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MULTIPLE CHOICE QUESTIONS (MCQS) BASED DISCUSSION AT THE END OF PHYSIOLOGY LECTURES IN MUSCULOSKELETAL BLOCK AS A TOOL FOR REVISION AND MOTIVATION: PERCEPTION OF MEDICAL STUDENTS

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ABSTRACT

The aim of this study is to expose and distinguish the perception of medical students regarding Multiple Choice Questions (MCQs) based discussion at the end of the physiology lectures in musculoskeletal block as a fit method for revision and motivation. A cross sectional KAP Study (Knowledge, Attitudes, and Practice) was conducted in College of Medicine among 124 medical students in Musculoskeletal block through two semesters at college of Medicine, Al Maarefa Colleges for Science and Technology Riyadh – Saudi Arabia. Four MCQs were shared and discussed with students in the last eight minutes at the end of physiology lectures, a structured questionnaire deigned as primary tool of data collection was distributed then among the students at the end of the block. About (72%) of the students believed that MCQs based discussion at the end of lectures of Musculoskeletal block was an excellent method and (98%) considered it as an effective tool for revision. About (77%) agreed with the role of such method as motivational tool. MCQs based discussions at the end of lectures clearly plays a role in revision and motivation.

KEYWORDS: MCQs, discussion, motivation, revision, Medical Education, Physiology.

INRODUCTION

It is quite challenging to educators to make an exciting, dynamic and interesting lectures. These features has been reported as an essential requirement to create a memorable lecture,[1] researchers believed in achieving this concept by using simple discussions targeting student-centered learning. However, An improvement of students' learning during lectures might be driven by creating assignments or asking them to design matrix or flow charts.[2] MCQs is one of the well-known common methods for measuring knowledge, comprehension and might be extended to measure applications and analysis.[3] Alongside their high reliability, validity, and ease of scoring featrues.[4] A well-constructed MCQs matching objectives that has been sated within Bloom taxonomy[5] were fit to assess knowledge recall and revision. Critical thinking as an approach used for large classes of students, while MCQs based discussions at the end of the lecture is a simplified quick theme for a formative assessment in which the process is focused.[6] On other hand, Motivation is a fundamental key in students' learning and performance and it has been found to be positively associated with academic performance, study behavior and as a learning strategy, it is negatively associated with a dropout behavior.[7]

OBJECTIVES

General objective: To explore the perception among medical students regarding MCQs based discussion at the end of the lectures as tool for revision and motivation.

Specific objectives

1. To determine the perception of medical students regarding MCQs based discussion at the end of the lectures as revision exercise
2. To determine the perception of medical students regarding MCQs based discussion at the end of the lectures as a motivational exercise
3. To determine a reasonable time, MCQs number and the pattern of discussion at the end of the lecture

MARETIALS AND METHODS

Study design
Cross-sectional KAP study

Study location
Al Maarefa Colleges for Science and Technology, College of Medicine, Riyadh – Saudi Arabia.

Study population
Medical students in Musculoskeletal block through the second semester of the academic year 2014 -2015 and the first semester of the academic year 2015-2016.

Sample size
124 Students

Data Collection
- Four MCQs were chosen to be discussed with students during the last eight minutes at the end of five physiology lectures of Musculoskeletal block.
- At the end of the block, structured questionnaire was distributed among students as primary tool of data collection.

Statistical analysis
Data was analyzed and fed into the statistical program for social sciences (SPSS) version 21.

Ethical Considerations
Approved from research and thesis committee of Al Maarefa Colleges for Science and Technology, College of Medicine A written consent were obtained from all participants.

RESULTS

Demography of the sample: A total of 124 medical students of Al Maarefa Colleges for Science and Technology participated during their musculoskeletal block studies over academic years (2014-2015, 2015-2016).

Table 1: Distribution of the participants according to their gender (N=124).

Gender	Frequency	Percentage
Males	52	41.9
Females	72	58.1
TOTAL	**124**	**100**

Table 2: Perception of the participants regarding MCQs based discussion at the end of physiology lectures in Musculoskeletal block (N=124).

Perception	Frequency	Percentage
Average	4	3.2
Good	33	26.6
Excellent	87	70.2
TOTAL	124	100

Table 3: Participants opinions regarding the role of MCQs based discussion as a revision exercise (N=124).

Role of MCQs based discussion as a revision exercise	Frequency	Percentage
Yes	122	98.4
No	2	1.6
Total	124	100

Table 4: Participants opinions concerning the role of MCQs based discussion as a motivational exercise (N=124).

Role of MCQs based discussion as a motivational exercise	Frequency	Percentage
Yes	95	76.6
No	29	23.4
Total	124	100

Table 5: Participants opinions concerning a reasonable duration of MCQs based discussion at the end of the lecture (N=124).

Reasonable duration of MCQs based discussion at the end of the lecture	Frequency	Percentage
5 Minutes	36	29.1
10 Minutes	74	59.7
15 Minutes	7	5.6
20 Minutes	7	5.6

Table 6: Participants opinions concerning the pattern of MCQs based discussion at the end of the lecture (N=124).

The patterns	Frequency	Percentage
Individual discussion	18	14.5
Peer discussion	19	15.3
Class discussion	87	70.2
TOTAL	124	100

Table 7: Participants opinions concerning a reasonable number of MCQs based discussion at the end of the lecture (N=124).

Mean	Std. Deviation
6.96	±2.21

DUSCUSSION

The results of the questionnaire were clearly expressing students' satisfaction and preference to this practice. About (72%) of students suggested that MCQs based discussion at the end of physiology lectures during Musculoskeletal block was an excellent method as general perception while only (26%) considered it as good method. Madhu Bhatt et al. published a study in 2016 concluding that MCQs may form a vital component

of teaching when delivering such important concepts, and their use may not be restricted to the traditional role as a type of an assessment method in medical schools.[8] Our study exposed the vital role of such practice as tool of revision and recalling and about (98%) of the participants agreed to its role. Bobby et al. also found using MCQ at the end of biochemistry module as a unique method and reported that formulation of MCQs is an effective and useful unconventional revision exercise in Biochemistry for graduate medical students.[9] On the other hand, a good number of studies expressed its importance on motivation and academic performance.[10,12] Our study revealed that (77%) of the enrolled participants agreed with the motivational role of MCQs based discussion. In Addition, Abdullah O. Bamosa introduced MCQs at the end of physiology lectures and published an article expressing such practice as useful stimulus to external motivation.[13] regarding other Specific objectives of the study, our students preferred a classroom discussion (70%) over individual or peer discussion (Almost 30% combined). The majority of participants were in favor of the Five to Ten minutes duration (Almost 90%). Our study also found that the reasonable number of MCQs based discussion according to our students' opinions could be about seven MCQs (Mean 6.96 ±2).

MCQs based discussion at the end of lecture clearly plays a pivotal role as a tool for revision and motivation which in return will promise to affect the outcome of medical education in terms of study behavior, academic performance and the intention to continue medical studies.

CONCLUSION

MCQs based discussion within the last ten minutes of Physiology lecture during musculoskeletal block plays an effective role improving skills for revision and recalling knowledge alongside as motivational approach in medical education.

RECOMMENDATION

We recommend applying such practice among several medical disciplines and to explore other methods to improve students' recalling and motivation.

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