



Ospe (Objective Structured Practical Examination) in Pathology – the Way Ahead

KEYWORDS

OSPE, Pathology, Practical examination, complement, Conventional method

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ABSTRACT

Evaluation of medical students needs to be uniform, valid and reliable during practical examination. OSPE (Objective Structured Practical Examination) is an instrument adapted to achieve this. At present there are no proper guidelines for usage of OSPE in summative assessment.

The study is carried out in Dept. of Pathology, Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur, Tamilnadu. 102 students of II MBBS attended the test on blood grouping. Students were assessed by both conventional and OSPE methods simultaneously.

The results showed significantly better scoring in OSPE pattern. The mean of marks obtained in conventional method was 2.2 (for a total of 5 marks) while it was 3.9 in OSPE method. P value is < 0.05 by paired t-test.

It is optimal to restrict OSPE to 25- 50% of total marks or exercises in practical examination. OSPE should not replace the existing system totally but should complement it.

Introduction:

Evaluation of medical students needs to be uniform and reliable during practical examination (Sandeep V Pakhale, Amrut A Mahajan, Anita S Fating, Shubhangi B Ghule, & Bharat S Borole, 2012). At present there are no proper guidelines for incorporating OSPE into the mainstream evaluation process. So some universities are not adopting OSPE at all, whereas some are using them as a predominant tool for summative evaluation.

This is an attempt to look into the advantages and drawbacks of OPSE and to find out the optimal use of OSPE in Pathology examinations.

Materials and Methods:

It is a cross sectional study. 102 students of II MBBS attended the test on blood grouping. Students were assessed by both conventional and OSPE methods simultaneously. Students were observed (OSPE) while they do the procedure and then viva (Conventional) was taken.

In Conventional method student performs the procedure and when he/she is done with the procedure examiner comes to his station to check the results and take viva. Here the procedure is not observed by the examiner.

In OSPE, examiner is observing the procedure and allots marks to each step (as per the predefined structured checklist) as and when student is doing the procedure. But he does not take viva/ talk to the student in the station. So assessment of knowledge was done in a separate response station.

Data was analyzed and results were compared using mean scores and paired t-test.

Results:

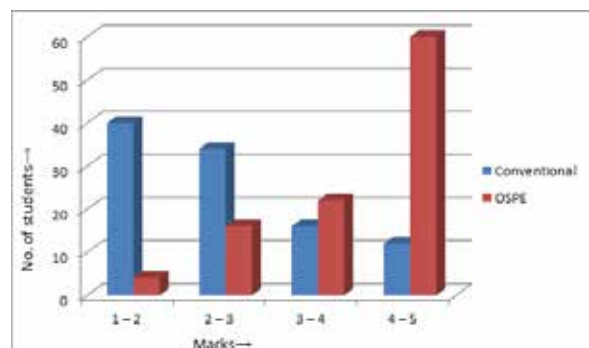
Clustering of students was noted towards lower marks in conventional method and around higher marks for OSPE method.

Table 1: scoring pattern

Marks	No. of students	
	Conventional	OSPE
1 – 2	40	4
2 – 3	34	16
3 – 4	16	22
4 – 5	12	60

In conventional assessment majority of students (40 students out of 102) secured 1 to 2 marks. In OSPE method majority of students (60 students out of 102) secured 4 to 5 marks. (Table 1)

Chart 1: scoring pattern



The results show marked variation in scoring pattern in

both methods. While frequently obtained marks in conventional assessment is 1, in OSPE it is 5. The results show significantly better scoring in OSPE pattern. (Chart 1)

Table 2: Statistical analysis

	Conventional	OSPE
Mean	2.2	3.9
Mode	1	5
Range	1 – 5	1.5 – 5
Standard deviation	1.1	1.1
t-test (p value)	4.63066E-11 (< 0.05)	

While frequently obtained marks in conventional assessment is 1, in OSPE it is 5. Mean of marks obtained is 2.2 in conventional assessment, whereas it is 3.9 in OSPE method. Range of marks obtained is 1 – 5 in conventional assessment and 1.5 – 5 in OSPE method. (Table 2)

DISCUSSION:

The significantly higher score in OSPE is mostly due to awareness of marking scheme in advance by the students and mechanical nature of the assessment.

OSPE is more objective and more effective in assessment of practical skills as the examiner is observing the student during the procedure (Roy V, Tekur U, & Prabhu S. A, 2004). But response stations in OSPE can become mechanical as questions become repetitive with each exam (A. D. Patil, A. P. Gaikawad, V. D. Shriram, & B. H. Baheti, 2014). Viva is more dynamic and innovative as examiner avoids repetitiveness by asking the same question in different ways and giving clinical scenarios. Viva can also test communicative skills and affective domain. Understanding of concepts which is very important aspect of learning can be better and easily assessed by viva.

OSPE is more suitable for assessing psychomotor skills (ability to do or perform). Viva is more suitable for testing higher levels of cognitive domain (analytical skills). Both the evaluation systems independently test different abilities better, and that their combination can improve the validity of the examination (A. D. Patil et al, 2014).

OSPE requires more time, extensive planning, organization, pre-testing and manpower for assessments (M Feroze & AJ Jacob, 2002)(Hasan S, Malik S, Hamad A, Khan H, & Bilal M, 2009).

Pathology practicals usually have four examiners assessing five exercises- spotters, urinalysis, peripheral smear reporting, blood grouping/ hemoglobin estimation and charts/ problem based exercise. I suggest the use of OSPE in those exercises which involve practical skill (psychomotor domain) and fall under core competency like peripheral smear examination and blood grouping/ hemoglobin estimation. Viva following OSPE for peripheral smear examination and blood grouping/ hemoglobin estimation will make the assessment complete. Charts/ problem based exercise test only the knowledge and there is no skill involved, can be better assessed with viva (some institutes are using OSPE!).

OSPE can be avoided in assessing the knowledge like in Charts/ problem based exercise, as viva is best suited for cognitive domain.

It is optimal to restrict OSPE to 25- 50% of total marks or exercises (Deshpande RP, Motghare VM, Padwal SL, Bhamare CG, Rathod SS, & Pore RR, 2013). If usage of OSPE (what they can do) exceeds this limit then practical exams become more of writing skill (what they know) assessment or a theory examination!

Conclusions:

OSPE should be used for peripheral smear examination or blood grouping/ hemoglobin estimation during UG Practical examinations in Pathology. OSPE should be followed by viva for the same, so that the assessment is complete (both skill and knowledge is tested).

Chemical examination of urine can be excluded from the syllabus as it is done in biochemistry during I MBBS.

OSPE should not replace the existing system totally but should complement it.

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