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Medical education

COMPARATIVE ANALYSIS OF OSPE AND TRADITIONAL PRACTICAL METHODS IN PHYSIOLOGY

Dr. Kavita Chawla Associate Prof, Department of Physiology, MLN Medical College Allahabad

Dr. Vikas Sachdeva* Prof, Department of Surgery, MLN Medical College, Allahabad *Corresponding Author

ABSTRACT **INTRODUCTION :** Over the years, conventional methods of performance assessment have given rise to several challenges. These could be partially addressed by newer methods like OSPE. The purpose of the study was to introduce OSPE in Physiology undergraduate practical examination.

METHOD : The study was conducted at MLN Medical College, Allahabad for 150 students in First year. Students were first assessed by conventional methods and then subjected to OSPE. A feedback was taken from the students by a questionnaire and student's performance was compared in two types of exams using Paired T test.

RESULT : 76% of students felt that OSPE was better in testing practical skills

DISCUSSION : The study showed that OSPE was better accepted by students and could be introduced in Physiology.

KEYWORDS : Assessment tool, Feedback, Objectivity

INTRODUCTION

Assessment in Physiology involves evaluation of theoretical and practical knowledge. Theoretical knowledge is tested by a blend of MCQs, Short and Long Answer type questions. The assessment of practical knowledge is mainly by Viva-Voce at the end of session. As no direct observation is done during the procedure students are not given feedback on their performance. Moreover, the present system lacks objectivity and is plagued with bias. In-order to remove the existing flaws afflicting the traditional system, several newer methods of assessment have been devised, one of which is OSPE. It is a practical exam where students had to go through several stations and perform tasks in a limited time frame and a structured assessment is done using a checklist. It has been able to reduce examiner bias and increase objectivity. It not only increases reliability of assessment but also the number of skills that can be assessed. This method can also influence student learning by providing them an opportunity to improve on their shortcomings by providing feedback. This study was designed with the aim to evaluate OSPE as an assessment tool and its effectiveness in overcoming the shortcomings of traditional methods of practical examination.

Material and Methods

The study was conducted in Department of Physiology, MLN Medical College for the first -year students between 2015 and 2016. The ethics committee approval was taken and students were made aware of the format of examination. Initially a conventional type practical exam was held and results tabulated. Then all students had to appear for OSPE. Ten stations were created (Fig.2) to test practical knowledge of all three labs of Physiology Namely Hematology, Experimental and Mammalian. Stations had response type questions and performance type. They had to complete each station task in the same time frame. Each performance station was monitored by a teacher and had a peer reviewed checklist. Examples of type of stations created include, charging the Neubauer's chamber for RBC count, recording BP by Auscultatory method, preparing blood smear for a given sample, interpretation of ECG, identify instrument and give two uses. After completion, a questionnaire was given for student feedback to know their perception on OSPE.

Example of OSPE station and checklist

Instruction to candidate: Check the BP of a given patient accurately

Material required: Bed/couch for patient, stool for candidate, BP apparatus, stethoscope and checklist

Time: 5 minutes

1. Greets the patient and give proper instructions. (0.5)
2. Positions patient with arm exposed; arm at heart level and apparatus at level of observer's eyes. (0.5)
3. Checks BP by palpatory method (palpates Radial artery). (1)
4. Checks BP by Auscultatory method (positions stethoscope over cubital fossa, deflates slowly, records systolic and diastolic BP). (1)
5. Records SBP and DBP within 5 mm Hg of known BP. (1)
6. Deflates, removes cuff and replaces equipment carefully. Thanks patient. (1)

STATISTICALANALYSIS

The means and standard deviations of marks obtained by two different methods were calculated and Student T Test was performed to see for any significant change between the groups

RESULT

Total 150 students participated in this study. All the students appeared for conventional practical exam in the previous week. For OSPE, they were then divided into batches of 10 each. Each day 5 batches were called and similar stations were created in five different rooms. The exam continued for three days and each day, a separate set of stations with similar difficulty index was used. 72% students believed that OSPE reduced bias and there is uniformity in assessment. 66% felt it helped in better understanding and 65% found it to helpful for covering weaker points. 59% would prefer it over conventional exams and 72% wanted that it should be continued as a regular assessment tool. Students opined that it helped in covering larger syllabus, improved student learning and provided necessary feedback. Despite it being time consuming and stressful students favored its inclusion in regular assessment. (**Table 1**) Analysis of the mean scores obtained with two methods suggested that students scored significantly higher marks when assessed with OSPE (59.25) as compared to viva- voce exam (57.24). There was significant difference in the mean scores ($p<0.001$, $df = 145$, confidence interval =95%) (**Fig.1**)

DISCUSSION

An attempt was made to make the practical exam more objective and unbiased and OSPE was introduced for the first time in First year medical curriculum. Several studies have shown it to be an effective tool for assessment. (1,2) Performance of majority of student's improved and OSPE was helpful in better understanding of the subject. 72% felt that examiner bias was eliminated as uniform marking could be done due to pre-decided checklist and OSPE should be continued as part of assessment as proved by other studies also (3,4). 65% students opined that it helped in covering weak points and gave feedback on learning. It gives more confidence to the students. A study has shown that students become more focused and motivated if they are assessed for their capability of integration, application and synthesis of knowledge and if their skills are observed and graded (5). There is increased interaction between teachers and students (6). OSPE helps to make the assessment more reliable, valid and objective. It enhances teaching learning experience as there is opportunity for feedback both for teachers and students (7,8). Feedback from students provided scope for improvement and refining of method. Teachers can have a better understanding of specific lacunae in students' performance of a practical examination and can take appropriate steps to correct them. Steps should be taken to make the process more time efficient and less stressful.

CONCLUSION

The present study concludes that OSPE was more effective as an assessment tool and it should be gradually introduced in Physiology and other examinations after proper planning

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Footnotes

Source of support: Nil

Conflict of interest: Nil

Table.1 FEEDBACK QUESTIONNAIRE

S.No.	STATEMENTS	AGREE	NEUTRAL	DISAGREE
1.	Does it eliminate examiner bias?	72	3	25
2.	Does it make understanding better?	66	4	3
3.	Does it help to cover weaker points?	65	5	30
4.	Is it better in checking practical skills?	59	4	37
5.	Is it more time consuming?	77	2	21
6.	Is it more stressful?	45	10	45
7.	Should it be continued as a part of assessment?	72	1	27
8.	Does it cover larger syllabus?	64	3	33
9.	Does it give feedback on your learning?	65	4	31
10.	Does it improve student learning?	60	5	35

Fig. 1 Flow chart of stations

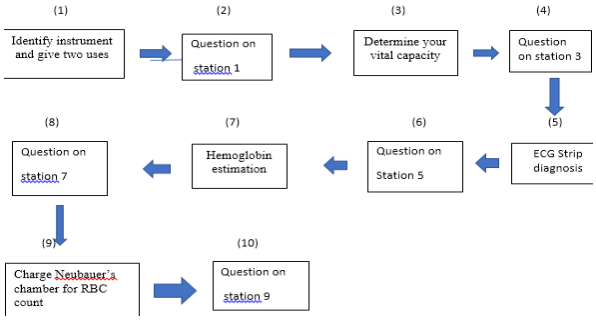
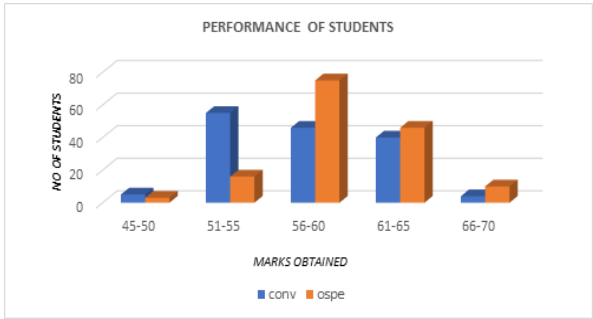


Fig. 2



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