



## MULTIPLE CHOICE QUESTIONS OR ESSAY QUESTIONS: PREFERENCES OF MEDICAL STUDENTS

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### ABSTRACT

**Introduction:** Using the preferences and opinions of students in the evaluation of undergraduate medical programmes for improving the standard of medical education has been documented. Multiple Choice Questions (MCQ) are an important component in the process of evaluation in the entrance exams. MCQ's have also been introduced regularly as a part of final evaluation in some of the medical universities. However the assessment method commonly employed still continues to be essay questions. Objective: To study the preferences for MCQ's versus essay questions in assessment among medical students.

**Materials and methods:** A cross-sectional study was conducted on the students of final year part 1 MBBS (n=120). A preformed close ended structured questionnaire was used to obtain the preferences of the respondents regarding MCQ's or essay questions and reasons for the same.

**Results:** MCQ format was the preferred type of question (65%) over the essay questions. The reasons given for this were that in the MCQ exam at least there is a chance of getting the correct answer (86%), done quickly (62%). The reasons for preferring essay questions were that essay encourages wider reading and critical thinking (56%), give time to really think critically (48%).

**Conclusions:** Students preferences should be taken in consideration.

**KEYWORDS :** Essay questions, Medical students, Multiple choice questions, Preferences

### INTRODUCTION:

Evaluation of students is considered as one of the most important aspect of teaching, and its correct implementation induces motivation for learning and provides educational feedback for teachers<sup>[1,2]</sup>. It is an essential part of the learning process and is perceived by students as a dominant motivator to direct and drive their learning. Learning is a dynamic concept and is always modified according to students' preferences and opinions.

The concept of professional medical education, in addition to knowledge content, emphasizes on the development of scientific skills. The undergraduate medical curriculum in India developed by MCI (Medical Council of India) is oriented towards training students to undertake the responsibilities of a physician of first contact who is capable of looking after the preventive, promotive, curative and rehabilitative aspects of medicine<sup>[3]</sup>. Feedback on assessment process has an important part to play in underpinning student learning. Evaluation or assessment method adopted can influence student learning in any higher education context, including medical education<sup>[4]</sup>. It is generally believed that the Structured Answer Questions (SAQs) and Multiple Choice Questions (MCQs) as evaluation tools increase objectivity and allow greater coverage of curricular content. In recent years Long Essay Questions (LEQs) are being replaced by SAQs and MCQs in student assessment<sup>[5]</sup>. MCQ's have been introduced regularly as a part of final evaluation in some of the medical universities. They are an important component in the process of evaluation in the entrance exams also. The ongoing trend in many medical universities across the country is preparing for the postgraduate entrance exam right from the undergraduate days. Eventually this is turning the medical students into mere MCQ doctors with sheer theoretical knowledge and at times no practical skills. Considering this situation the medical exam boards are trying to introduce analytical & competency based MCQs. Ambiguity still exists regarding which question type is best for assessing medical students. Knowledge about preferences of students is important to improve the assessment process. Preferences of students in higher education have been quite well studied, but there is a paucity of studies specifically related to assessment preferences of medical undergraduate students. Hence the present research was planned with the objectives of studying the preferences for MCQ's versus

essay questions in assessment among medical students and identify the reasons for these preferences.

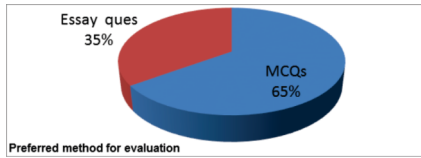
### MATERIALS AND METHODS:

The present descriptive cross sectional study was conducted at Government Medical College (GMC) Nagpur during September 2018 among final year M.B.B.S. (part 1) students who had taken admission during the academic year 2015-2016. Approval from the Institutional Ethical Committee (IEC) was obtained and permission was sought from the Dean and respective head of the department. Since they had undergone final assessments during their first and second year MBBS exams, they had a background regarding the examination pattern and assessment methods in the form of MCQs and essay questions for the medical students. On the day of study 126 students were present for the Community Medicine class. The study participants were apprised of the nature and purpose of the study. The data collection was done using a predesigned, pretested, structured, self administered questionnaire. It included questions about opinions and preferences regarding MCQs and essay questions for the assessment of medical students and also the reasons for their preferences. The terms used in the questionnaire were explained in detail to them and the doubts if any were cleared. Completely filled in questionnaires were returned by 120 students thus giving a response rate of 95.24 %. The collected data was analyzed with the help of Statistical Package for Social Sciences (SPSS) version 17.0.

### RESULTS:

The present study was done in Final year MBBS (part 1) students in 6<sup>th</sup> semester who were about to appear for their examination in Community Medicine, Otorhinology and Ophthalmology. Medical students who are in sixth semester have already undergone their university examinations for first and second year MBBS and thus have a reasonable exposure to evaluation in medical studies. Of the total study participants 68 (56.67%) were female and remaining 52 (43.33%) were male. In response to the question regarding type of question preferred by the respondents for their assessment, multiple choice questions were given an upper hand over essay questions (long or short). These results are depicted in figure 1.

**Figure 1. Preferred method for assessment in study participants.**



The questionnaire further included the reasons for their preferences which are displayed in table 1.

**Table 1. Reasons for preference of MCQs**

Sr. No.	Reasons for preference of MCQs	Number	Percentage
1	Answers are given, keywords stimulate memory rather than trying to recall by self	108	90.0
2	MCQs can cover lots of content areas thus testing our in depth knowledge	107	89.2
3	Effective tool for assessing students' academic abilities in that subject area	104	86.7
4	With MCQ at least there is a chance of getting correct answer	99	82.5
5	There is always 25% chance of getting a right answer	97	80.8
6	Not stressful; less time required, over and done quickly	93	77.5
7	Choices are given, can be somewhat judged whether on right/wrong track (in essay one may totally be on wrong track)	93	77.5
8	I dislike structuring & writing essays	53	44.2

Similarly the reasons for preference of essay type questions (long or short essays) are depicted in Table 2

**Table 2. Reasons for preference of Essay type questions**

Sr. No.	Reasons for preference of Essay type questions	Number	Percentage
1	Searching, reading facilitates one's understanding of course and leads to indepth knowledge	95	79.2
2	Writing an essay is more enjoyable & rewarding if I understand topic	78	65
3	Essays give time to think critically and effectively about the course	74	61.7
4	Essay encourages wider reading and critical thinking	65	54.2
5	Essays are not restrictive and don't enforce interpretations onto students	62	51.7
6	Intellectually stimulating, challenging	53	44.2
7	Develop logical and analytical reasoning	49	40.8

In addition to identifying the reasons for preferences about format of questions for evaluation, few other opinions were also put ahead and the study participants were instructed to mark it as agree or disagree. MCQ is just a matter of learning facts, definitions and figures and no real analysis or critique is required was opined by 78 (65.0%) study participants. 97 (80.8 %) participants agreed to the statement that MCQs tend to examine a topic too briefly. Sixty three (52.5%) students were of the opinion that MCQs usually involve mechanically memorizing facts and only guessing. Further only 39 (32.5%) students expressed that MCQs take less time to prepare for and, involve less efforts. Although traditionally essay type questions still continue to be the commonest format type for evaluation it was surprising to observe that 56 (46.7%) students were of the opinion that they had a problem in writing and expressing their ideas in an essay and found it quite cumbersome.

**DISCUSSION:**

The knowledge about preferences of the students regarding their assessment methods is valuable for understanding factors that

drive the learning process and its outcomes. Literature reveals that differences in students' learning and preferences for evaluation methods may result in performance differences<sup>[6]</sup>. Also students' preferences for assessment tend to reflect their perception of the learning environment, their learning concepts, and their approaches to learning, which consequently affect their achievement<sup>[7,8]</sup>. Medical education is also driven by assessment and hence it is important to consider the students' assessment preferences and how they affect their achievement<sup>[4]</sup>. Though preferences of students in higher education<sup>[9,10]</sup> has been often studied and well documented, there are hardly any studies in medical students specifically from undergraduates in Community Medicine. The discussion ahead therefore includes comparison with studies in students from higher education and medical students from other subjects.

In the present study it was observed that 65% of the study participants opined that they prefer MCQs as the method of their final evaluation. Amin TT et al<sup>[4]</sup> in their study observed that MCQs were preferred by 64% of the study participants. Nandan T et al<sup>[11]</sup> in their study in medical students from Microbiology reported a preference for MCQs as 82%. Chinthika HLH et al<sup>[12]</sup> in another study amongst students of Forensic medicine observed that 86 % of the students preferred MCQs. These observations are similar to that of the present study. However in a study done by Liyanage CAH et al<sup>[13]</sup> MCQs were preferred by only 22.9% of the study participants which is in contrast to the findings of present study. This difference can be explained as the study was carried out long back when admissions to post graduate courses was on the basis of marks scored in MBBS and there were no entrance examinations.

Reasons for preferences in the present study are in coherence with those quoted in other studies<sup>[4]</sup>.

The main aim of the present study was to compare views and opinions of the medical students about question types (i.e., multiple choice and essay questions) in the evaluation of medical students.

For the preferred assessment method for summative assessment, a majority of our students, irrespective of their gender, preferred the MCQ format over open ended questions/essay. The issue of why some students prefer MCQs while some others prefer essays has been widely discussed in various other studies<sup>[4,9,10,11]</sup>. Irrespective of the reasons for preference of MCQs or essay, in general students with in depth study approach tend to prefer essay-type questions, while students with a superficial or surface study approach tend to prefer multiple choice question formats.<sup>[14]</sup> Exam anxiety is yet another variable that can lead to specific attitudes towards assessment formats: students with high exam anxiety have more favourable attitudes towards MCQs while those with low exam anxiety tend to prefer open-ended formats. Clearly, students with a high level of exam anxiety strive towards more certainty within the assessment situation.<sup>[15,14]</sup> Students are likely to be more motivated and hence perform better if they are given an assessment method with which they are comfortable, and this should apply to medical education also.<sup>[15]</sup>. But how far and to what extent we are justified in offering such an option in a medical course is debatable, because the complex nature of medical field demands complete development of analytical and logical reasoning process to arrive at the correct diagnosis and appropriate management of the patient. Essay questions are a useful tool for finding out if one is able to sort through a large body of information, figure out what is important and explain why it is important. This is in line with the present study findings wherein the study participants opined that essay type questions encourage wider reading and critical thinking.

Hence, it is necessary to apply both assessment techniques to evaluate learning level of medical students to increase educational productivity.

**CONCLUSIONS:**

In the present study MCQs were preferred method of assessment for

the students. Major reasons for preferring MCQs were that keywords in MCQs stimulate memory and examine how well one knows the course. The numerous reasons opted by the students for preferring MCQs may appear absurd but these point towards the trend of acquiring knowledge or for that matter scoring marks by a short cut way. It is thus the task of the medical teachers to bring back the young budding doctors on the right track of acquiring knowledge by thorough reading and understanding of the course, because a student enters a medical school not just to score marks but to become efficient care provider. Ultimate goal of medical education should be to produce good doctors and not mere pill givers.

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