

Original Research Article

Perception of medical teachers towards undergraduate medical theoretical assessment system in a medical college of West Bengal

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ABSTRACT

Background: With change of disease pattern and complexities of therapy globally, medical education become challenging. Problem based learning and self-directed learning became more relevant and occupied its space in medical education. Assessment is very crucial with the change in curriculum for appropriate feedback and learning in the system. Present study evaluated the perception of medical teachers on this issue of theory examination. Assessment or evaluation plays a pivotal role in effectivity of the system. Assessors always guide any system to achieve its objectives.

Methods: This is an observational study, done with a questionnaire. It was done by interviewing the faculties of R.G. Kar Medical College, Kolkata, West Bengal who were examiners at University level.

Results: Present study comprised faculty of fifteen undergraduate Departments of R. G. Kar Medical College, Kolkata 29.68% faculty supported semester system. 70.32% faculty participated as the study population. 48.4% agreed and 35.93% strongly agreed on the concept of model answers. A majority of the faculties (31.25%) strongly agreed on the issue that answers should be checked by two or more examiners. Regarding the threshold of pass marks, 48.4% strongly agreed and 43.75% agreed that students need to get 50% marks separately in theory examination to get through the examination.

Conclusions: Present study evaluated importance of theory assessment system in medical education. It also necessitates further research to improve the objectivity of theory assessment system in medical curriculum at University level, in India.

Keywords: Medical education, Perception, Teachers, Theoretical assessment, Undergraduate

INTRODUCTION

Medical education, the art and science of medical learning, changing its shape globally. It became more scientific; based on pedagogical as well as andragogic principles. Problem based learning and self-directed learning became pivotal in medical education. It is a reality that disease aetiology is also changing rapidly.

Medical science is also changing with newer discoveries and understanding. Expectations of people are also changing. To combat this, therapy should be scientific, rational and feasible with latest understanding. With the change in the definition and scope of health, medical education is also changing rapidly. Role of medical teacher became more crucial. Teachers have progressed from the role of knowledge provider to that of the facilitators of learning.

With this change in medical education, assessment became more important. Assessment has a powerful positive steering effect on learning. The more objective directed assessment strategies, the more appropriate feedback for learning.¹

The most common method for the assessment is the written examination. Several written assessment formats are available globally. In other words, it is the content of the question that determines what the question tests.²

The theory examinations are used to assess the knowledge of students, specially the cognitive domain. While the purpose of practical examination is to assess the cognitive, psychomotor and affective domain as well, so a single assessment method is not enough in assessing students.³ Present study explored the understanding of medical teachers on different important issues of theory examination. Objective oriented theory examination is the need of the day. So, to make the theory assessment system more relevant, participation of faculties in planning of examination is necessary.

Perception of medical teachers on this issue is relevant. Collecting data in a standardized manner and subsequent assessment and interpretation is critically important for its maximum utilization.⁴ There is no study available even after intensive search on this issue of perception on theory assessment. So, the present study is a rational and timely one.

METHODS

Present study was an observational, descriptive study with cross sectional design. All faculties of undergraduate Departments of R G Kar Medical College, Kolkata, who are examiner in the university level, fulfilling inclusion and exclusion criteria, providing informed consent, included in the study

Study method was direct Interview of the study population with predesigned, precoded and pretested questionnaire. Duration of data collection was for 3 months.

A questionnaire was prepared to evaluate the objectives. The questionnaire was predesigned and pretested. All the faculties fulfilling the inclusion and exclusion criteria requested to participate in the study. The study was cleared on IEC. Study was started only after clearance from Institutional Ethics Committee. Faculties were included in the study only after signing the informed consent form. The data was compiled and analysed by SPSS 20 and appropriate statistical test was applied

Inclusion criteria

The study, was conducted at R G Kar Medical College, Kolkata. The faculty must have participated at least one university examination as examiner (internal or external).

Exclusion criteria

Faculties of different discipline which were not included in the undergraduate MBBS Course.

RESULTS

In the present study, perception of faculty members of different disciplines was evaluated. A total of sixty-four faculty members of a tertiary care medical college in West Bengal participated in the study.

In total, there were 15 different Undergraduate Departments. Among them, 3 were pre-clinical, 4 para clinical and 8 clinical (considering Orthopaedics as a separate department). Total number of faculties eligible to participate in the study was 91 but 64 faculties actually participated in the study. Study population comprised of 87.5% (56) male and only 12.5% female. Average age of the faculties in the study was 53.37 ± 7.245 years, with the range of 38 years to 64 years.

Table 1: Distribution of study population according to length of examiner-ship and status of MET(Medical Education Technology) training (n=64).

Demographic characteristics			
Parameters	Duration	Number of participants (n=64)	(%)
Length of examinership	Less than 5 years	26	40.62
	5 years to 10 years	17	26.56
	More than 10 years	21	32.81
Status of MET training	Not trained	5	7.81
	Less than 5 years	33	51.56
	5 years to 10 years	10	15.62
	More than 10 years	16	25

Distribution of study population on according to length or duration of examinership in university (Table 1) showed that 40.6% are examiner for less than 5 years, 32.8% more than 10 years, 26.6% between 5 to 10 years. Status of Medical Education Technology (MET) training (Table 1) among the study population showed 92.2% faculty member were trained in MET, out of them maximum (51%) trained within 5 years.

In the present study, reaction of the faculty members on 'mode of theory evaluation' was collected. It was revealed that opinion of study population on "timing of theoretical evaluation of undergraduate" varied a lot. 29.68% faculty supported semester system, they expressed theory assessment should be done only on the completion of a period of six months. 23.4% and 21.8%

were of the opinion that evaluation should be “only at the end of whole syllabus” and “as monthly interval as unit test” respectively. On the other hand, 1.56% expressed need for more frequent evaluation through theory assessment. Regarding the “scoring system of theory

examination” maximum (56.25%) faculty expressed that equal weightage should be given to all theoretical examination taken during the course (monthly/six monthly/ if more frequently), as shown in Table 2.

Table 2: Distribution of study population on the reaction on scoring system of theory examination and type of theory questions (n=64).

Response to perception based questions			
Parameters	Choices given	Number of participants (n=64)	Percentage (%)
Scoring system of theory examination	a) Marks obtained in the Final theoretical examination should only be taken into consideration	11	17.18
	b) Marks obtained in other theoretical examination (monthly / six monthly/ if more frequently) should be taken into consideration along with final theoretical examination	17	26.56
	c) Equal weightage should be given to all theoretical examination taken during the course (monthly / six monthly/ if more frequently)	36	56.25
Type of theory questions	a) Essay type, problem based question, short notes, short structure questions, justifying the given statements, multiple choice questions	29	45.31
	b) Problem based question, short notes, short structure questions, justifying the given statements, multiple choice questions	20	31.25
	c) Short notes, short structure questions, justifying the given statements, multiple choice questions	1	1.56
	d) Short structure questions, justifying the given statements, multiple choice questions	0	0
	e) Problem based question, justifying the given statements, multiple choice questions	9	14.06
	f) Only problem based question & justifying the given statements	2	3.12
	g) Any other suggestion	3	4.68

In the present study perception of faculty members on ‘framing of questions/matching of questions’ were evaluated in the heading of “type of theory questions”, “areas of questions”, ‘marks allotment for the question’.

On “type of theory questions”, maximum 45.3% (29) faculty opine in favour of inclusion of all components of ‘essay type, problem based question, short notes, short structure questions, justifying the given statements, multiple choice questions’ (Table 2).

In the theory assessment, “areas of questions” is an important issue. What percentage of questions should be given from - ‘must know area, useful to know and nice to know areas’ is crucial. 84% (54) faculty supported that questions must be from all areas like - ‘must know, useful to know, nice to know areas’. But they differ in the percentage of marks allotment on these three areas.

Faculties were questioned on “techniques for checking answer scripts”. They were asked on important issues like- ‘model answer should be prepared in the examiners meeting to be held following the theory examination’, ‘answer should be checked by more than one (if possible more than two) examiners, they will be checking different questions’, ‘students need to get 50% marks separately in theory examination to get through the examination’. All these issues are very important in the theory assessment system.

As shown in Figure 1, 48.4% (31) agreed and 35.93% (23) strongly agreed on the question ‘model answer should be prepared in the examiners meeting to be held following the theory examination’. 45.31% faculty agreed and 35.9% strongly agreed on the point that ‘answer should be checked by more than one (if possible more than two) examiner, they will be checking different questions’ (Figure 2). On this question few faculty

expressed their view as 'in the qualifying exam that much of recheck is not necessary' or 'If the teacher is not biased, there is no point of checking by two examiners it will simply lengthen the process and raised question on evaluation ability'.

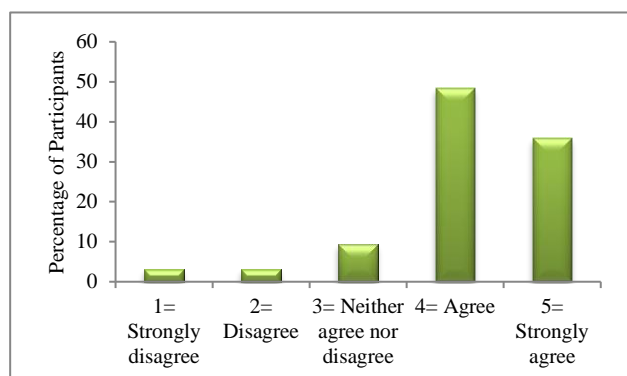


Figure 1: Distribution of study population according to their opinion regarding 'model answer should be prepared in the examiners meeting to be held following the theory examination' (n=64) based on 'Likart scale'.

On the question on "students need to get 50% marks separately in theory examination to get through the examination", 48.4% strongly agreed and 43.75% agreed on the issue. But one faculty is of opinion - "should get 40% marks separately in theory exam and in aggregate 50% of total (theory + oral + practical?). At the end of questionnaire, study population was requested to provide suggestion regarding improvement of any aspect of assessment of undergraduate medical theoretical examination.

A number of responses were gathered. Some faculty suggested 'reduction of student number for optimum theory and practical classes', 'use of code no. in addition to roll or registration number for different subjects in theory and practical', 'ensure attendance of students in lecture and practical classes as per University regulation', 'reorientation of study materials in all subjects so that repetition of particular topics can be avoided, clinically irrelevant things are curtailed and load on the students reduced' and 'participation of students in political activities should be reduced to minimum and numbers of working days are to be increased'. Another faculty mentioned 'home center for both theoretical and practical examinations should be abolished and students from any particular college to be distributed (divided) to two or more different medical colleges for the purpose of examination, in particular practical examination'.

Other teachers expressed 'every semester examination may be conducted by the University and there may not be any 1st prof., 2nd prof. and 3rd prof. examination', 'Comprehensive teaching to be introduced along with clinical subjects', 'more problem based questions should be there in their question paper'. Such suggestions from

the faculty members is a very encouraging sign for medical education system.

Present study explored the perception of medical teachers on the issue of undergraduate theory assessment system. A number of comments suggested that the faculties are oriented with the system and they have definite suggestion to improve the system.

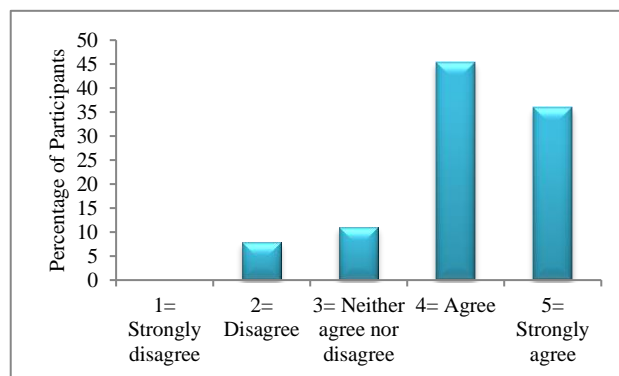


Figure 2: Distribution of study population according to their opinion regarding 'answer should be checked by more than one (if possible more than two) examiners, they will be checking different questions' (n=64) based on 'Likart scale'.

DISCUSSION

In India, primary and secondary school teachers have to undergo formal training in education for appointment as well as promotion. But till date there is no such requirement for appointment of teachers in medical colleges. On the other hand, number of medical colleges is increasing day by day with increasing number of undergraduate and post graduate students. Medical education become objective oriented day by day. Assessment is the most important part of any learning system, which will evaluate the effectiveness of teaching programme. It will provide feedback for necessary change in the system. Several new methods and tools are now available, the use of which requires special training. Implementation of andragogic technique becomes important in medical education, today.

Present study evaluated the concept of assessment programme amongst the faculties of a medical college of West Bengal. A total of 91 faculty members were in the medical college in the undergraduate departments but 70.32% of faculties participated in the study. This result is more or less similar to a study conducted at Taibah University, where Seventy-five per cent of faculty members responded.⁵

In the present study, 87.5% (56) of participants were male and 12.5% (8) were female, average age of the participants was 53.37±7.245 years. Experience of faculties as examiner was, 40.6% are examiner for less than 5 years, 32.8% more than 10 years, 26.6% between 5

to 10 years. A cross-sectional study among teachers at Government Medical College, Nagpur, India showed 46.67% had undergraduate teaching experience of 6 to 15 years and 22% having more than 20 years of experience.⁶ In the present study, status of faculty MET Training showed 92.2% were trained, out of them 55.9% trained within 5 years. Training of medical teachers in educational technology is an important factor for quality medical education. A study from Maharashtra, India also revealed that the teachers' awareness regarding medical education technology (MET) showed maximum response i.e. 73%.⁷

An expert committee of the World Health Organization (WHO) in 1965 brought out a report on, "the training of teachers of medical schools with special regard to developing countries which stated initiation of improvement of medical education in India".⁸ This signified the importance of training for medical teaching.

Opinion on "timing of theoretical evaluation of undergraduate" revealed 29.68% faculty supported semester system. Regarding "scoring system of theory examination" 56.25% faculty expressed that equal weightage should be given to all theoretical examination taken during the course. One report from Nagpur, India, revealed 32% teachers suggested the examination pattern with 50% weightage to theory and practical each and no internal assessment. Many teachers recommended changes in the course and gave outlook about Medical Council of India Regulations.⁶ No other comparative data was available in the literature.

There are different forms of assessment system in medical education, and model answers play definite role in medical education. Huxham defined model answer appropriately.^{9,10} In the present study 48.4% agreed and 35.93% strongly agreed on the question 'model answer should be prepared in the examiners meeting to be held following the theory examination'.

On the question on "students need to get 50% marks separately in theory examination to get through the examination" 48.4% strongly agreed and 43.75% agreed on the issue. Though there was difference in opinion. Different institutions/university rules suggest securing at least 50% marks of the total marks separately in each subject (theory and practical), to clear under graduate medical assessment in India.¹¹

But no such comparable study data was available on medical teacher's perception. Suggestion from faculties to improve the assessment system of medical education helped for in depth search.

CONCLUSION

Present study evaluated the perception of faculty on theory assessment system in undergraduate medical education. It is a cross sectional, observational,

descriptive type of study. Study revealed importance of 'faculty development programme' in medical colleges to improve education system. Clinical skill development is a complex method. Role of theory assessment in medical education is already proved. Student assessment is a comprehensive decision-making process, also related to program evaluation. Good quality assessment satisfies the understanding on quality of student learning. Perception of teachers plays an important role in the system. Present study evaluated few aspects of theory assessment system. Further studies required to improve the objectivity of theory assessment system in medical education.

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REFERENCES

1. Tabish SA. Assessment methods in medical education. *Int J Health Sci (Qassim)*. 2008;2(2):3-7.
2. Schuwirth LW, van der Vleuten CP. Different written assessment methods: what can be said about their strengths and weaknesses?. *Med Educ*. 2004;38:974-9.
3. Wadde SK, Deshpande RH, Madole MB, Pathan FJ. Assessment of III MBBS students using ospe/osce in community medicine: teachers' and students' perceptions. *Sch J App Med Sci*. 2013;1(4):348-53.
4. McOwen KS, Bellini LM, Morrison G, Shea JA. The development and implementation of a health-system-wide evaluation system for education activities: build it and they will come. *Acad Med*. 2009;84:1352-9.
5. Al-Mohaimed AA. Medical faculty development: perceptions about teachers' characteristics. *J Taibah University Med Sci*. 2015;10(4):405-10.
6. Narlawar UW, Deshpande SR, Tankhiwale NS, Kalme SO. Perception of medical teachers towards existing graduate medical education regulations 1997. *Int J Community Med Public Health*. 2016;3(6):1648-53.
7. Dashputra A, Kulkarani M, Chari S, Manohar T. Perception of medical teachers toward present day medical education. *Int J Edu Sci*. 2012;4(2):91-5.
8. Srinivas DK, Adkoli BV. Faculty Development in medical education in India: the need of the day. *Al Ameen J Med Sci*. 2009;2(1):6-1.

9. Al-Wardy NM. Assessment Methods in Undergraduate Medical Education. *Sultan Qaboos Univer Medic J.* 2010;10(2):203-209.
10. Huxham M. Fast and effective feedback: are model answers the answer? *Assessment and Evaluation in Higher Education.* 2009; 32(6): 601-611.
11. Government Medical College and Hospital, Sector 32, Chandigarh. Regulations for MBBS. Available

at <http://gmch.gov.in/courses.htm>. Accessed 10 January 2016.

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