

Place of multiple choice questions (MCQs) as an effective study tool for long-term recall

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Introduction

Assessing students through MCQs is done in various examinations worldwide. Answering and discussing the MCQs are also considered as a very useful study tool by students. Allowing students to mark their answers on their own and giving feedback on the correct answers could be vital in this respect. However, it is important to find out whether it has a long-term positive impact on students performance.

Objectives

To examine the effectiveness of MCQs as a study tool for long-term recall and to identify the effectiveness of self assessment.

Methods

First year medical students were given a MCQ paper consisting of 10 MCQs with 50 statements to answer within 30 minutes. The test was conducted soon after completion of respective areas in Physiology. Correct answers were discussed and students were advised to mark their answer scripts by themselves, giving negative marks for each incorrect answer. Six weeks later the same MCQs were repeated without a prior notice while they were studying different areas in physiology and same procedure was carried out. Data was analyzed using SPSS (v.13).

Results

Students who participated on both occasions were selected for analysis (n=82). The response rate increased in the second attempt with a marked increase in the number of students attempting more than 40 statements (82.9%) compared to the first (46.3%). Average mark obtained by the group increased significantly at the second attempt (66.63%) compared to the first (52.56%, $p < 0.001$). 81.7% students have scored higher marks than the first time. In both attempts average mark obtained increased with the number of MCQs answered despite negative marking (first attempt 20-29 questions answered = 42.67%, 30-39 answered = 45.55%; 40-50 answered = 61.42%). Accuracy of marking increased from 61% at the first attempt to 78% at the second attempt with 76% of students who have marked incorrectly the first time managing to mark correctly the second time.

Conclusions

Answering MCQs followed by feedback and self-assessment increased the response rate and the average mark which suggest a positive long-term recall effect of MCQs when administered as a study tool. It would be prudent to explore the possibility of incorporating regular MCQ discussing and marking sessions as a teaching/learning tool to improve student performance at examinations.