



Original Research Article

Need of multiple choice questions (MCQs) in assessment criteria of BAMS curriculum

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ABSTRACT

Background: In health science several assessment methods are applied to assess the level of cognitive domain of students. MCQs (Multiple Choice Questions) is one of reliable method widely used in medical education system. Unfortunately, it was removed from B.A.M.S. under graduate curriculum in 2011 by Maharashtra University of Health Sciences (MUHS) due to some technical reasons. With this background, the present study was aimed to focus on need and importance of MCQs based assessment in BAMS curriculum.

Materials and Methods: Cross sectional questionnaire-based study was carried out after seeking permission from Institutional Ethics Committee. Randomly selected hundred BAMS students and thirty faculties were participated in the study. Their perceptions were collected using pre validated questionnaire by Intrinsic Motivation Inventory method.

Result: It was observed that students as well as teachers are coincided on need of MCQs based assessment in BAMS under graduate curriculum.

Conclusion: Majority of teachers and students agreed that MCQs based assessment will beneficial for improving student's learning methods. Thus, MCQs should be re-starting in the BAMS curriculum as one of assessment criteria.

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1. Introduction

The process of finding out how each student knows is called as assessment.¹ According to Bloom's Taxonomy, there is need of assessment of three domains cognitive domain (knowledge), psychomotor domain (practical skills) and affective domain (attitudes). There are several methods used for assessment of medical knowledge as, long answer questions (LAQ), short answer questions (SAQ), oral examination, multiple choice questions (MCQs), patient management problem (PMP), oral structured clinical evaluation (OSCE) and oral structured practical evaluation (OSPE). Out of these MCQs are well established, reliable method for assessing cognitive domain and used widely

in entrance examination as NEET, AIPGCET, UPSC and MPSC. Fortunately, Maharashtra University of Health Sciences, Nashik (MUHS) involved this assessment tool to all streams in medical field in 1998-99, but unfortunately it was removed from BAMS curriculum in 2011, while continued in other faculties as in MBBS and BDS.

A multiple choice item consist of a problem, known as stem and list of suggested solutions known as alternative, the alternative consist of one correct or best alternative, which is the answer, and other options are distracters or incorrect options. MCQs tests can be useful for formative assessment and to stimulate students' active and self-managed learning. It improves students' learning performance and their perceptions of the quality of their learning experience.² MCQs tests are strongly associated

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with assessing lower order cognition such as the recall of discrete facts and for the same reason, assessors have questioned their use in higher education.^{3,4}

Such a useful assessment tool should be involved in BAMS curriculum for under graduate students. So, student should not missed the reading between lines. They must know the MCQs oriented study as all competitive examination based on MCQs pattern.⁵ This article is proposed to highlight the need and importance of MCQs assessment criteria for under graduate students of BAMS faculty.

2. Objectives

To focus the need and importance of MCQ as a assessment criteria in BAMS curriculum for under graduate students.

2.1. Outcomes

Short Term - Students give attention to the minute fact of the study.

Intermediate - Students are able to do MCQ oriented study.

Long Term - Students are able to crack MCQ based competitive examinations.

3. Material and Methods

Cross sectional questionnaire based study was carried out after seeking permission from Institutional Ethics Committee. Randomly selected hundred BAMS students and thirty faculties were participated in the study. Their perceptions were collected using pre validated questionnaire having a combination of open and close ended questions by Intrinsic Motivation Inventory method.⁶

3.1. Questionnaire for teachers

1. Is there need of MCQs for assessment of BAMS student in MUHS, Nashik?
2. Is MCQs is good tool for assessment of knowledge of student?
3. Is MCQs enhancing the learning process?
4. Is MCQs are good tool to assess recalling capacity?
5. Is it possible to detail study with help of MCQs?
6. MCQs based study needs from UG level to crack the entrance examination?
7. Should MCQs involved in curriculum of UG BAMS?
Open ended questions
8. Is there any benefit of MCQs, if included in UG BAMS curriculum?
9. Is there any drawback of removing MCQs from UG BAMS curriculum?
10. Any other opinion about MCQs assessment?

3.2. Questionnaire for students

1. Is there need of MCQs for assessment as assessment criteria?
2. Is MCQs helps to build confidence of students to crack entrance examination?
3. Should MCQs assessment involve in curriculum of UG BAMS?
4. Is it will be beneficial to include MCQs assessment at UG level as assessment tool?
5. Do you think, it will help to increase score?
Open ended questions.
6. How the MCQs are helpful to improve learning?
7. How the MCQs can help to build up the confidence for cracking competitive exam?

4. Observation and Result

After analysis of questionnaire feedback, it was observed that students as well as teachers are coincided on need of MCQs based assessment in BAMS under graduate curriculum. (shown in Figures 1 and 2)

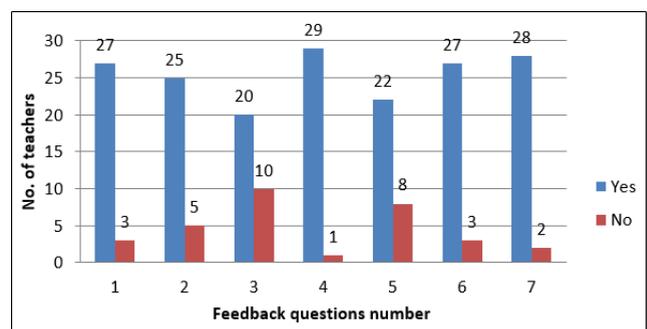


Fig. 1: Feedback of teachers perception on each question

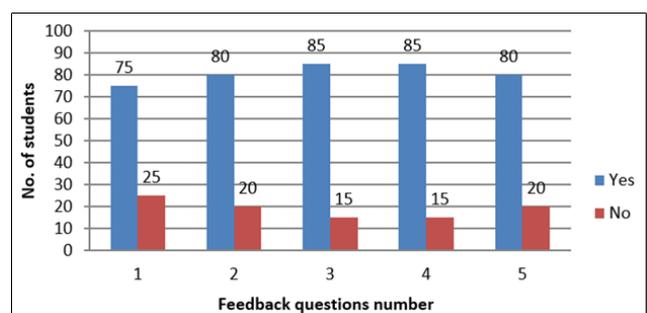


Fig. 2: Feedback of students perception on each question

Students said that MCQs will helpful for encouraging in reading between the lines. MCQs will help to increase score in examination. Teachers are given input that MCQs is one of the best methods for summative assessment which cover maximum topics of theory examination. Students could concentrate in lectures to collect the facts related to MCQs

based questions. MCQs are reliable, valid and cost-effective tool. Teachers and students put forth the opinion that MCQs based assessment should be part of BAMS curriculum. (Tables 1 and 2)

Table 1: Result of qualitative analysis of teacher responses for open ended questions

Main Domains	Sub-Domains and the responses
Benefit of including MCQs in UG curriculum	Students read with concentration; maximum syllabus points will cover in examination. Depth of knowledge increase. It will be reliable, valid and cost-effective tool. Assessment of large number of students.
Drawback of removing MCQs	Students miss the reading between the lines. Not habitual of solving MCQs, so it becomes difficult to face MCQs direct in competitive examination, may result in loss of confidence for facing such challenges.
Other opinion about MCQs assessment	MCQs formation needs time. Not easy to form good quality of questions. Sometime judge only knowledge not skill. Difficult to maintain hardness level. MCQs can use for formative and summative assessment also.

Table 2: Result of qualitative analysis of student responses for open ended questions

Main Domains	Sub-Domains and the responses
MCQs improve learning Useful for building confidence	By doing detail study, tagging key points, reading actual facts thoroughly. By understanding the pattern of questions, by knowing how to solved the questions by identifying key for answer. Useful to build up confidence to crack competitive examinations as it becomes habitual.

5. Discussion

To assess three domains of system based medical knowledge any single method cannot fulfill assessment criteria. Hence several methods are used for assessing the medical competencies as LAQs, SAQs, MCQs OSCE, OSPE etc. It is very difficult task to design the assessment criteria for medical knowledge, as there is a need to focus on objectivity, validity, reliability and feasibility. Only LAQs and SAQs are not sufficient tool for assessment of medical students. Because researches show that MCQs are more reliable for testing knowledge of UG and PG medical students than traditionally used essay type questions as LAQs & SAQ. As per Blooms taxonomy the levels of cognitive domain are knowledge, comprehension, application, analysis, synthesis and evaluation.^{7,8} Higher

level of cognitive domain, application, analysis, synthesis can achieve with the help of well-constructed MCQs.⁹

MCQs based assessment is considered as ideal method for assessment of knowledge of large number of students. Examination cell generally used computerized system for analysis of performance of students. Hence, we can consider the MCQs as good assessment tool, as it is time saving reproducible and cost-effective. Bias can be minimized here as there is computerized analysis.

If we think in perspective of students, they get the idea and clear vision about what to be focused in study? how to carry out detail study? without missing any key points, so that they get prepared indirectly to face the MCQs based competitive examination and to achieve their educational goal. As MCQs provide objectivity, need less time to complete, its cost-effective tool, it can assess higher level of cognitive domain, with these benefits it has some limitations also, construction of good MCQs is quite hard task. Sometimes maintaining hardness level of MCQs becomes crucial task. It can be judged the level of knowledge but not the skills.

6. Conclusion

MCQs based assessment criteria should be part of UG BAMS curriculum in university of health sciences. It is one of important assessment tool for medical competencies to improve students' learning method and inculcate the confidence to face MCQs based competitive examinations.

7. Source of Funding

None

8. Conflict of Interest

None.

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