



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 12(C), pp. 29928-29930, December, 2018

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

MULTIPLE CHOICE QUESTIONS AS A TOOL OF ASSESSMENT FOR 1ST YEAR MBBS STUDENTS

Krishnaveni CHANGALVALA*, Shashikant KIRAGI and Venkateshu Kodinahalli

Department of Anatomy, Sri Devaraj Urs Medical College, SDUAHER, R. L. Jalappa Hospital,
Tamaka, Kolar, Karnataka-563101, India

DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0912.2962>

ARTICLE INFO

Article History:

Received 10th September, 2018
Received in revised form 2nd
October, 2018
Accepted 26th November, 2018
Published online 28th December, 2018

Key Words:

Assessment, Evaluation,
Scoring, Learning

ABSTRACT

Introduction: Aim of the study is to evaluate better scoring by comparing MCQ's with conventional method (Long Essay, Short Essay & Short Notes).

Materials & Methods: This a retrospective study conducted during 2015-16 on the First-year MBBS students in the Department of Anatomy, Sri Devaraj Urs Medical College, Tamaka, Kolar. The marks obtained by the students in the two MCQ's part and essay, short essay and short notes question part were compared. There was no negative marking for MCQ's. By preparing a feedback questionnaire, qualitative analysis was done. The responses were analyzed by grading them on a Five-point Likert's scale.

Results: Out of 149 students, 94 students scored better in MCQ's and 53 students in essay, short essay and short notes questions, 20 students scored better marks by both MCQ's and Essay question. By feedback analysis many students agreed that MCQ's as testing tool, more effective in enhancing better scoring, analyzing but was stressful.

Conclusion: MCQ's are better in scoring, but students who don't have ability of perceive, resolve and apply score better in MCQ's.

Copyright © Krishnaveni CHANGALVALA et al, 2018, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Training in medicine is both student centered and teacher centered. Students centered learning involves knowledge specific, to that teaching and teacher will format the thought and give a shape to the idea of the student.¹ Due to alteration with a mixture of modalities there will be difference in the learning method. In this procedure to make understand in a better way various teaching learning evaluation procedures are evolved. Till now there was no perfect methodology in teaching, learning and evaluation. It ends with the assessment. Better the evaluation better the assessment. The aim of study was to evaluate better scoring by comparing MCQ's with conventional method -Long Essay Questions (LAQ), Short Essay questions (SAQ) & Short Notes (SN). The actual truth is that the students are not tested on knowledge. Due to surplus information obtained they find studying subjects like anatomy is difficult and they search for shortcut methods. Our way of approach is scoring marks in exams, but not testing the knowledge, so everyone will concentrate on the examination pattern but not concerned with the subject. This made to bring changes in different examination assessment methods like OSPE, OSCE, MEQ's which were accepted. The 1st year

MBBS is schooling phase to clinical side. Now-a-day's clinical performance rules are to track the guidelines but not to resolve the problems. So even in examination also many patterns have been adopted with some advantages and disadvantages. In that MCQ's play a role in assessing the knowledge and recall. The advantages are at a time many students can be evaluated and reliability in assessment can be ensured. The students who are good in skills and understanding subject are always good at any type of exams. The problem arises from the average students and low achievers since they lack interest in subject due to various reasons. So these require special attention. There is no particular method to say this type of assessment is best and reliable, unless with the combination of two methods. It is known that for a better assessment not only on cognitive aspects but also on structure of a questionnaire, reliability and validity of the evaluation is required.²

MATERIALS & METHODS

Study design: A retrospective study

Participants: The study conducted during the academic year of 2015-16 batch in Department of Anatomy after obtaining the ethical clearance.

*Corresponding author: **Krishnaveni CHANGALVALA**

Department of Anatomy, Sri Devaraj Urs Medical College, SDUAHER, R. L. Jalappa Hospital, Tamaka, Kolar, Karnataka-563101, India

METHODOLOGY

150 1st year MBBS students participated in this study. The 2 internal assessment exams were conducted each with 60 marks-45 marks for LAQ, SAQ and SN, for 15 mark MCQ's, (no negative marking). Setting of MCQ's and LAQ, SAQ and SN were formed by all the staff and evaluation was also done by all the staff to avoid bias. The study data was collected after evaluation. At the end for assessing the evaluation feedback questionnaire for participants was distributed and analysis was done by 5 point Likert's scale.

Exclusion Criteria: Absent for internal examination, attempted only 1 internal assessment exams were exempted from the study.

Inclusion Criteria: All the students who attempted the 2 internal assessments exams conducted in Department of Anatomy.

RESULTS

The age of students who participated in the study was 18-20years, 55% were females & 45% were males. MCQ's and LAQ, SAQ and SN scores were analyzed by Student Paired 't' Test. The mean scores, standard deviation and p values are explained in Table 1.

Table 1 Mean, Standard Deviation, P- value analyzed by Student Paired ' t' Test

	n	Mean	SD	SEM	P -value
MCQ-I	150	10.567	6.591	0.538	0.0001
Theory-I	150	20.403	9.785	0.799	Not Significant
MCQ-II	150	7.77	2.54	0.21	0.0001
Theory-II	150	18.25	8.11	0.66	Not Significant

n- Total no of Students, SD- Standard Deviation, SEM- Standard Error of the Mean

The scores obtained in MCQ's and LAQ, SAQ and SN were having positive correlation between the 2 internals. There was a significant difference in scoring of MCQ's and LAQ, SAQ and SN. The result analyzed by Student Paired 't' Test are the scores in both internals. Total 117 students scored better in MCQ's, by LAQ, SAQ and SN 38 scored better. 9 scored better by both MCQ's and by LAQ, SAQ and SN. So MCQ's were significantly high with p value when compared to LAQ, SAQ and SN. In MCQ's they scored higher than LAQ, SAQ and SN in both the internal assessment examination. As 55% were females and 45% were males, when compared the female students scored well than the males. From feedback analysis which was explained in Table 2. majority of the students who responded positively for MCQ's felt that MCQ's are better for testing memory, ability of recalling, more effectively than LAQ's, SAQ's, SN's. 72% of students who responded, MCQ's had better scoring than LAQ's, SAQ's, SN's, 85% students felt that subject understanding will improve better by MCQ's. 54% of students responded that MCQ's are stressful when compared to LAQ's, SAQ's, SN's. 67% of students responded that MCQ's ensure covering the entire topic. 75% of students felt that 30 % should be MCQ's & 70% LAQ's, SAQ's, SN's, But 46% strongly agreed and 40% neither /nor felt that scoring is better only in LAQ's, SAQ's, SN's. 2 open ended questions: Introduction / Modification in MCQ's are required? They answered to give less distracters to score very easily. Opinion about MCQ's introducing in final examinations: Many students replied for this as 30 % MCQ's & 70% LAQ's, SAQ's, SN's is better in scoring marks.

Table 2 Student Feedback analysis

Q.No	Questions	SA & A- R	% SA&A	N/n R	% N/n	SD& D-R	% SD& D
1	MCQ's are easy to attempt than the LAQ, SAQ, SN	131	81	21	13	11	7
2	To Solve MCQ's allotted time is sufficient	144	89	8	5	9	6
3	MCQ's is a tool for testing memory	143	88	4	2	9	6
4	MCQ's helps in ability of resuming rather than LAQ, SAQ, SN	131	81	25	15	7	4
5	MCQ's enhancing the technology of the student more effectively than LAQ, SAQ, SN	135	83	15	9	11	7
6	MCQ's has better scoring than LAQ, SAQ, SN.	117	72	35	21	10	6
7	Through MCQ's subject understanding will improve better	137	85	17	10	12	7
8	MCQ's are stressful when compared to LAQ, SAQ, SN	88	54	23	14	48	29
9	MCQ's covering the entire topic	108	67	30	19	21	13
10	Scoring is better only in LAQ, SAQ, SN	75	46	65	40	42	26
11	30 % MCQ's & 70% LAQ, SAQ, SN is better in scoring marks	121	75	21	13	19	12

Long Answer Questions-LAQ, Short Answer Questions- SAQ, and Short Notes- SN
SA-Strongly agree, A-Agree, SD- Strongly Disagree, D- Disagree, N/n-Neither/nor, R-responses

DISCUSSION

By comparing MCQ's with LAQ, SAQ and SN, MCQ's were more appreciated by the students. Introducing MCQ's as a part of regular exams many researchers found it is useful, some did not accept. Roberts in his study observed that MCQ's were useful for formative and summative assessments.³ In this studies, he mentioned that MCQ and LAQ, SAQ, SN when compared, MCQ has significant association. The present study results were correlated with them. According to Oyebola *et al.*, Moqattash *et al.*, Pepple *et al.*, Anbar *et al.*, Bodkha *et al.*, Bhatt M *et al.*, students who performed well in LE, SE SN also performed well in MCQ method. Students with recall ability score better in MCQ's and students who had best analytical or interpretative skills to organize and apply knowledge score better in essays. Moqattash *et al.*, found that scoring was better by MCQ's as it is exclusive of the examiners bias. Not only that for LAQ, SAQ, and SN students have higher order cognitive skills (analytical, interpretative and application skills).⁴ Bodkha *et al.*, Bhatt M *et al.*, in their studies conveyed that MCQ assessment is the best assessment when compared to the LAQ, SAQ, and SN. Our study results also confirm with these results. But Hijazi *et al.*, in his study MCQ's were best for skill assessment. Bhatt M *et al.*, in their study cited the study of Bodkha *et al.*, observed that MCQ's were best to assess recall but best way of assessment is using multiple modalities like Modified Essay Questions (MEQ's), MCQ's and Short Answer Questions. MCQ's play a focal role in assessment because they are easy to evaluate and administer.⁵ MCQ's are appropriate for measuring knowledge, comprehension and for analysis due to reliability & validity and better in scoring.⁶ MCQ's are better to assess knowledge and a better assessment tool.⁷ According to Appaji *et al* studies a well-structured MCQ's is a better tool in assessing the clinical anatomy and improves the critical thinking and reasoning skills of the students.⁸ In our study 55% were females and 45% were males females scored better than males. As per Pai *et al* ., in her studies, females scored better than males which is similar to our study.⁹ Delaram *et al.*, in his study also compared MCQ's with Essay Questions in MCQ's students scored better which compares with our study.¹⁰

CONCLUSION

By this study we confirmed that MCQ's play a key role in scoring. If there is a combination of MCQ's and other types the scoring will be improved but purely MCQ's and purely LAQ, SAQ and SN, does not improve the students score as each student ability, capacity will differ as some will be better in analyzing some in reasoning. So it is better to have a combination of few MCQ's 30-40% and remaining LAQ, SAQ and SN.

Conflicts of Interest

None has conflict of interest.

Acknowledgment

We have to sincerely thank to the institution giving this opportunity to do the study.

References

1. Kasule OH. Overview of medical student assessment: why, what, who and how. *Journal of Taibah University Medical Sciences*. 2013; 8(2):72-79.
2. Zafar Khan M, Aljarallah BM .Evaluation of Modified Essay Questions (MEQ) and Multiple Choice Questions (MCQ) as a tool for Assessing the Cognitive Skills of Undergraduate Medical Students. *Int J Health Sci (Qassim)*. 2011; 5(1): 39-43.
3. Roberts S T. The use of Multiple Choice tests for formative and summative assessment.
4. Conferences in Research and Practice in Information Technology Series. 52. 175-180.
5. Peeples DJ, Young LE, Carroll RG. A comparison of student performance in multiple-choice and long essay questions in the MBBS stage I physiology examination at the university of the West Indies (Mona Campus). *Adv. Physiol. edu*. 2010; 34:86-89.
6. Bhatt M, Dua S. Use of Multiple Choice Questions during lectures helps medical students improve their performance in written formative assessment in physiology. *National Journal of physiology, pharmacy and pharmacology*. 2016;6(6):576-580.
7. Baig M, Ali SK, Ali S, Huda N. Evaluation of Multiple Choice and short Essay Question items in Basic Medical Sciences. *Pak J Med Sci*. 2014; 30(1):3-6.
8. Dawane JS, Pandit VA, Dhande PP, Sahasrabudhe RA, Karandikar YS. A comparative study of different teaching methodologies used for developing understanding of cardiac pharmacology in undergraduate Medical students. 2014: IOSR-JRME; 4(3):34-38.
9. Appaji AC, Kulkarni R. Multiple Choice Questions As a teaching Learning tool in addition To Assessment Method. *NJIRM*. 2012; 3(4):91-95.
10. Pai MRS, Sanji N, Pai PG, Kotian S. Comparative Assessment in pharmacology Multiple Choice questions versus Essay with Focus on Gender Difference. *JCDR*. 2010; 4: 2515-2520.
11. Delaram M, Sharifi A. A Comparison of students scores in Multiple- Choice and Essay Questions in Mother and Child Health examinations. *FMEJ*: 2014; 4; 2:15-18.

How to cite this article:

Krishnaveni CHANGALVALA *et al.* 2018, Multiple choice Questions as a tool of Assessment for 1st Year MBBS Students. *Int J Recent Sci Res*. 9(12), pp. 29928-29930. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0912.2962>
