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Original article:

Study of perceptions of Competency Based Medical Education reforms in India

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ABSTRACT:

Background: In view of the new curriculum implemented for medical graduates in India by MCI, the present study was planned to study views /perceptions of Interns, Doctors and Medical Teachers over it.

Material and Methods: It was a descriptive cross sectional study. The Medical Interns, practicing Medical graduates and postgraduates and Medical Teachers in India were approached by electronic mail, Facebook, WhatsApp etc. They were provided with a link, prepared on Google forms, which contained the information regarding the Competency Based Curriculum and questionnaire.

Results: Responders were categorized Group A consisting of Graduates, interns, tutors and Group B consisting of Assistant Professors, Associate Professors, Professors, Dean and Director, to ascertain the difference in views of senior faculty as compared to the junior faculty. There was no statistically significant difference between the responses of Group A and Group B.

Conclusion: The new curriculum is a major reform as compared to the older curriculum. The responders perceived the new curriculum to have many advantages owing to introduction of competencies, horizontal and vertical integration as well as the AETCOM module. At the same time implementation of these curricula was opined to be a challenging task. The new curriculum also creates confusion and sense of inadequate arrangement.

Key words: Competency Based Medical education, Surveys, Questionnaires, Medical Graduate Education , Medical Education

Introduction:

The aim of imparting medical education primarily is to train graduates to efficiently and take care of the health needs of the society. The Graduate Medical Education Regulations, 1997, focused on cultivation of preventive, promotive, curative and rehabilitative aspect of medicine which was health and community oriented instead of disease and hospital oriented. The regulations also found lecture alone to be inadequate and encouraged use of active methods related to demonstration and first-hand experience. Use of small group discussion, seminars, and peer interaction to develop personality, character, expression and other faculties are necessary for a medical graduate.

To deemphasize compartmentalization of disciplines problem based learning approach in clinical and community, cases were introduced. Medical Education Units/ Departments were established in all medical colleges for faculty development and providing learning resource material to teachers[1].

The current medical education system is based on a curriculum that is subject-centred and time-based. Most evaluations are summative, with little opportunity for feedback. The teaching–learning activities and the assessment methods focus more on knowledge than on attitude and skills. Thus, graduates may have extraordinary knowledge, but may lack the basic clinical skills required in practice. In addition, they may also lack the soft skills related to communication, doctor–patient relationship, ethics, and professionalism[2].

Competency-based medical education (CBME) has been suggested and tried to tackle these concerns. "Competency is described as observable ability of a health professional that integrates knowledge, skills, values and ability"[3]and CBME is an approach to ensure that the graduates develop the competencies required to fulfill the patients' needs in the society.

"Competency Based Undergraduate Curriculum for the Indian Medical Graduate" has been released by the MCI recently during the tenure of the third set of governors. It is proposed to be implemented as the new curriculum with effect from the 2019-20 batch of MBBS students[4]. The released document largely pertains to the required competencies and the appropriate teaching-learning activities. Scheduling, subject-wise curricular time and details of proposed evaluation are still to be released. Simultaneously the Attitude, Ethics and Communication (AETCOM) module of the MCI which is intended to be run as a core curriculum throughout the course with a clear definition of what constitutes an "Indian Medical Graduate – IMG" has also been placed in the public domain[5].

Owing to major reforms in the study curriculum, the lookout of the stake holders of medical education of India needs attention. The present study was planned to study the opinions of these stake holders in terms of need of new curriculum, addition of new concepts (competencies, integration & AETCOM module) and advantages and disadvantages of the new curriculum.

Materials and methods:

It was a Descriptive cross sectional study involving Medical Interns, practicing Medical graduates and postgraduates and Medical Teachers in India. Institutional Ethical approval was obtained before initiation of the study. All Indian Medical Interns, practicing Medical graduates and postgraduates and Medical Teachers in India were approached by electronic mail, Facebook WhatsApp etc. They were provided with a link, prepared by Google forms, which contains the information regarding the Competency Based Curriculum and questionnaire (Appendix I). The information with relevant depth to make them familiar with the new curriculum was provided. Once the information was read to their satisfaction, they were prompted to click on "go to the questionnaire" page. The well-structured questionnaire contained questions with options from which they can opt for one or more answers (Appendix I[6,7]). The link for filling of questionnaire was kept open for 30 days.

The data obtained was subjected to the following inclusion and exclusion criteria: Interns, Registered Medical Practitioners and Medical Teachers of India, irrespective of age, gender and experience of teaching, willing to participate in the study were included. Interns, Registered Medical Practitioners and Medical Teachers from other countries and Medical graduates and Postgraduates from outside India were excluded from the study.

Statistical Analysis: The data was retrieved from the Google forms in excel sheet format and subjected to statistical analysis.

Results:

Figure no. 1. Distribution of responders according to their Speciality.

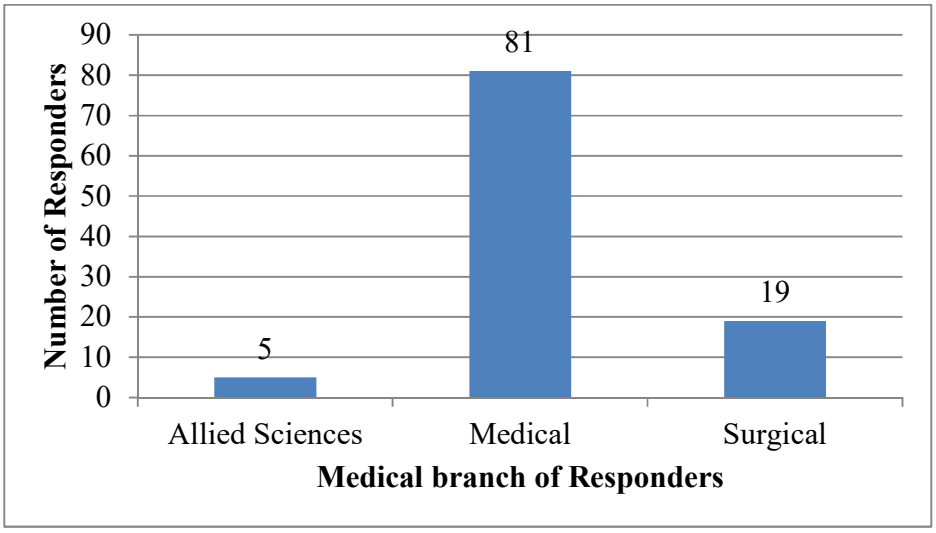
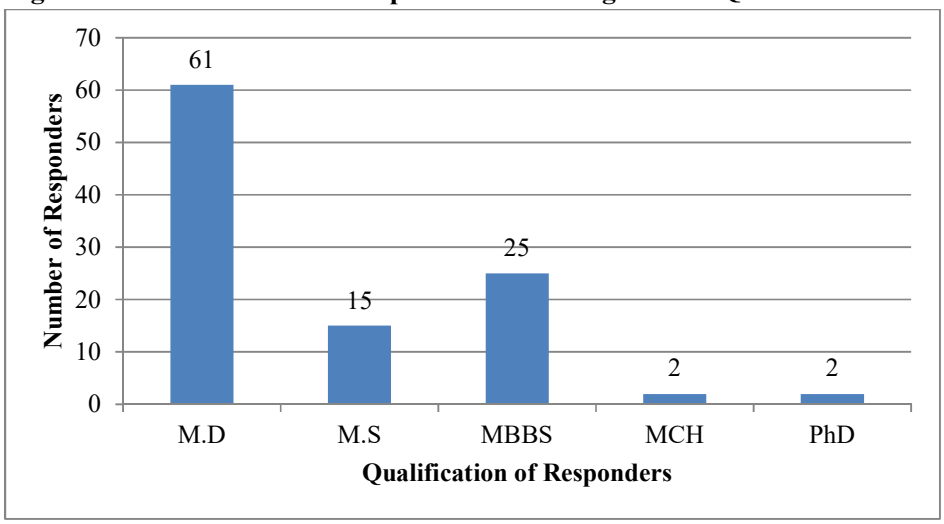


Figure no. 2. Distribution of responders according to their Qualification.



The number of eligible participants who responded to the questionnaire was 105, among whom 81 (77.14%) belonged to Medical branch, 19 (18.1%) to Surgical branch while 5 (4.76%) to allied sciences, respectively (Figure no. 1). As shown in Figure no. 2, the Qualification of most of the participants was Doctorate in Medicine (61, 58.1%), followed by MBBS (25, 23.8%) and Master of Surgery (15, 14.28%).

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Figure no. 3: Distribution of Responders according to their Designation.

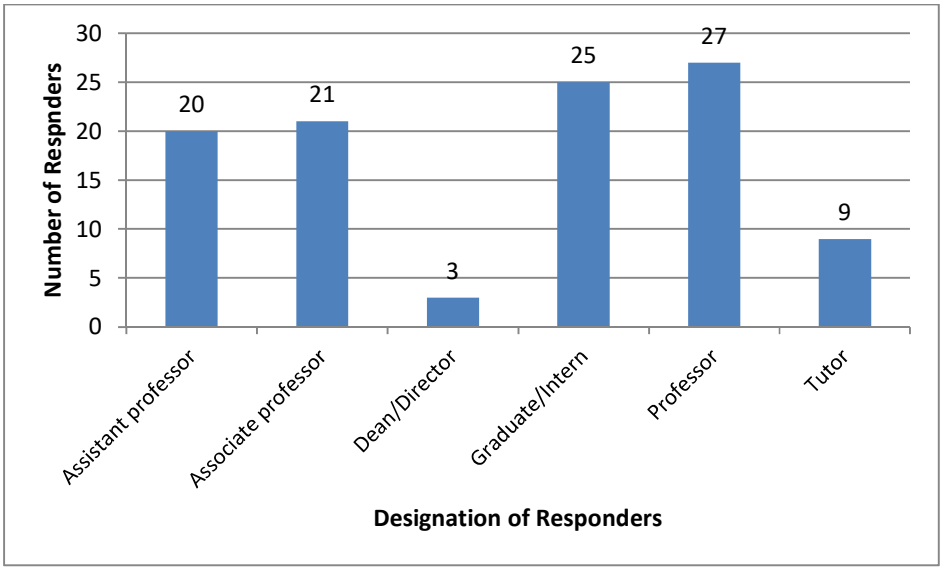
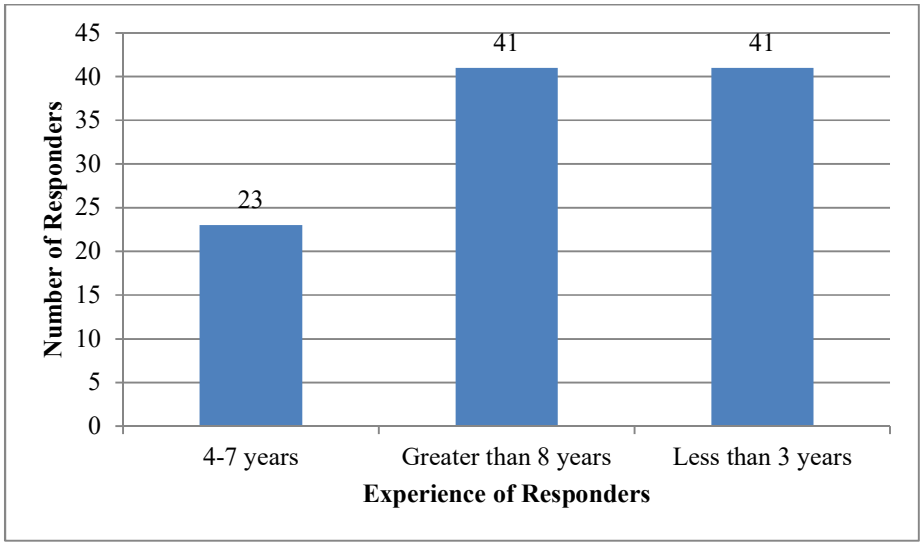


Figure no. 3 shows distribution of responders according to their designation. Most of the responders were Professors (27, 25.7%), graduates/interns (25, 23.8%), Associate (21, 20%) and Assistant professors (20, 19.1%).

Figure no. 4: Distribution of responders according to experience in academics (in years).



With respect to experience, as shown in Figure no. 4, majority of responders had experience in academics of less than 3 years and more than 8 years (41, 39% each) followed by those with experience between 4 to 7 years (23, 22%).

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Table No. 1: Responses of participants to Questions.

Q No.	Question	Response					Statistics
5	**Is there a need for new curriculum?**	Y	N				P value
	Tutor/Graduate/Intern (Group A)	30	5				0.78#
	Teaching faculty above tutor (Group B)	57	13				
	Total	**87**	**18**				
6	**The new curriculum shall help in overall development of Indian Medical Graduate as per the definition of Indian Medical Graduate.**	SA	A	N	D	SD	NA
	Group**A**	9	20	4	2	0	
	Group**B**	19	29	10	7	5	
	Total	**28**	**49**	**14**	**9**	**5**	
7	**Do you think that addition of competencies is essential in the new curricululm?**	Y	N				0.79#
	Group**A**	29	6				
	Group**B**	55	15				
	Total	**84**	**21**				
8	**Do you think that addition of integration is essential in the new curricululm?**	Y	N				0.37#
	Group**A**	32	3				
	Group**B**	59	11				
	Total	**91**	**14**				
9	**Do you think that addition of AETCOM is essential in the new curricululm?**	Y	N				0.79#
	Group**A**	29	6				
	Group**B**	55	15				
	Total	**84**	**21**				
10	**Do you use the basic principle of competency, integration and AETCOM in your current practice?**	Y	N				0.62#
	Group**A**	28	7				
	Group**B**	45	15				
	Total	**73**	**22**				
11	**The concept of competency, integration and AETCOM are not new to medical education and learning.**	SA	A	N	D	SD	NA
	Group**A**	6	17	9	2	0	
	Group**B**	16	34	9	7	4	
	Total	**22**	**51**	**18**	**9**	**4**	
12	**The implementation of the new curriculum shall be a challenging task for the teaching faculty**	SA	A	N	D	SD	NA
	Group**A**	6	20	6	2	1	
	Group**B**	25	29	5	10	1	
	Total	**31**	**49**	**11**	**12**	**2**	
13	**What according to you are the advantages of the new curriculum?**	a	b	c	d	e	0.93*
	Group**A**	23	29	11	10	12	

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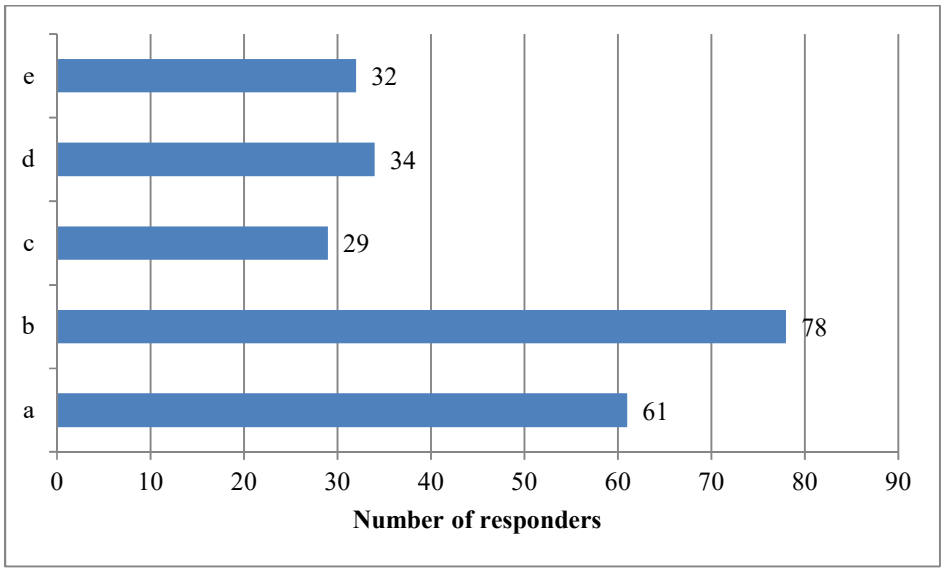
	Group**B**	38	49	18	24	20	
	Total	**61**	**78**	**29**	**34**	**32**	
14	**What are the shortcomings of the new curriculum?**	a	b	c	d	e	0.68*
	Group**A**	7	10	16	19	7	
	Group**B**	26	27	33	43	26	
	Total	**33**	**37**	**49**	**62**	**33**	

Y- Yes, N- No, A- Agree, SA- Strongly agree, N- Neutral, D- Disagree, SD- Strongly Disagree, # Fischer's Exact test, * Chi-squared Test for Independence, NA- Test not applicable

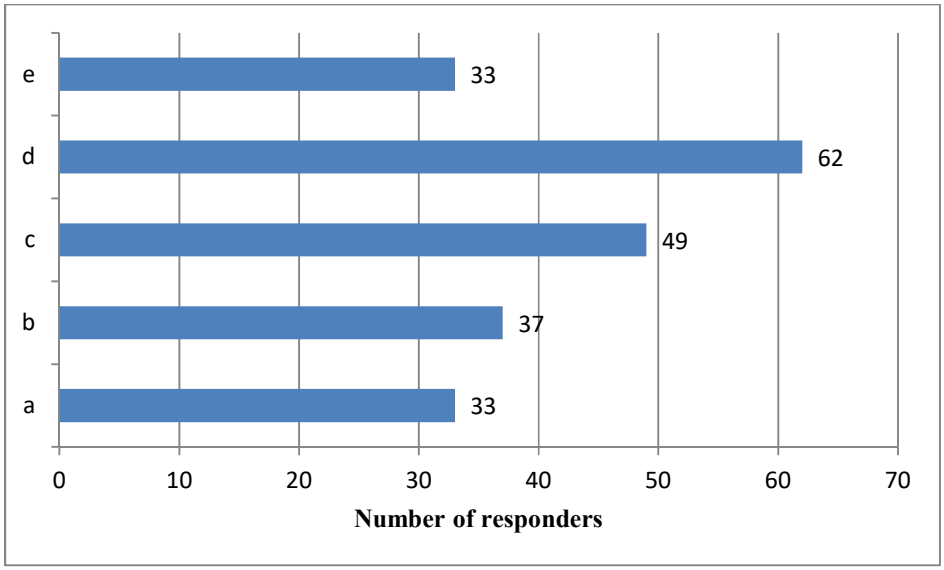
13a-Integration of topics giving an overall comprehension and higher understanding, 13b-Preparing the students to handle real life situations via soft skills and their certification, 13c-Addition of topics that were necessary, 13d- Defines and prescribes Competencies of knowledge and skills according to the definition of Indian Medical Graduate, 13e-Defines teaching methods and their evaluation, 14a- Deficiencies in the list of competencies of individual department, 14b-The certification process of skills is not clarified, 14c-There is no mention of any forthcoming change in the evaluation system to meet the requirements of the new curriculum, 14d-The distribution of semesters to each year is inadequate, 14e- Requirement of proper training for conduct of teaching in accordance with new curriculum.

Figure no. 5. Response to the question- "What according to you are the advantages of the new curriculum?"



a- Integration of topics giving an overall comprehension and higher understanding; b- Preparing the students to handle real life situations via soft skills and their certification; c- Addition of topics that were necessary; d- Defines and prescribes Competencies of knowledge and skills according to the definition of Indian Medical Graduate; e-Defines teaching methods and their evaluation.

Figure no. 6. Response to the question-"*What are the shortcomings of the new curriculum?"*



a-Deficiencies in the list of competencies of individual department; b-The certification process of skills is not clarified; c-There is no mention of any forthcoming change in the evaluation system to meet the requirements of the new curriculum; d-The distribution of semesters to each year is inadequate; e- Requirement of proper training for conduct of teaching in accordance with new curriculum.

Table no. 1, Figure no. 5 & 6 display responses of participants to questions. Responders were categorized Group A consisting of Graduates, interns, tutors and Group B consisting of Assistant Professors, Associate Professors, Professors, Dean and Director, to ascertain the difference in views of senior faculty as compared to the junior faculty. There was no statistically significant difference between the responses of Group A and Group B.

Some responders gave their own inputs with respect to question 13 and 14. It was opined that the new curriculum creates confusion and less number of hours of teaching may affect the students in selected subjects. There was no uniformity maintained in designing the curriculum. The opinion that the current requirement of staff may be inadequate to carry out the tasks was strongly reflected by three responders. New curriculum is implementation of foreign policy without considering current national education system and may have difficulties in execution.

Discussion:

This study was conducted in view of the new curriculum (CBME) implemented by Medical Council of India. There were studies published regarding the views of medical education experts with respect to the new curriculum, but studies on views of stake holders of medical educations could not be found. The present study was an effort to estimate the pros and cons of CBME as perceived by medical fraternity.

The number of eligible participants who responded to the questionnaire was 105, most of the responders were Postgraduates and above (80, 76.1%), Graduate intern (25, 23.8%) and Professors (24, 22.85%) by designation and had an experience of less than 3 years and more than 8 years (41 each, 39%). Thus, the responders consisted of both experienced as well as less experienced doctors. In the present study, regardless of the qualification, medical specialty,

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designation and experience of study participants, the views regarding CBME are similar.

In the present study most of the responders (87, 82.85%) opined that there was a need for a new curriculum. Considering the older curriculum being 20 years old and keeping into account the changes in advances in both the field of medicine as well as availability of newer teaching techniques, the new curriculum was need of the hour. Most of the responses agreed (77, 73.33%) to the statement that the new curriculum shall help in overall development of Indian Medical Graduate as per the definition of Indian Medical Graduate. The responders also believed that the addition of competencies (84, 80%), integration (91, 86.66%) and AETCOM (73, 69.5%) was essential for the new curriculum. In a cross over study by Pandit etal, students performed better when CBME method was employed as compared to the conventional teaching method[8]. Basheer opined that enormous efforts have been taken to form the unified document for CBME[9]. Thus, the opinions of study participants are reflected in the above-mentioned studies.

Most of the responders (73, 69.5%) agreed that the concept of competency, integration and AETCOM are not new to medical education and learning. This response indicates that although the competencies, integration and AETCOM approach of learning are hallmark of new curriculum, these were a part of teaching before the new curriculum was introduced.

However, upon responding to the statement regarding the challenge of implementing the new curriculum, it was observed that the responders (80, 76.19%) perceived the new curricular implementation shall be challenging. According to Modi etal[10], faculty development shall be a major issue and may reduce the pace of implementation of CBME curriculum.

The responders perceived that with the implementation of new curriculum integration of topics shall improve overall comprehension (61, 58%) and higher understanding and prepare the students to handle real life situations via soft skills and their certification (78, 74.2%). The concept of integration has been in vogue recently, but the new CBME recommends at least 80% of temporal alignment. This may prevent redundancy in implementation of curriculum and save time[9].

The responders also opined that the distribution of semesters to each year is inadequate (62, 59%) and that there was no mention of any forthcoming change in the evaluation system to meet the requirements of the new curriculum (49, 46.66%). However, the evaluation system has been put forth by the MCI recently[11]. Basheer[9] opined that difference in the time taken to master the competencies may vary among students and there is no clarity of what to be done if students fail to get qualify in a competency. With the introduction of various teaching learning methods, the ambiguity regarding assessment of the competency prevails[12]. This may lead to a nonuniform and misaligned assessment, putting students into confusion[13].

It was also opined by the study participants that the new curriculum creates confusion and less number of hours of teaching may affect the students in selected subjects. The introduction of CBME has complicated the medical training by multiple subdivisions of key competencies; making it exhaustive and impractical for validation and implementation. into key competencies and its further division. While facing the challenges put forward by the new CBME curriculum, assessment of competencies for a lifelong learning may also be ignored[15,16].

Study participants opined that there was no uniformity maintained in designing the curriculum. The opinion that the current requirement of staff may be inadequate to carry out the tasks was strongly reflected by three responders. New curriculum is implementation of foreign policy without considering current

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national education system and may have difficulties in execution. According to Basheer, the number of teaching staff prescribed are fewer to execute the CBME. In a study by Mann etal, residents perceived that CBME implementation causes better assessment and feedback and helps in earlier identification of difficulties in training. It also gave better flexibility to follow ones own educational discourse. However, they felt assessment fatigue and faced difficulties in logistical implementation of curriculum[16,17].

Conclusion:

The new curriculum is a major reform as compared to the older curriculum. The responders perceived the new curriculum to have many advantages owing to introduction of competencies, horizontal and vertical integration as well as the AETCOM module. At the same time implementation of these curricula was opined to be a challenging task. The new curriculum also creates confusion and sense of inadequate arrangement. A study among students and teachers with experience of new implemented new curriculum will be helpful to identify the challenges.

Recommendations:

Sensitization programmes and brain storming of the stakeholders (students, teachers and administrative authorities) with emphasis on handling of perceived and experienced challenges in Implementation of CBME are required for its smooth conduct. Training of faculty for using the different teaching learning and assessment methods is of utmost importance to make the new CBME a success.

Study limitations:

Although the respondents were from all strata of Medical field, the number of respondents was few.

Acknowledgement: We would like to acknowledge all the study participants for giving their views on the CBME.

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