of medical education. The outcome result for knowledge-based questions was recorded as multiple choice options. Similarly, for assessment of

attitudes and perceptions, the questions were asked with responses marked as a 5-point Likert scale ranging from strongly agrees to strongly disagree. The find out the differences in the knowledge, attitude and perceptions, the same questionnaire was handed over at the end of the training as well. The difference in the outcome was evaluated differently for Knowledge and for attitude and perceptions. For finding out the difference in knowledge levels, the pre and post score was seen and for finding out the differences in the attitude and perceptions, the difference in the mean score values of the 5 point Likert scale were evaluated.

The differences between before and after the training were evaluated statistically using non-parametric tests applied at 5 percent level of significance. Simple proportions and difference between ranks were used as per the requirement to find out the differences. For the data analysis, SPSS v24 was used.

RESULTS

Knowledge

The pre and post-test analysis was carried out to evaluate their knowledge levels before and

after the CISP training. The set of questions included questions on early clinical exposure, electives, integration and alignment, learning domains, Graduate medical rules and best teaching-learning and assessment methods of each domain. The final knowledge score of each participant was calculated out of 10. The mean score of pre-test was 5.2 and that of post-test was 7.1. The difference was tested for using Mann-Whitney’s test. It was found that the difference was statistically highly significant ($Z=-4.2061$, $p<0.0001$). Median score was found to be 5 in pre-test and 8 in post-test. This also shows a rise in the knowledge from pre to post-test levels. Most of the study subjects scored more than 85% in post-test except a few questions which showed a good level of understanding and improvement in knowledge post training. Table 1 shows the questions which were asked to the study subjects in pre and post-test and their responses. It can be seen that an average rise in the knowledge levels was seen to be 19% which included all 10 questions of the test. Highest increase in the knowledge level was for Question on “Peytons four step approach” for skills training (47%) and lowest for assessment of non-core competency (0%)

Table 1: Change (increase) in the knowledge score of the participants post CISP training in each of the questions in questionnaire (n=30)

Questionnaire with responses	Before CISP training	After CISP training
One month course for medical learners before commencement of academic schedule of MBBS known as?	73%	90%
Elements of early clinical exposure	13%	33%
Non-core competency of CBME assessed by which form of assessment?	20%	20%
When a teacher targets within a subject base course, the concept and skills relating to other subject is which form of integration?	47%	83%
Best teaching learning method to develop psychomotor skill?	47%	67%
Places where electives can be offered to student?	67%	87%
CBME is having which attributes?	43%	63%
"Performs" proficiency as part of Miller's pyramid is best carried out by which method?	77%	87%
Roles of IMG as per GMR 2019?	83%	87%
First step of skills training according to "Peyton's four step approach"	47%	93%

Perception

Figure 1 depicts the changes in perception were estimated by allotting individual scores to each response by the participants based on their responses in a 5 point likert scale. Those responding with “Strongly disagree” were

allotted a score of 1 for the particular question whereas those who responded with “Strongly agree” were allotted a score of 5. For each question a mean score of all the respondents was calculated before and after the CISP training. It can be seen from the graph that for

most of the questions on CBME the responses of the participants showed a favourable change towards better score of agreement except one question on foundation course. This clearly reflects a changed perception among the medical teachers in favour of CBME after the CISP training. To test statistically the aggregated score of all the questions was averaged and the difference between two means was taken using Wilcoxon signed rank test and was found to be statistically significant (P=0.0039). There were significant growths in the scores (10-13%) among participants' perceptions regarding essential elements of

the CBME like Early clinical exposure and Electives as reflected in the graph. This reflects the role of CISP in clearing hesitancies and neutralizing perceived challenges faced by faculties.

Table 2 shows perceived challenges as felt by the medical faculties. It can be seen that the perceived challenges do seem to persist after CISP but their proportion got reduced. The challenges mainly included perception related to achievement in stated competencies, effective implementation of AETCOM, resource intensiveness of the programme, alignment and integration etc.

Figure 1: Changes in the attitude and perceptions of medical teachers regarding CBME post CISP training (n=30)

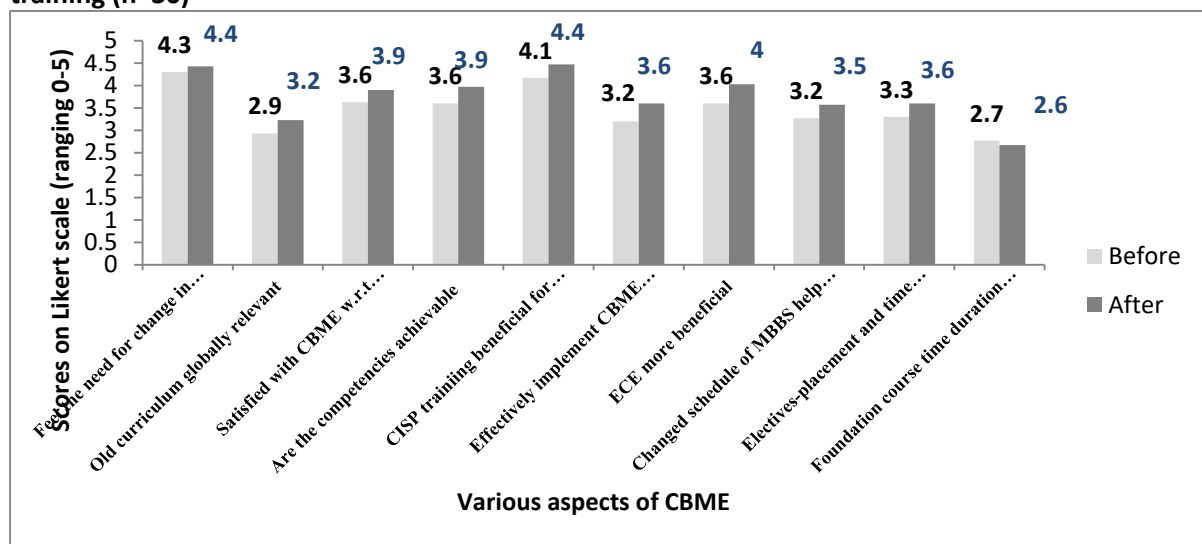


Table 2: Impact of CISP on the perceived challenges as felt by the medical faculties (n=30)

Challenges perceived by participants regarding CBME	Proportion of faculties perceiving the challenge before CISP	Proportion of faculties perceiving the challenge after CISP
Too many skills/competencies specified hence difficult to achieve	73%	50%
Highly resource intensive viz. Infrastructure, time, faculties and other resources	83%	40%
Focus on clinical subjects more as compared to pre and para-clinical subjects	60%	40%
Alignment and Integration cannot be done for all the topics of CBME	67%	33.33%
AETCOM teaching & implementation a big challenge	87%	73.33%

DISCUSSION

The introduction of CBME has led to an evolution in medical education across India. This evolution has led to changes in the structure of imparting medical education and

hence the methodology through which CBME is implemented shall play a key role in achieving the target of competent IMGs. It is therefore necessary to evaluate the same at regular intervals and at different institutes.

Nagaraja MS *et al* in the year 2021 in Karnataka found that without a robust programme evaluation at the level of medical institute, the skills acquired may evaporate over a period of time. This reiterates the importance of regular capacity building programmes.(4)

CISP training here plays a key role as it not only helps in sensitization but also carries out capacity building of the faculties by clearing their doubts and resolving queries faced by them. The present study has reflected that there was an improvement in the knowledge and perceptions of medical teachers after the CISP training. Despite introduction of CBME, the current pools of faculty members is largely trained under the previous curriculum and are generally unaware 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 different capacity building programmes like CISPs, RBCWs, and advanced courses in medical education supported by MEU (Medical education unit) under guidance of the NMC.(4)

The present study brings out that the perception of faculties improved with respect to newer aspects of CBME like early clinical exposure. This was consistent with Rustagi SM *et al* in the year 2019 in New Delhi who also found that majority of faculties agreed to the concept and introduction early clinical exposure to impart clinical relevance to the basic sciences and that it would also help to engrain empathy and compassion toward patients.(1) Similarly, electives which have been newly introduced in the programme draw several opinions. Present Study showed that CISP helped in improving the perceptions towards these newer aspects of CBME which was found consistent with Rustagi SM *et al* who reported that one third of the faculties were not even aware of the concept of electives. This again proves that CISP holds the key.

Studies have shown that the success of CBME also depends on the presence of a supportive administration/management, resources and requires proper planning, and supervision of the implementation process to ensure that intended objectives are met. It also depends

on the effectiveness of the sensitization programme along with dedicated efforts of the faculty members.(5-8)

The present study also showed different challenges perceived by faculties were reduced following the CISP. Studies have shown several challenges as perceived by the faculties like Shrivastava SR *et al* in the year 2018 at Kancheepuram reflected that it would be difficult and practically very difficult to achieve all the competencies and goals. This finding is similar with the present study which also shows medical faculties showing the perception of not being able to achieve all the stated competencies making medical education too compartmentalized.(7)

CONCLUSION

The present study concludes that medical teachers had a favourable response towards introduction of the new curriculum in medical education despite which, they perceived many challenges with respect to its successful implementation. The present study also concluded that CISP training can play a pivotal role in clearing those doubts and reservations. CISP training can go a long way in changing the perceptions of the teachers significantly in favour of CBME. However, most of the teachers in medical colleges still remain untrained. This reiterates the need of regular capacity building programmes to help the faculties in successful implementation of CBME.

Also a change in perception does contribute but needs a further evaluation of the actual experiences faced by faculties while the curriculum training is in progress or after the completion of a few batches with CBME. Keeping this limitation of the present study in mind, it is recommended that routine monitoring and regular evaluation is pivotal. As one of the important pillars of CBME programme, medical faculties need to be reassured and supported while they carry out one the important task of change in medical education in India and achieve the dream of a locally competent and globally relevant IMG.

RECOMMENDATION

The study shows the impact of the newly implemented competency-based curriculum in the field of medical education. As the new curriculum was launched, a lot of faculties had reservations about its successful implementation. However, the study reiterates that with regular and routine training and capacity building programmes in place, not only the attitudes and perceptions of the medical teachers can be changed but also the successful implementation of the CBME can be augmented.

LIMITATION OF THE STUDY

The study carried out was cross-sectional in nature, hence a single time assessment of the changes in attitude and perceptions could be encountered, long term changes and perceptions couldn't be assessed or changed based on the intervention.

RELEVANCE OF THE STUDY

The study is extremely relevant in the field of medical education and curricular planning and implementations. The study helps in providing a base for studies of similar type with replications on long term basis to have a deeper understanding on the medical teachers and their attitude and perceptions.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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Nil

CONFLICT OF INTEREST

Nil

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DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/ AI assisted technologies in the writing process.

REFERENCES

1. Rustagi SM, Mohan C, Verma N, et al. Competency-based Medical Education: The Perceptions of Faculty. *J Med Acad* 2019;2(1):1–5.
2. UG Curriculum | NMC [Internet]. Available from: <https://www.nmc.org.in/information-desk/for-colleges/ug-curriculum/> last accessed: 30th April 2023
3. Curriculum Implementation support programme (CISP1): First year report, 2009. Available at: https://www.nmc.org.in/wp-content/uploads/2021/08/CISP_I_First_year_Report_2019_final_for_uploading11.09.2020-converted.pdf. Last accessed- 11th April 2024.
4. Nagaraja MS. Faculty development programs for implementing competency based medical education in India: challenges and opportunities. *Int J Community Med Public Health*. 2021 Jun;8(6):3163-3166.
5. Payal B, Supe A, Sahoo S, et al. Faculty Development for Competency Based Medical Education: Global, National and Regional Perspectives. *NJIRM* Feb 2018;8(5):89–95.
6. Shah N, Desai C, Jorwekar G, Badyal D, Singh T. Competency-based medical education: An overview and application in pharmacology. *Indian J Pharmacol* 2016;48:S5-9.
7. Shrivastava SR, Shrivastava PS, Ramasamy J. Development of a module to successfully implement competency based medical education program in an institute. *Muller J Med Sci Res* 2018;9:27-9.
8. Caverzagie KJ, Nousiainen MT, Ferguson PC, Ten Cate O, Ross S, Harris KA, et al. Overarching challenges to the implementation of competency-based medical education. *Med Teach* 2017;39:588-93.
9. Hawkins RE, Welcher CM, Holmboe ES, Kirk LM, Norcini JJ, Simons KB, et al. Implementation of competency-based medical education: Are we addressing the concerns and challenges? *Med Educ* 2015;49:1086-102.