

Competency Based Medical Education: Empowering Students Of Today To Become Competent Physicians Of Tomorrow.

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Abstract:

Introduction: Medical educators all over the world and also in India strongly emphasize the need for competency in medical graduates. The current medical education system is teacher centred focusing on knowledge acquisition rather than skills. Competency based Medical Education (CBME) provides an effective outcome-based strategy where various domains of teaching including teaching-learning methods and assessment form the framework of competencies. Indian Medical Graduate has to have evidence based, competent approach to show at most professional acumen. With the coming up change in Medical education curriculum moving from traditional lecture based classes towards skill based learning motivated us to find out the views and knowledge of students.

Aim: To know and assess the knowledge, attitude and need for competency based learning among undergraduate Medical students.

Method: This is a type of Questionnaire based cross sectional study which was conducted at SSIMS& RC, Davangere from 17/8/2018 to 21/8/2018. A pre validated, Questionnaire consisting with a combination of closed and open ended questions were introduced to students from 2st year to final year excluding Interns and post graduates.

Result: A total of 155 students responded to the questionnaire.84% of them expressed that there is a need for modification in the traditional medical education. 78% of the respondents felt that communication skills should be incorporated in the medical curriculum either during routine clinical postings or in skill labs or regular workshops. 50% of the students strongly agreed that skill based learning instead of just theoretical approach right from the first year of Medicine. 58%of them expressed that there needs to be a proper alignment of learning and assessment methods.

Conclusion: Competent students become competent doctors. Hence, Medical education programs should be designed and conducted in such a way that the new physicians are clinically competent when they enter the real world which ensures the delivery of improved healthcare outcome.

Keywords: Competency based medical education (CBME), Competence, Learner-centred, Communication skills, Skill based learning.

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I. Introduction:

Competency-based medical education is defined as an outcomes-based approach to the design, implementation, assessment, and evaluation of medical education programs, using an organizing framework of competencies^{1,2}.

Competency is the ability to do something successfully or efficiently. The current education system is teacher centred and emphasizes more on testing the knowledge than attitude and skill. It is not providing the students with enough skills for them to be called as competent. Medical students are immersed in the books, with good theory knowledge, but are lacking the ability to apply this knowledge practically in the right situation in the right manner. It is a nightmare for both the patient and the doctor when the doctor is clueless on how to act in a crisis situation.

Medical Education isn't mere passing the board examinations and getting a distinction. This field demands great potential, dedication and sincerity in every footstep. There are new challenges every day and one

could face them boldly only when he/she is trained to be competent. Medical education system is a "Tea bag model of medical education," in which a fixed time is spent by students in a particular context that ensures readiness of the student to serve the community, ignoring whether the students actually learn or not, whether the student is competent enough or not³. This is indeed an alarming situation which calls for remedial and corrective actions.

Competence means the acquisition of sufficient knowledge, psychomotor, communication and decision-making skills, and attitudes to enable the performance of actions and specific tasks to a defined level of proficiency⁴.

Competency based Medical Education (CBME) provides an effective outcome-based strategy where various domains of teaching including teaching-learning methods and assessment form the framework of competencies. This type of education is more focused and tailored to deliver competencies that are required by the medical graduates in executing their professional duties as health care professionals⁵. CBME trains the doctor to provide preventive, promotive, curative, palliative and holistic care to his patients which could be possible only when curriculum enunciates clearly the skills the student must learn with clearly defined teaching-learning strategies and effective methods of assessment.

Competence means the acquisition of sufficient knowledge, psychomotor, communication and decision-making skills, and attitudes to enable the performance of actions and specific tasks to a defined level of proficiency⁶. Most of the students with great knowledge fail to have soft skills like, communication, empathy, ethics and professionalism. Along with motor skills the students need to be exposed to soft skills and ethical aspects of dealing with patients as well. Thus, they should be trained to effectively communicate with patients and their relatives in a manner respectful of the patient's preferences, values, beliefs, confidentiality and privacy.

Hence CBME has been suggested to tackle these concerns. It is an approach to ensure that the graduates develop the competencies required to fulfil the patients' needs in the society as it de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness⁷.

Objectives:

1. To know and assess the knowledge and attitude towards competency based learning among undergraduate Medical students.
2. To know the need and willingness to accept competency based learning among undergraduate Medical students.

II. Methodology:

The present study was conducted at SSIMS & RC, Davanagere from 17/8/2018 to 21/8/2018 and the data was presented in Undergraduate conference "NEURON". A pre validated Questionnaire consisting of 10 questions with a combination of closed and open ended questions with options on a 5 point Likert's scale was framed with reference to the standard rubrics and introduced to students from 2nd year to final year excluding Interns and post graduates. The questions addressed their knowledge and attitude towards competency based learning approach. Purpose of the study was explained to the students and those who were willing were included in the study. Not interested and not willing students were excluded. Oral consent of the students was taken before introducing the questionnaire. Complete confidentiality of the responses was maintained throughout. Ethical clearance before conducting the study was obtained from institutional ethical board.

Questionnaire was validated by three subject experts (Dr. Veena M – FAIMER fellow, CMC-Ludhiana, Punjab University, Dr. Preethi B.P, FAIMER Fellow, PSG-Coimbatore, Tamil Nadu University and Dr. Vardendra, ACME, JNMC-Belgaum).

III. Results & Discussion:

In the present study on the awareness and perception of Competency based medical education, the participants were students from 2 year to Final year MBBS. A total of 155 students from 2nd year to final year took part in the study.

7 closed ended questions were asked to check the baseline knowledge and perception of CBME. Each question had a 5 point Likert scale options.

QUESTION	No of responses
There is a need for modification in the traditional medical education.	84% of the students urged that there is a need for modification in the traditional medical education.
Skill based approach in learning should be introduced right from first professional year in MBBS curriculum.	Around 90% of the students agreed that the skill based approach should be started right from the first year
Skill lab should be used to increase the learning opportunities for Undergraduate students.	Around 95% of the students answered that the skill lab should be used to increase the learning opportunities
Most of the existing method of learning and assessment incorporate and test Cognitive skills rather than motor and soft skills (Communication skills)	80% of the students agreed that the existing method of learning stressed more on cognitive skills rather than motor and soft skills
Is there a need for incorporating Communication skills into Medical Curriculum	78% of the students wanted communication skills to be included into medical curriculum
There is a need for proper alignment of Learning and Assessment methods.	95% of the students agreed that there is a need for proper alignment of learning and assessment methods.

Graph: 1
 Graph: 2
 Graph: 3

Summary of responses for question (open ended) on “Skills that need to be incorporated in MBBS curriculum”

95% of the students have suggested the following skills to be incorporated in the curriculum: <ul style="list-style-type: none"> • Communication skills • Basic life support skills • Basic radiological skills • First aid skills • Basic surgical skills like suturing, giving injections, hand hygiene and universal precautions • 20% have suggested the use of computer based learning and to allow laptops in the class for digital learning
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Summary of responses for “Benefits of skill based learning approaches are”

<ul style="list-style-type: none"> • Most of the students felt that this kind of approach would be more beneficiary than just theory classes. • It also helps them to improve good doctor patient relationship. As these approaches are kind of realistic learning of medicine, it will equip tomorrow’s physicians to face day to day challenges in the real world. • It improves their confidence as muscle memory is always better retained than cognitive memory.
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Competency based medical education is relative a new concept for the students who have always been exposed to traditional methods of teaching and learning. Keeping this in mind, this study was undertaken to check their basal knowledge about CBME and its need and implementation in the near future. A holistic curriculum incorporating knowledge, skills and attitude essential to practice in a real world is the need of the hour. Such a curriculum should also train the students to be more professional and ethical in their practice in different fields of medicine⁸.

It is a well-known fact that each and every method, old or new has its own merits and demerits. It should not hinder the learner to identify the pitfalls of an existing method and try rectifying it. If that cannot be done in any case then, it calls for adopting a new and more efficient method. Today’s Medical education has come to the same crossroads where there are many pitfalls in the traditional teaching-learning methods which either calls for modification at certain levels and adopting entirely new methods in certain situations. The existing medical curriculum emphasizes mostly on knowledge and less on acquisition of skills at undergraduate level. Most of the educationists agree on the fact that there needs to be a shift from knowledge based, teacher centred education to skill based, learner centred education system⁹. Fraser and Greenhalgh¹⁰ opined that, to face the competent medical field, medical students need to acquire knowledge, skills and go beyond competencies to capabilities. In our study the participants seemed to be aware of the need for change in the existing curricula. Though they acknowledged the need they seemed to be not much aware of the components of Competency based curriculum. Well this study was done just to know the baseline knowledge of students regarding the competency based approach to learning. So not much was expected in this regard. But the students seemed to be well aware of needing to learn at least the basic skills like communication skills to build rapport with the patients, putting an iv line, first aid, basic life support etc.

As listed above, more than 95% of students opined that communication skills should be introduced right from the beginning of first year. Many articles on CBME are indicative of rolling out of a new curriculum which focuses on out based learning strategies for medical under graduates in the near future¹¹. Bandura¹², through social learning theory, has argued that people also learn within a social context, acquiring new information and behaviour by watching others. So far the medicos have been learning to communicate with patients just by watching either their seniors or the consultant. They do not undergo any kind of formal training to acquire good communication skills. It is very good initiative to introduce such a useful and much needed skill right from the beginning of the course.

The alignment of specific outcome competencies with the methods and assessment is facilitated by CBME¹³. To become an expert, one of the key skills a novice needs to acquire is clinical reasoning as aptly put forth by Carraccio et al¹⁴.

Our current assessment process is not aligning with what is learnt in the classrooms and wards. Mostly it relies on summative assessment that test tests cognitive domain rather than psychomotor and attitudinal domains and very little emphasis is put on formative assessment with effective feedback and reflective learning. In the present study % of responders strongly agreed that there should be a proper alignment of what is learnt and what is assessed.

Sullivan¹⁵ and Yelon et al¹⁶, are indeed very right in looking at the sustenance of CBME. It not only involves willing students but also willing teachers with a healthy attitude to let the centre stage go. They must socialize more and create a non threatening learning environment Unless it is a combine effort from both students and teachers, sustenance of CBME becomes questionable. Thus both students and teachers should make a combined effort to make CBME a successful education model.

Limitations Of The Study:

1. Only 10 questions were included in the questionnaire. At least 5 more could have been included so as to cover wider aspects. But time constraint at the time of data collection made us to limit the number of questions.
2. There were students who were not aware of CBME concept. Though they were explained about the concept, some students might have not understood well. If this were not the case, they would have probably given us more refined responses.

IV. Conclusion:

Medical education is not just a program for building knowledge and skills in its recipients, it is also an experience which creates attitudes and expectations -Abraham Flexner.

The ultimate beneficiaries of CMBE are the students who are the future doctors and understanding their point of view is very important. Hence our study here mainly focused on understanding the students' perspective about current pattern of medical education, what competency meant to them and what competencies were to be included in our education system. Existing Medical curriculum is stressing more on didactic lectures and cognitive aspects. This needs to be changed if we are looking forward to a better healthcare outcomes. Medical education programs should be designed and conducted in such a way that the new physicians are clinically competent when they enter practice. This ensures the delivery of improved healthcare outcomes. Thus, it provides a rationale for employing Competency Based Medical Education in preparing competent doctors for practice at community level at large.

Acknowledgement:

This study was presented in the Undergraduate conference "NEURON-2018" and had won 2nd place and hence we would like to acknowledge Dr. B.S. Prasad, Principal of SSIMS & RC for organising the conference. We would also like to acknowledge Dr. Jayasimha, Student union chairman 2018, SSIMS & RC for giving me the opportunity to present the paper.

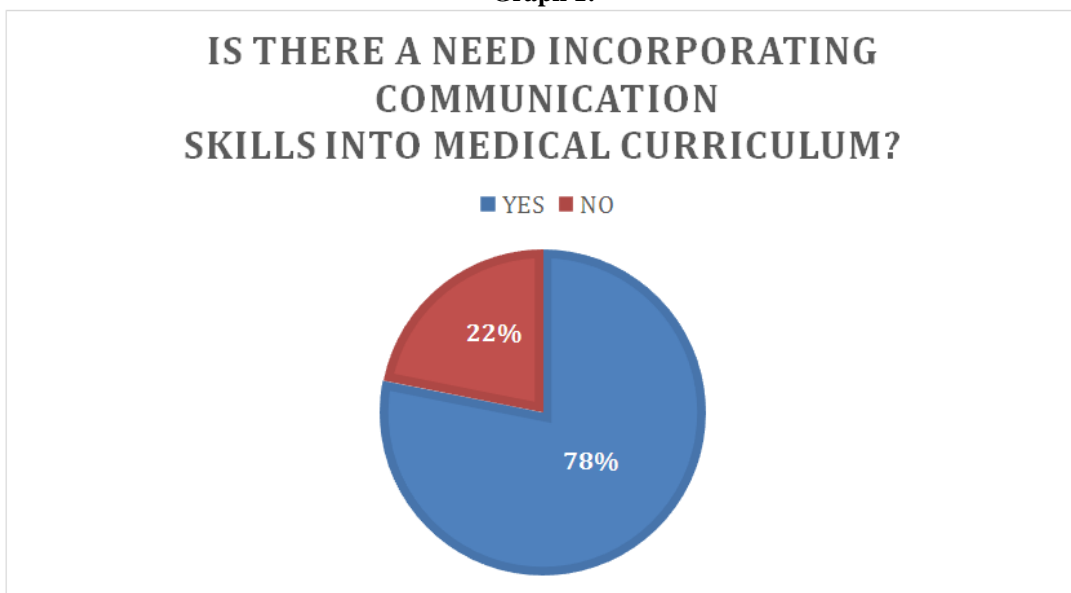
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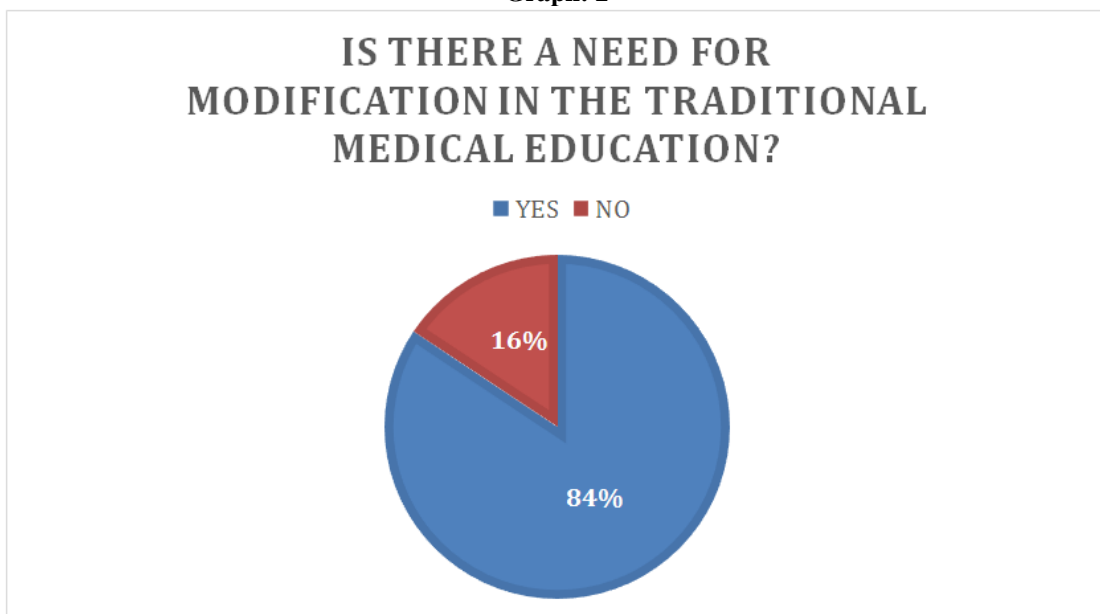
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GRAPHS:

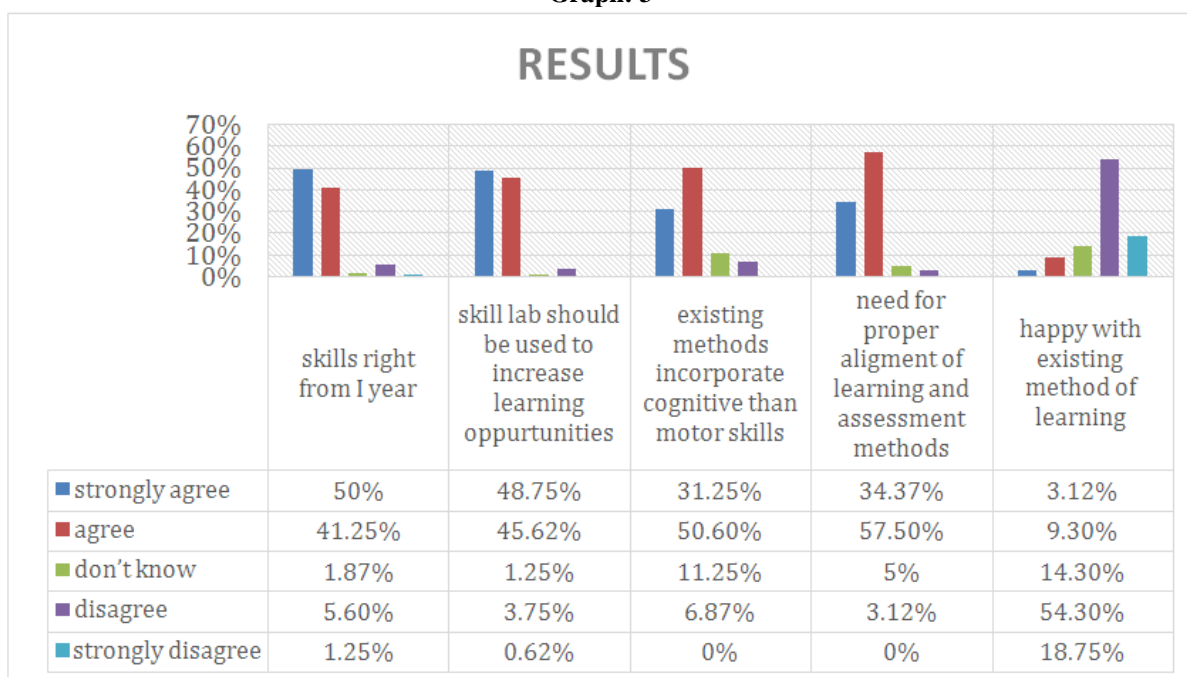
Graph 1:



Graph: 2



Graph: 3



Ethical clearance:

Ethical clearance from Institutional Ethical Board was obtained before collecting the data.

Conflict of interest:

None of the authors have any conflict of interest regarding the authorship of this study.

Contribution of authors:

1. Study idea was conceptualised and guidance in analysing data and preparing the manuscript by Dr. Veena. M.
2. Data collection, data analysis and manuscript preparation by Ms. Adarsha Valmiki.
3. Data collection and proof reading by Mr. Sathvik.S.

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