

Comparison between Objective Structured Practical Examination (OSPE) and Conventional Practical Examination, dealing with the subject of Biochemistry conducted in Islamabad Medical and Dental College, Islamabad, Pakistan

Sadaf Jafar, Qurat-UI-Ain Zia, Sadia Haroon, Hamid Ali

Department of Biochemistry, Islamabad Medical and Dental College, Baharia University, Islamabad, and Peshawar Medical College, Peshawar, Pakistan

Objective: To study the comparison between Objective Structured Practical Examination (OSPE) and Conventional Practical Examination to assess the better understanding of topic and effectiveness of teaching tool.

Methodology: This cross sectional study was conducted at Islamabad Medical and Dental College Islamabad, Pakistan from 1st April to 30th June 2014. 110 first year MBBS students were selected for this study. They were given one month time duration for preparation, regarding selected topic, which was tests on carbohydrates, prior to assessment. They were assessed by two teaching tools, objectively structured practical examination (OSPE) and conventional examination with an interval of one day. Number of pass and fail students were analyzed. Data

were analyzed with SPSS using Paired T test and Chi-Square tests.

Results: A total of 110 students participated in the present study. Students obtained significantly higher marks in conventional assessment as compared to OSPE. They found this new tool time consuming and required more training prior to attempt.

Conclusion: Proper training and exposure to the OSPE system is required for students to attain benefit from it. Passing percentage can be improved by allowing students more exposure to the OSPE, which is better and modified tool. (Rawal Med J 2014;40: 225-227).

Key words: Objective Structured Practical Examination (OSPE), Objective Structured Clinical Examination (OSCE), Assessment

INTRODUCTION

There is always some room to modify and improve the present system of learning and assessment of medical students. Conventional practical examination can be modified to Objective Structured Practical Examination (OSPE).¹ The major difference between conventional assessment and OSPE is that students are being observed by the examiner. There is a checklist to mark the performance of the students.² OSPE requires better training and trials prior to assessment so students are well aware and perform better.³

From student's point of view, OSPE is fair, unstressful and unbiased method. On comparison with viva voce result, percentages in OSPE were 90-92%, whereas by viva voce it was 5-10%. Exposure of candidates to similar type of questions is necessary to obtain the fair results.⁴ It can benefit the students more because of its improved reliability and validity.⁵ OSPE is tremendously innovative

passing percentage increased and the average marks obtained by students also improved.⁶ Candidate competency can be judged by this tool. There is one major drawback that planning and team work is required.⁷ OSPE is derived from Objective Structured Clinical Examination (OSCE). OSPE in many aspects resembles OSCE. OSPE actually tests the preclinical skills.⁸ Different medical colleges standardized the pattern of OSPE and used it as an assessment tool and found it very beneficial from teaching and learning perspective.⁹ The aim of this study was to compare OSPE and Conventional Practical Examination.

METHODOLOGY

This cross sectional study was conducted at Islamabad Medical and Dental College Islamabad from 1st April to 30th June 2014 and included 110 first year MBBS students. Institutional Review Board approved the study and the consent was taken

verbally from students. Topic was tests on carbohydrates. Students were given one month time for preparation prior to assessment and they were assessed by OSPE and Conventional Examination with an interval of one day.

In OSPE, total ten stations were prepared for students, out of which two were observed while eight were non observed. Two minutes were given for observed station and one minute was given for non observed station. The questions for stations were of C2 and C3 type. In Conventional system, each student was asked to perform single practical on carbohydrates in thirty minutes then table viva regarding tests on carbohydrates was taken by the teacher. Results were compiled, data were analyzed using SPSS v 21. Paired T test and Chi-Square tests were applied. Number of pass and fail students were also analyzed.

RESULTS

A total of 110 students participated in the study. Students obtained significantly higher marks in traditional assessment as compared to OSPE (Table 1). Mean percentage for OSPE was 55% and for practicals it was 63%.

Table 1. Comparison of marks obtained by both methods (n=110).

	Mean±SD	P Value
OSPE	55.40±11.06	.000
Practicals	63.50±11.66	

Table 2. Comparison of pass/fail status by both methods.

	Group		Total 193	p-value
	OSPE	Practical		
Pass	89	104		0.002
Fail	21	6	27	
Total	110	110	220	

The number of passing percentage was higher in conventional practical exam than OSPE. Out of 110 students, 89 passed and 21 failed (Table 2). 104 students managed to pass and only 6 students failed the conventional practical exam out of 110 students.

DISCUSSION

In a study from Saudi Arabia, 66% students found

OSPE to be useful experience and 48% found this assessment to be stressful.¹⁰ This was also reported in nursing undergraduates in which decision making ability improved in 70.5%.¹¹ In another study, after regression analysis that average marks obtained were almost equal in two methods (61.2% in OSPE and 61.5% in conventional assessment).¹² In our study, most of the students obtained more marks in conventional assessment.¹² Better understanding of the subject can be learnt by the fact that students achieved to attain more marks in post test as compared to pretest. Both conventional assessment and OSPE are equally important. These two tools must go along together for teaching and learning purpose.^{13,14}

In a study from Nishtar Medical College, 56% students considered OSPE satisfactory. There was a thought that time for OSPE stations is not enough because students require more time to get used to the new assessment tool. In our study, students were not trained and they also required more time for each station. Different assessment tools prepare students for upcoming challenges.¹⁵

The students were given demonstrations on drug preparation and afterwards OSPE stations were set accordingly.¹⁶ OSPE results made it clear that students acquired better knowledge and learned better through demonstrations than by watching videos on the same topics. In our study, students were taught by demonstrations, practicals, lectures and tutorials.¹⁶ To acknowledge the feasibility for formative assessment it was necessary to practice the OSPE and it was found to be the effective tool in Pharmacology.¹⁷

The scores of pre and post tests were compared and it was found that the scores of post test increased because the new teaching methodology improved the concepts and the knowledge was also gained. In our study, pretest was not taken, students were assessed only on post test.¹⁸

Student's competence level enhances and they learn better by the improved system.¹⁹ In the present study students were inclined to learn more about the new tool.²⁰ In King Saud University College of Medicine, it was found that students got higher marks in post test as compared to pre test.²¹

CONCLUSION

Proper training and exposure to the OSPE system is required for students to attain benefit from it and maximum marks can be obtained by students. Passing percentage can be improved by allowing students more exposure to the OSPE, which is better and modified tool.

Author contributions:

Conception and design: Sadaf Jafar, Qurat-Ul-Ain Zia
 Collection and assembly of data: Hamid Ali, Qurat-Ul-Ain Zia
 Analysis and interpretation of the data: chief research officer and statistician
 Drafting of the article: Sadaf Jafar, Sadia Haroon
 Critical revision of the article for important intellectual content: Sajid Raza
 Statistical expertise: Mohammad Afzal
 Final approval and guarantor of the article: Sajid Raza
Corresponding author email: sadafjafar75@gmail.com
Conflict of Interest: None declared
 Rec. Date: Dec 13, 2014 Accept Date: Feb 2, 2015

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