

Original Article**PERCEPTIONS OF COMPETENCY BASED MEDICAL EDUCATION IMPLEMENTED IN MEDICAL EDUCATION AMONG UNDERGRADUATE MEDICAL STUDENTS IN A TERTIARY CARE TEACHING HOSPITAL IN A DISTRICT OF ASSAM****ALPANA P. RABHA**

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Received: 10 Jun 2025, Revised and Accepted: 30 Jul 2025

ABSTRACT

Objective: Medical education recently reforms the structure, components, time-bound, learner centric new curriculum known as competency based medical education all over the country. Being implemented as a new CBME curriculum in Medical education, the study has been initiated to assess the perception towards CBME among the UG students in a medical college of Assam.

Methods: A cross-sectional study was conducted among Phase 1 UG medical students of 2024-25 batch admitted to FAAMCH, Barpeta Assam. Data were collected by self-administered questionnaire method after taking informed consent for the study. The responses were assessed and analyzed.

Results: A total of 123 students from Phase I MBBS participated in this study. Among them 84 (68.29%) male and 39 (31.71%) were female students, 80 (65.4%) from 20-23 y, 107 (86.99%) from nuclear and 16 (13%) from joint family. Majority of the students 80 (65.04%), 30 (24.39%), 13 (10.56%) belonged to rural, urban and semi-urban area. Awareness about new CBME curriculum 119 (96.74%), 115(93.49%) various domains of TLM, Role of IMG and FAP were 100%; only 71(57.72%) aware about revised guidelines. Knowledge of various components of CBME curriculum was found to be more than 90% except Learner doctor program 76 (61.78%), electives 42 (34.14%), disability guidelines 39(31.7%) and revised CBME guidelines 73 (59.35%).

Conclusion: The study participants perception towards various curricular components were found to be satisfactory. 71.42% of the students having satisfactory, 17.14% having average and 21.42% having poor knowledge on Curricular components of CBME.

Keywords: Curriculum, Competency based medical education, Medical students, Perception

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INTRODUCTION

Medical education is the process of teaching, learning and training of students with an ongoing integration of knowledge, experience, skills, qualities, responsibility and values which qualify an individual to practice medicine. Recently there has been change in the medical education by replacing old traditional curriculum and introducing CBME, competency based medical education in the undergraduate medical curriculum. The main intention of introduction of CBME was to take the learner to provide health care to the evolving needs of the nation and the world. By Frank, *et al.*¹ in 2010 "Competency based education (CBE) is an approach to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and organized around competencies derived from an analysis of societal and patient needs. It de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness". WHO in 2013², also recommended health professional education initiative to produce competent professionals who could carry out not only their duties but also to fulfil health care needs of the people. By Gruppen *et al.*⁵ also highlighted the beneficial role of competency based education in resource poor setting in improving Global health. The new regulation in medical education implemented is more learner centric, patient centric, gender sensitive, outcome orientated and environment appropriate. Being implemented as a new CBME curriculum in Medical education, the study has been initiated to know the perception towards CBME among the UG medical students in a medical college of Assam.

MATERIALS AND METHODS

Study design: A cross-sectional (questionnaire-based) study.

Study place and duration the study: The study was conducted from December 2024-February 2025 in Tertiary care health facility (FAAMCH), Barpeta, Assam.

Sampling method: All the phase I MBBS students of 2024-25 batch have been included for the study. By convenient sampling method 123 students had participated in this study.

Inclusion and exclusion criteria: Those who had given informed consent after explaining to the purpose of the study and was present during the day of survey included for the study. Those who were absent on the day of survey were excluded from the study.

Ethical committee approval was obtained before initiation of the study with ref No: FAAMC and H/P. Est/IEC/26/Pt-1/2022/104.

Procedure

The study was carried out after getting the approval from the Institutional Ethics Committee. The data were collected by questionnaire method. The questionnaire consisting of 1) Socio-demographic profile of the study participants, 2) Awareness of CBME, 3) Knowledge and perception of various components of CBME curriculum, 4) Attitudes towards CBME curriculum. Options of questions were framed "Yes"/"no" and attitudes responses "agree", "disagree", "neutral", "strongly agree" and "strongly disagree"

Statistical analysis

The data were entered Microsoft excel sheet with coding and analysis were expressed in frequency, percentages and with diagrammatic representations.

RESULTS

The present study was conducted among 123 Phase 1 (first year MBBS) students in a medical college of Assam. Out of 123 students 84 (68.29%) male, 39 (31.71%) female, 80 (65.4%) belonged to 20-23 y, 80 (65.04%) from rural, 30 (24.39%) urban and 13 (10.6%) semi-urban, 107 (86.99%) nuclear and 16 (13%) living in joint family.

Table 1 showing the socio-demographic profile of the study participants.

Table 2 Most of the participants 119 (96.74%) were aware about the new curriculum, 115 (93.49%) about CBME as outcome based with various domains of TLM and assessment, 123 (100%) about role of IMG and FAP, but only 71 (57.72%) about revised guidelines and 22 (17.88%) about GMER 23.

Table 3 Shows the knowledge on FAP was found to be 100 (81.3%), core elements of CBME 120 (97.56%), TLM 116 (94%), goal of CBME 104 (84.5%), mentor-mentee program 120 (97.56%), FC 108 (87.80%), course duration 112 (99.18%), assessment tool 108

(87.80%), revised passing criteria 122 (99.18%), eligibility for appearing professional examination 112 (91.05%); but learner doctor programme 76 (61.78%), electives 42 (34.14%) and revised CBME guidelines 73 (59.35%).

Table 4 shows about various Teaching learning methods perceived by the participants. Around 105 (85.37%) knows about all the various TLM, preferences on group discussion (G D) 80 (65.04%), 14 (11.38%) on SGT; 5 (4.06%) on SDL; more effective method perceived as SGT (22.76%), Seminar 27 (21.95%), tutorials 20 (16.26%), SDL 22 (17.88%), Lecture 7 (5.69%) by the study participants.

Table 1: Socio-demographic profile of the study participants

Variables	Age	Frequency	Percentage
Age distribution	17-19	19	31.71%
	20-23	80	65.4%
	24-27	4	3.25%
Sex	Female	39	31.71%
	Male	84	68.29%
Caste	General	58	47.15%
	OBC	35	28.46%
	ST(H)	7	5.69%
	ST(P)	10	8.13%
	SC	13	10.57%
Religion	Hindu	72	58.54%
	Muslim	48	39.02%
	Christian	2	1.63%
	Buddhist	1	0.81%
Residence	Rural	80	65.04%
	Urban	30	24.39%
	Semi-urban	13	10.56%
Type of family	Nuclear	107	86.99%
	Joint	16	13%
Income (monthly)	<60,000/	65	52.84%
	1,00,000/-1,50,000/	32	26.01%
	1,50,000/-2,00,000/	14	11.38%
	>2,00,000/	12	9.75%

Table 2: Responses showing awareness of CBME among the study participants

Variables	Yes (%) (N 123)	No (%)
Are you aware on new curriculum in Medical education?	119 (96.74%)	4 (3.25%)
What is CBME – Outcome based where various domains of TLM and Assessment framework of competencies?	115 (93.49%)	8 (6.5%)
Role of IMG	123 (100%)	0
Do you know about GMER 2023?	22 (17.88%)	101 (82.11%)
Are you aware about revised CBME guidelines?	71 (57.72%)	52 (42.27%)
What are dimensions of competency? – attitudes/knowledge/skills/behaviour/all	85 (69.10%)	38 (30.89%)
Awareness about FAP	123 (100%)	0

Table 3: Knowledge on components of competency based medical education curriculum

Knowledge on components of CBME curriculum	Yes (%) (N =123)	No (%)
1) Knowledge on FAP – as, New experimental learning experience/research	100(81.3%)	23(18.69%)
2) Core elements of CBME – FC/ECE/AETCOM/Alignment and Integration/Clinical clerkship	120(97.56%)	3(2.4%)
3) Types of teaching methods applied in CBME	116(94%)	7(5.6%)
4) Goal of CBME	104(84.5%)	19(15.44%)
5) Learner Doctor Program	76(61.78%)	47(38.21%)
6) Knowledge on disability guidelines	39(31.7%)	84(68.29%)
7) Mentor-mentee Program	120(97.56%)	3(2.4%)
8) Electives	42(34.14%)	81(65.85%)
9) Assessment of CBME curriculum-Tools	108(87.80%)	15(12.19%)
10) Eligibility for appearing professional examination	112(91.05%)	11(8.94%)
11) Revised passing criteria of revised CBME in aggregate (theory and practical)	122(99.18%)	1(0.81%)
12) Foundation course	108(87.80%)	15(12.19%)
13) Total duration of course	112 (99.18%)	1(0.81%)
14) Revised CBME guidelines	73 (59.35%)	50(40.65%)

Table 4: Responses showing teaching learning methods on CBME among study participants

Questions	Responses	Frequency, N (123)	Percentage (%)
1) CBME, types of teaching methods applied?	SGT/SGD/I/PEDOGOGY/CORRELATION/INTEGRATED SEMINAR/ALL SGT/SGD/IS/I	105	85.37%
	No responses	08	6.5%
		10	8.13%
2) Which method do you Prefer as students?	Small Group Teaching (SGT)	14	11.38%
	Self Directed Learning (SDL)	05	4.06%
	Integrated Seminar (IS)	05	4.06%
	Group Discussion (GD)	80	65.04%
	ALL(SDL/GD/I/Q/A/IS)	19	15.44%
3) More effective method?	L(Lecture)	7	5.69%
	SGT	28	22.76%
	TU(Tutorial)	20	16.26%
	SEMINAR	27	21.95%
	SDL	22	17.88%
	ALL(L/SDL/SGT/GD/IS/TU)	19	15.44%
	Total	123	

Table 5: Attitude based responses on CBME curriculum among the study participants

Questions related to CBME curriculum	Responses	Frequency	Percentage (%)
Q1 Do you think CBME – good effect on quality of Medical education?	Yes	123	100%
Q2 What is your opinion about FC in curriculum ? Is it necessary for CBME curriculum?	Yes	123	100%
Q3 CBME encourages learners to reflect on their performances and take responsibility for their own learning and professional development	Agree	89	72.36%
	Disagree	1	0.81%
	Neutral	18	14.63%
	Strongly agree	15	12.20%
Q4 Do you think all types of TM helpful for the students/teachers?	Yes	83	67.48%
	No	20	32.52%
Q5 Do you think CBME curriculum is student/teacher centric/both?	Student centric	3	2.44%
	Teacher centric	12	9.76%
	Both	107	86.99%
Q6 Do you think that introduction of AETCOM module will help in improving the communication skills?	Agree	95	77.24%
	Neutral	3	2.44%
	Strongly agree	24	19.51%
Q 7 Do you think that all applied TM in CBME curriculum needed infrastructure facilities?	Yes	105	85.36%
	No	18	14.64%
Q 8 Do you think that CBME has many dimensions in learning process?	Yes	118	95.93%
	No	5	4.07%
Q 9 Do you think CBME curriculum more stressful than traditional medical education?	Agree	35	28.46%
	Disagree	25	20.33%
	Neutral	49	39.84%
	Strongly agree	8	6.50%
	Strongly disagree	5	4.07%
Q10 Do you think Yoga and meditation, sports and extracurricular activities important in CBME curriculum?	Agree	72	58.54%
	Neutral	3	2.44%
	Strongly agree	44	35.77%
	Strongly disagree	1	0.81%
Q11 Do you think feedback, logbook and record (case-based) important inputs of CBME curriculum?	Agree	87	70.73%
	Disagree	4	3.25%
	Neutral	17	13.82%
	Strongly agree	14	11.38%
Q12 Do you think CBME curriculum will help in preparation of NeXT?	Yes	117	95.12%
	No	6	4.88%

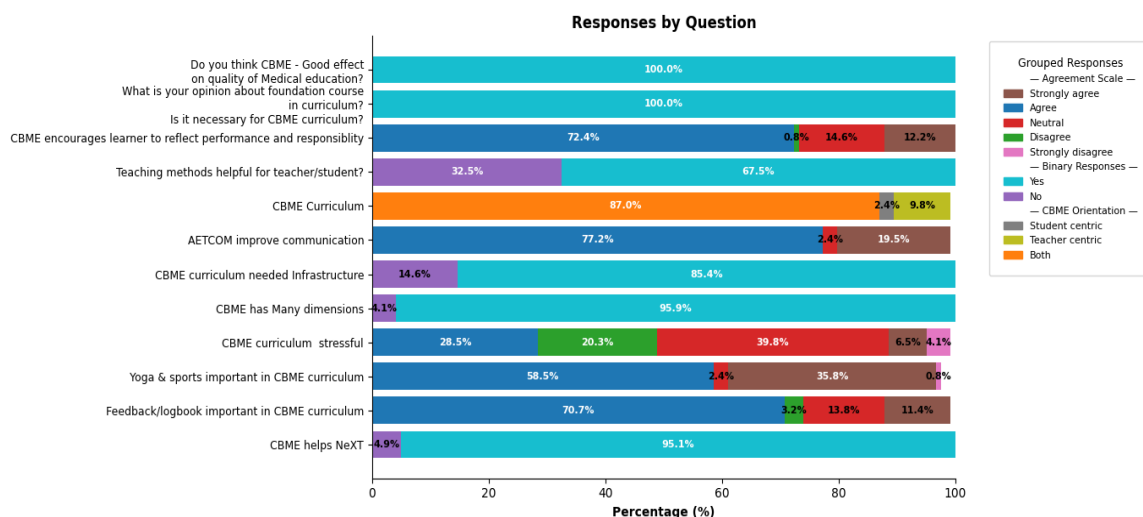


Fig. 1: Showing responses to attitude based questions on CBME curriculum among the study participants

Fig. 1 showed most of the participants 123 (100%) were positively responded CBME as good effect on quality of medical education and also 100% responded about foundation course. 95% of students were positively responded on AETCOM module in improving the communication skills. Around 35 (28.46%) agreed that CBME curriculum more stressful than traditional method. The need for yoga and meditation, sports and extracurricular activities, 44 (35.77%) strongly agreed, 72 (58.54%) agreed, only 3 (2.44%)

responded as neutral. Logbook, feedback and record based preferences were 87 (70.73%), strongly agreed 14 (11.38%).

Fig. 2 showed that 111 (90.24%) students were given positive responses about the strength of CBME as course timeline, time distribution of each phase of MBBS curriculum, eligibility to appear and passing criteria for university examination, assessment and progression, teaching learning experiences.

Table 6: Showing responses on strength of CBME curriculum

What are the strength of CBME curriculum?	Frequency	Percentages (%)
1)MBBS course timelines	1	0.81%
2)Time distribution of each phase of MBBS curriculum	1	0.81%
3)eligibility to appear and passing criteria for university examination	4	3.25%
4) Assessment and progression	2	1.63%
5) Teaching learning experiences	1	0.81%
6) All of the above statement	111	90.24%

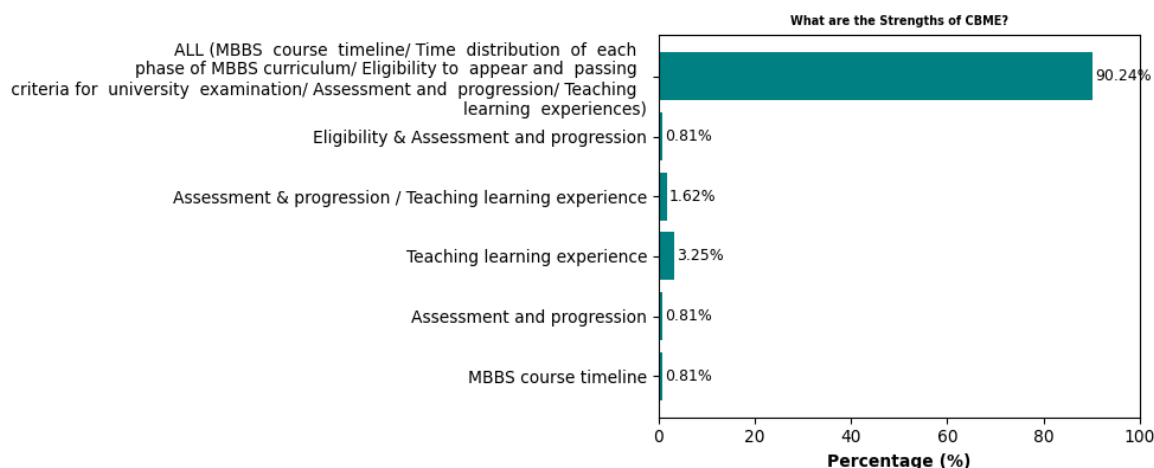


Fig. 2: Showing responses on strength of CBME curriculum

Table 7: Showing responses of study participants on family adoption programme

Questions related to family adoption programme	Responses	Frequency	Percentage (%)
Do you aware about Family adoption programme in CBME curriculum?	Yes	123	100%
If yes, then how many visit allotted as per CBME curriculum during Phase I MBBS course.	No visit	23	18.70%
	6	32	26.02%
	7	21	17.07%
	8	19	15.45%
	9	28	22.76%
FAP offers medical students – new experimental learning opportunity/research?	Yes	122	99.19%
	No	1	0.81%

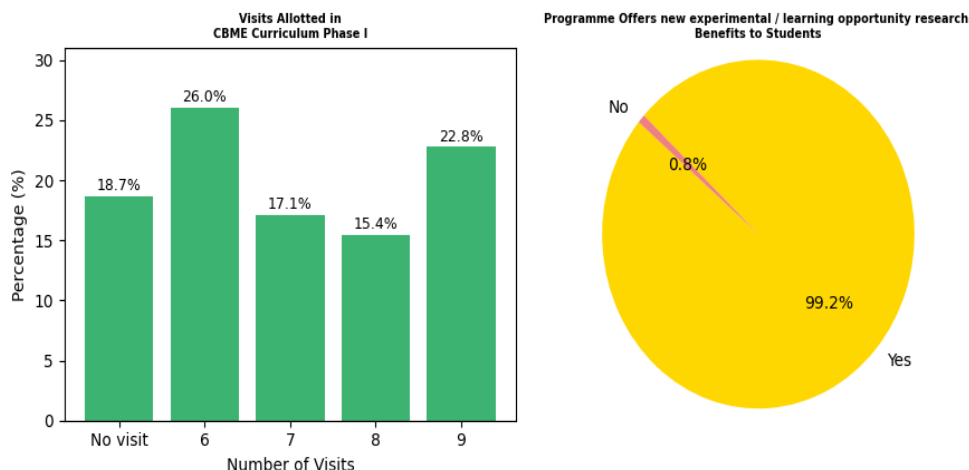


Fig. 3: Showing responses on FAP among study participants

Family visits as part of family adoption programme, majority 123 (100%) were aware about the FAP and 122 (99.19%) gave positive responses as new experimental learning opportunities/research; whereas only 28 (22.76%) had correctly answered on number of visits during first (phase I) year of MBBS course.

DISCUSSION

The present study was conducted among 126 Phase I (first year) MBBS students in a Medical college of Assam regarding perceptions of the various components of Competency Based Medical Education curriculum. Out of 126,123 undergraduate first year medical students were participated in this study.

Among the 123 students, 119 (96.74%) were aware about the new CBME curriculum whereas in a study done by P Selva ⁶ revealed only 17.1% not even aware about new curriculum. Awareness of CBME as outcome based with various Teaching Learning Methods (TLM) 116 (94%), 123 (100%) about role of Indian Medical Graduate (IMG) and Family Adoption Programme (FAP) except 71 (57.72%) aware about revised guidelines; 22 (17.88%) about GMER 2023.

Knowledge on various components of CBME curriculum such as core elements was 120 (97.56%), TLM 116 (96%), mentor-mentee program 120 (97.56%), FC 108 (87.80%), tools of assessment 108 (89.80%), course duration 112 (99.18%), only 76 (61.78%) on learner-doctor program, electives 42 (34.14%). The perceived preference of TLM among the students was found to be group discussion 80 (65.04%), followed by SGT 14 (11.38%), SDL 5 (4.06%), IS 5 (4.06%), and all 11 (15.44%). But by Shanmathi KA⁷ mentioned SGT received high approval from 83.7% of students in their study. In CBME, perceived most effective TLM as SGT 28 (22.76%), Seminar 27 (21.95%), SDL 22 (17.88%), Tutorial 20 (16.26%), only 7 (5.69%) as Lecture and all methods 17 (13.82%); whereas by Majeed M *et al.* ⁸ found 35% agreed that SDL should be incorporated in the curriculum in their study. Ramanathan R *et al.*⁹ in their study, also revealed that SDL and reflective learning were not appreciated by the students and similarly by Sharma S *et al.* [10] also found SDL received the lowest positive responses (57-58%). The present study found that the students also perceived tracking about their progression of learning experiences through academic mentor 75 (60.98%), department 33 (26.83%), academic cell 8 (6.50%). All the participants 123 (100%) responded CBME as good effect on quality of medical education and also on Foundation course. Around 89 (72.36%) agreed CBME encourages learners to reflect their performances, strongly agreed 15 (12.20%), disagreed only 1 (0.81%). Similar study done by Shetty AK *et al.* [11] also mentioned positive responses to the usefulness of various components of CBME. All types of teaching methods applied in CBME, responded by the participants helpful for teacher and student 107 (86.99%), AETCOM module 95 (77.24%) agreed helpful in communication skills. Infrastructure facilities identified important in CBME curriculum by the respondent positively 105 (85.36%). Majority 118 (95.93%) responded as CBME has many dimensions in learning process. 35 (28.46%) agreed, 25 (20.33%) disagreed, 49 (39.84%) neutral on CBME curriculum more stressful than traditional medical education. In a study done by Li Ai Erica *et al.* [12] also found to be more positive about the CBME curriculum among the students. Regarding Yoga and meditation, sports and extracurricular activities, 72 (58.54%) agreed, 44 (35.77%) strongly agreed by the participants. Logbook, feedback and record (case based) components of CBME curriculum, 87 (70.73%) agreed, 17 (13.82%) neutral, 14 (11.38%) strongly agreed among the participants. CBME curriculum helpful in preparation of Next responded 117 (95.12%) by the participants.

CONCLUSION

The study concluded that the awareness, knowledge, attitude and perceptions towards competency based medical education among medical students was satisfactory. The CBME curriculum makes the various learning methods more relevant, understanding to the students. The new CBME curriculum may improve the delivery and

tracking of progression of learning experiences both for faculties as well as to the students in future.

LIMITATION OF THE STUDY

The present study has been conducted in a medical college with a smaller number of participants. The findings could not be generalized to larger group.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

FUNDING

Nil

ACKNOWLEDGEMENT

The author would like to thank all the students who had participated for successful completion of the study.

CONFLICT OF INTERESTS

Declared none

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