

Original Research Article

## **Objective Structured Practical Examination (OSPE) as a tool for formative assessment of practical skills for second MBBS students in pathology department**

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**Abstract:** The OSPE is a versatile multipurpose evaluative tool that can be utilized to evaluate students in practical assessment. It assesses competency, based on objective testing through direct observation. Aims and objectives were to compare the conventional practical examination (CPE) with OSPE and to plan and implement OSPE as a tool of internal assessment for second MBBS students in pathology. The study was carried out in October 2015, at our institute, after obtaining the Institutional Ethical Committee approval. The study was undertaken for second MBBS students of total 142. The OSPE was planned for 50 marks assigned for practical examination. The OSPE was conducted in two batches, on two consecutive days, using different sets questions for each day. Out of 142 students in the second-year MBBS, 140 students took both the tests – CPE and OSPE. The mean score out of 50 were 32 and 45 for CPE and OSPE respectively. In response to the question related to difficulty level, 119(85%) rated OSPE easier than CPE, 14(10%) rated same as CPE and 7(5%) students were uncertain.

**Keywords:** Objective Structured Practical Examination (OSPE), CPE, MBBS

**INTRODUCTION:**

Medical education needs to be changed from subjective to objective methods to improve the practical skills of students. So, Objective Structured Practical Examination has been considered as one method. This study is a trial to evaluate feasibility of using OSPE for formative assessment of undergraduate students. A single examination does not fulfill all the functions of assessment, such as assessing knowledge, comprehension, skills, motivation, and feedback [1]. Structuring of questions and assessment through highlighting on objectivity has been emphasized and gained importance in the practical evaluation. The Objective Structured Practical Examination (OSPE) is now an accepted tool in the assessment of practical skills in both Pre- and Para-clinical subjects.

The OSPE is a versatile multipurpose evaluative tool that can be utilized to evaluate students in practical assessment. It assesses competency, based on objective testing through direct observation. It is comprised of several “stations” in which examinees are expected to perform a variety of practical tasks within a

specified time period against criteria formulated to the practical skill, thus demonstrating competency of skills and/or attitudes. Traditional, age-old methods like essay/essay type questions, which suffer from lack of objectivity, are giving way to newer objective methods of assessment in the form of multiple choice questions, short answer questions, and such other tools, for assessment of cognitive domain [2].

One step in this direction is the Objective Structured Clinical Examination (OSCE) described in 1975, by Harden *et al.*; at the Dundee University, for assessment in clinical subjects, which has been a useful tool in this regard [3]. The OSCE had been introduced as a reliable approach to assess the basic clinical skills. It is a flexible test format based on a circuit of ‘stations’. At each station, a specific leaning objective is tested [4]. For assessment in preclinical and Paraclinical subjects, a modified version of the OSCE, the objective structured practical examination (OSPE) has been introduced [5].

**OBJECTIVES OF THE STUDY:**

1. To compare the conventional practical examination (CPE) with OSPE
2. To plan and implement OSPE as a tool of internal assessment for second MBBS students in pathology

**MATERIALS AND METHODS:**

The study was carried out in October 2015, at our institute, after obtaining the Institutional Ethical Committee approval. The study was undertaken for second MBBS students of total 142. The conventional practical examination in pathology consists of two components- Practical exercises (50 marks) and viva voce (20 marks). The practical exercises consist of urine analysis, Hb estimation, Blood grouping and charts discussion.

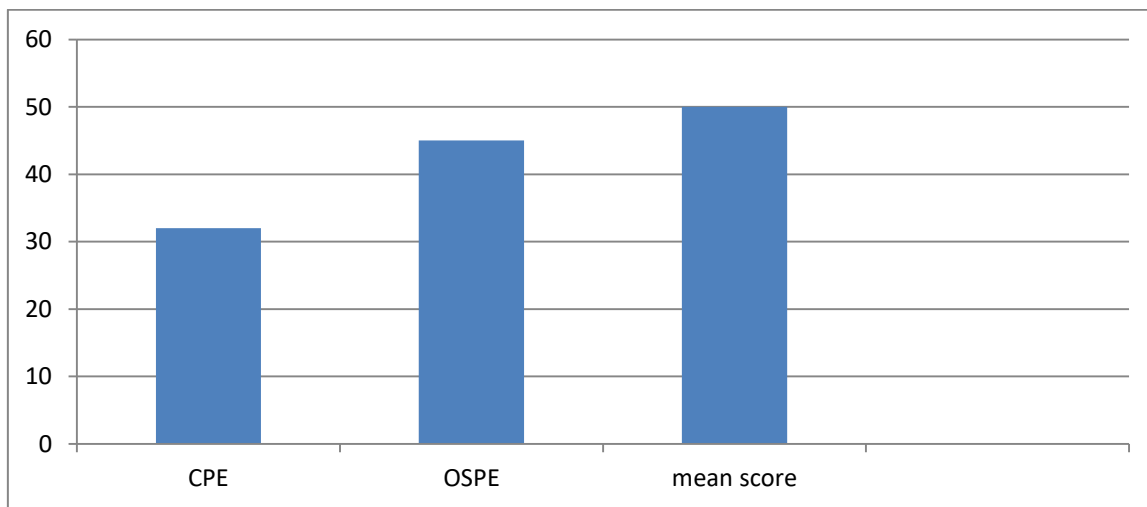
The students were notified two weeks in advance regarding the plan for conducting practical assessment – by both the CPE and OSPE to be held with an interval of one week between the two. Detailed instructions regarding the OSPE, number of stations, and marks for each station and conduct of examination were displayed. The OSPE was planned for 50 marks assigned for practical examination. The OSPE was

conducted in two batches, on two consecutive days, using different sets questions for each day.

The OSPE examination of 50 marks consisted of five stations of 10 marks each. The time allotted at each station was 10 minutes. Each station was designed along with the checklist, by the staff members. The Pathology faculty acted as the observers at the procedure station along with checklist. Students required 50% marks to pass both types of tests. After the examination, feedback was obtained from the students with the help of pre-validated questionnaire. The questions pertaining to the students’ perceptions regarding OSPE compared to CPE, the difficulties they faced, and their opinions regarding inclusion of OSPE as an assessment method in pathology, were included.

**RESULTS:**

Out of 142 students in the second-year MBBS, 140 students took both the tests – CPE and OSPE. The mean score out of 50 were 32 and 45 for CPE and OSPE respectively. In response to the question related to difficulty level, 119(85%) rated OSPE easier than CPE, 14(10%) rated same as CPE and 7(5%) students were uncertain.



CPE - Conventional practical examination  
OSPE - Objective Structured Practical Examination

**DISCUSSION:**

The Objective Structured Practical Examination advised for the practical assessment of Paraclinical subject like pathology. An attempt was made to test the feasibility and acceptability of implementing this method in the internal assessment by comparing it with CPE, by obtaining students’ opinion, with the help of a

feedback questionnaire. In the present study, to ensure the students participation, they were given the incentive of including the higher score of the two types of tests in their internal marks. As far as the students’ perceptions with regard to the difficulty level are concerned, only about 5% of the students were uncertain about OSPE,

suggesting that it would be acceptable to a majority of students to replace CPE.

The time for conducting OSPE was also less, as perceived by a majority of the students. For the faculty also, the time for conducting OSPE was reduced to CPE. Previous studies on the attitudes of students to OSPE revealed similar findings. This study definitely confirmed the feasibility and students' acceptability of OSPE in evaluating pathology practical skills in undergraduate medical curriculum.

**Advantages of OSPE:**

OSPE ensures integration of teaching and evaluation. There is increased faculty-student interaction. OSPE is adaptable to local needs. A large number of students can be tested within a relatively short period of time.

**Limitations:**

There is risk of observer fatigue if the observer has to record the performance of several candidates on lengthy check lists. All stations must invariably demand only equal time. Ensuring this, therefore, requires careful Organisation.

**CONCLUSION:**

From the results of our study it can be concluded that the use of OSPE is feasible and acceptable to the students for practical skills in undergraduate training in pathology than conventional method of teaching. Eventhough OSPE is having some limitations; it is easier method of teaching the students for better understanding of the subject and also for good scoring in examinations and internal assessment tests.

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