

Medical Education / Original Article

## First Year MBBS Student's Perception of Objective Structured Clinical Examination and Objective Structured Practical Examination

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### Abstract

**Objective:** To analyze perception of first year students about objective structured clinical examination (OSCE) and objective Structured Practical Examination (OSPE) and to determine the acceptance of OSPE and OSCE among the students.

**Methodology:** Present study is a descriptive cross sectional study using survey questionnaire and in-depth interviews. Two hundred first year MBBS students comprise the subjects of the study. The study constituted a one-time survey and in-depth interview conducted at the end of first year for the students of MBBS phase I, batch 2014-15. All subjects participated in OSCE / OSPE were asked to answer the questionnaire and then the answered questionnaire was analyzed. Interview was conducted among randomly selected students and department faculties.

**Results:** Descriptive statistical method like percentage and proportions were used to analyze the results. The results indicated that OSCE /OSPE has been accepted by more than 80% of medical students as a fair assessment tool, which helps in focusing on learning objectives, favors better performance, promotes critical thinking and better skills acquisition in clinical experiments. However, 68% of them felt that OSPE was stressful and 72% of students expressed that the time allotted for each station was inadequate.

**Conclusion:** The OSCE/OSPE helps students to improve, as it is effective both as teaching and evaluation tool. The students expressed a clear view that, this method of evaluation will foster a deeper approach to learning.

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### Introduction

In early 70s, University of Dundee, UK, after pioneering and intense research in medical education

introduced OSCE/OSPE method. Though this method is not a panacea to all the ills of evaluation system, it does bring about considerable and what is more, a meaningful improvement in evaluation methodology.

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Harden introduced Objective Structured Clinical Examination (OSCE) in 1975 for assessing student's clinical competence in a more comprehensive, consistent and structured manner. This technique

not only makes the process objective but also addresses the assessment of all three domains (cognitive, affective and psychomotor) at one point (1, 2). The aim of OSCE is to assess clinical competence in an objective, structured way (3, 4).

Then OSCE was modified to assess practical knowledge & skills in basic sciences & termed Objective Structured Practical Examination (OSPE) (5). The evaluation by OSPE was discussed and the worldwide experiences with OSCE and OSPE were exchanged in an international conference (1985) - Ottawa (6).

The practical knowledge and skills acquired during the preclinical years of a medical curriculum are tested by OSPE. The students are rotated through stations called "response stations" and respond to questions of the objective type, interpret data or record their findings for a given experiment within a specified time (7).

Assessment of medical students' practical and clinical competence is important tool in evaluation process. Several methods and tools exist for this purpose like oral examination, global rating, observed long case examination and others (8, 9).

Assessment of clinical competence has become fundamental to ensure proper patient care once the medical students qualify as healthcare providers (10).

The conventional practical examination in first year MBBS has several problems. Apart from student variability, awarding of marks depends also on patient/experiment variability and examiner variability. The marks awarded also reflect only the global performance of the candidate and are not based on demonstration of individual competencies. Problems in communication significantly affect the outcome. Attitudes are usually not tested by the conventional examination. These shortcomings of clinical and practical examinations have been realized for long and have given rise to attempts at improving the current scenario by introducing OSPE (11).

Even though some states in India have introduced OSPE & OSCE as evaluation system, most medical

universities in Karnataka are yet to introduce this system for undergraduate students.

#### **Aim & objective**

This study was undertaken to analyze first year MBBS students' perception regarding OSCE & OSPE to be used as assessment technique in the department of Physiology.

## **Materials and Methods**

The study was conducted among first MBBS students admitted in JSS medical college. After the completion of teaching the topics prescribed for internal assessment (IA) both in the Physiology theory and in the practical classes, student orientation programme on OSCE/OSPE methodology was conducted 15 days prior to the IA in practical classes. 200 students of first year MBBS were given both conventional practical & clinical experiments and OSCE & OSPE in their IA tests. In Conventional method, the performance was assessed by visiting each students stations, once the procedure was completed and the assessment was done through the observational and oral test methods. Whereas in OSCE/OSPE, students performance was assessed in each step (as per the predefined structured checklist) of the experiment procedure by observational method only.

All the thirteen faculty of physiology department involved in the designing and conducting OSCE/OSPE were trained through workshop on OSCE/OSPE, conducted by Medical Education Unit, JSS medical college, Mysuru.

Six stations were divided into practical procedure station, clinical procedure station, and rest station. A detailed checklist was prepared for each procedure station and was scrutinized by the faculty. The technical staffs were oriented to procedure. The necessary diluting fluid, stains etc were kept at respective stations. The technical staff cleared the station and the stations were re-arranged and kept ready before the next candidate arrived at the station.

OSCE and OSPE were conducted for a period of six days. Each day 33-34 students attended the laboratory for IA test. The stations were designed in such a way that the cognitive, psychomotor and communication skills of the students could be assessed comfortably in four minutes per station.

After completion of internal assessment, a feedback questionnaire was given to all 200 students. The answered questionnaire was analyzed. Also interview was conducted among randomly selected 100 Students of first year MBBS.

## Results

One hundred and eighty nine (94%) students out of two hundred accepted that OSCE/OSPE helps in focusing on learning objectives. More than 90-70% of students expressed that OSCE/OSPE helps in improving practical skills, promotes critical thinking, and as a fair tool of assessment helps in uniform evaluation. 75% of students expressed that marks scoring by OSCE/OSPE was easy. However results in our study shows that less than 69% of the students were not comfortable with the manner of assessment of OSCE/OSPE.

## Discussion

More than 90% of our students felt that OSPE/OSCE helps in focusing on learning objectives and that favors better performance. Students also agree that this method of evaluation helps in identifying the deficiency in learning, it helps to develop competency related to the subject. Students in their interview stated that it facilitated them to start thinking more about what skills would be expected of them in their future clinical practice, and also made them realize where their strengths and weakness lie.

In our study students have expressed that, in OSCE/OSPE, Practical/clinical skills (Affective domain) were tested. By diversifying and enhancing the number of skills expected from the students in OSCE/OSPE, they will have a positive effect on learning approach (12). Objectivity and skill testing were the two things most appreciated by the students in this study.

Students agreed that OSCE/OSPE needs critical thinking, which involves the cognitive domain testing.

68% of students were stressed to perform experiment in front of examiners. The reason listed during interview of randomly selected students was newness

TABLE I: Questionnaire for students (n=200).

Sl.No.	OSCE/OSPE conducted in department of Physiology	Students answered YES		Students answered NO	
		Number	%	Number	%
1	Focuses on learning objectives	189	94.5%	7	3.8%
2	Practical skills were tested	196	98.36%	3	1.6%
3	Needs critical thinking	160	80.32%	36	18.03%
4	Do you need more time in each station	145	72.6%	53	26.7%
5	Does this type of assessment help your learning	177	88.5%	22	11.4%
6	Helps to identify the deficiency in learning	149	74.8%	46	22.9%
7	Help you to develop competency related to the subject	147	73.77%	52	26.22%
8	Does this type of assessment stimulate your learning in the future?	169	84.6%	29	14.7%
9	Were the station well organized	158	79.2%	41	20.7%
10	Were you comfortable through the process	138	69.39%	61	30.6%
11	Is it stressful to perform in front of examiner	137	68.8%	63	31.6%
12	Uniform evaluation of students is possible by OSCE/OSPE	167	83.6%	32	16.39%
13	OSPE's /OSCE's can be replaced for practical table viva	62	31.1%	137	68.8%
14	It is easy to score marks in OSCE /OSPE	151	75.9%	48	24%

of OSPE procedure, lack of confidence due to lack of practice of procedure, and restricted time given to complete the experiment. But still other 31% said that because of thorough practice during practical class hours they were not stressed during OSCE/OSPE.

Because of the same procedure being given to everyone and the same check list provided to faculty, 68% of students felt that there can be uniform evaluation.

Students in our study felt that it is easy to score marks if they practice the skills after acquiring knowledge about the same, which is consistent with findings of the previous study (13). During the interview of faculty, they said that there is scope for testing communication skills in OSCE/OSPE as in required stations, students were instructing the subject regarding the procedure.

Even though OSCE/OSPE has all benefits, students felt that OSCE/OSPE should not replace the conventional evaluation method of practical/clinical viva. Students will not have advantage of getting clues for questions asked by examiners. Faculty felt that in conventional method examiner can provoke student to answer more, more in depth evaluation is possible and advantage of shifting questions to different area to evaluate the knowledge.

Hence students gave opinion of introducing OSCE/OSPE along with conventional method of practical examination.

The most important underlying concept of this method is that it is essential to test the competent skill of a doctor than merely his knowledge. Theory and other conventional examinations tend to examine knowledge component almost to the exclusion of other skill component apart from being largely subjective. OSCE and OSPE remedy these aspects.

In addition, in conventional clinical and practical examinations, it is not often possible to examine a wide range of clinical competence due to a variety of constraints.

Thus OSCE/OSPE is a reliable and an established and effective multi-station test for the assessment of practical skills in an objective and a transparent manner (14).

### Conclusion

In the present study we found that OSCE/OSPE was more objective, measured practical skills better, and eliminated examiner bias. Student feedback reflects that such assessment helps them to improve, as it is effective both in learning and scoring marks. Hence OSCE/OSPE serve as a more comprehensive, consistent and structured assessment tool. We perceive that it would help students to develop different learning skills and make them better learners. Experience and experimentation will help in refinement of the OSPE as a tool for learning and evaluation and can be included along with regular practical examination pattern.

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