

Original Research Article

## **OSPE as the Tool to Assess Application of Pharmacology Knowledge of II MBBS Students: Teachers' Perceptions**

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### **ABSTRACT**

**Background:** Practical examination is an important component of evaluation in the medical curriculum. OSPE (objective structured practical examination) pattern has structured questions with defined marking scheme. It helps to assess most aspects of student learning with appropriate weight age.

**Methods:** Teachers in the department of pharmacology were briefed about the concept of OSCE/OSPE. Questions and sub questions with expected responses were drafted, peer reviewed and finalized in the department. OSPE was administered to the II MBBS students as a pilot. A feedback was taken from the teachers who had participated in the process from designing the questions for OSPE stations to actual administration of the OSPE. Teachers' responses were entered in Microsoft Excel and analyzed.

**Results:** All teachers believed that OSPE was a good tool to test practical skills. In spite of few limitations of OSPE like the initial time consuming process of designing and validating the OSPE stations, most teachers rated OSPE as being better than traditional practical examination. Since the pattern employed allowed wider sampling of the application of knowledge of pharmacology, all the faculty were in favour of converting the pattern of practical examination to OSPE.

**Conclusions:** Traditional practical examination pattern allowed a very limited sampling of the applied knowledge of students. OSPE stations permit greater sampling and uniformity of assessment for all the students. Hence teachers appreciated OSPE as a more reliable and fair method of examination.

**Key words:** OSPE, Perception, Traditional Practical Examination, Assessment.

### **INTRODUCTION**

The main aim of medical education is to foster the development of clinical competence in students at all levels. The proficiency assessment of the students is done through different types of examinations in the educational institutes at undergraduate and postgraduate levels. Practical examination is an important component of evaluation in the medical curriculum.<sup>[1]</sup> It usually focused on assessment of application of knowledge. With elimination of Pharmacy- preparation

of formulations - from the medical curriculum, conventional practical examination was reduced to a written test for assessment of application of knowledge in terms of prescription writing, and assessment of the market preparations and some clinical word problems. This permitted very limited sampling of contents. This also led to disparity in the student scores in theory and practical examinations. Many practical aspects regarding drugs, very important for actual use of drugs for patient care, remained unassessed in theory

as well as the conventional practical 'table work' examination. [2]

Several problems associated with conventional practical examination have been well documented [3-5] including subjectivity which affects the correlation between marks awarded by different examiners for performance of the same candidate. [6]

OSPE, the Observed Structured Practical Examination, like the Objective Structured Clinical Examination (OSCE), tests what the students 'can do' rather than what they 'know', at the same time permitting wider sampling of content. According to Roy V et al, this method is now believed to meet the deficiencies of the conventional system of practical examination. [1]

The students are given about 5 minutes at each station. Some are unobserved and some are observed stations. Observed stations are meant mainly to assess student's interpersonal skills, attitude and application of various skills in steps. It evaluates student's knowledge base and problem solving ability. Assessment is performed at each station with a predetermined checklist made with the consensus of all examiners. OSCE has demonstrated reliability and validity for assessing clinical performance, though labour intensive and time consuming to start with. [7,8] It also tests the mental attendance and the students' attitude towards patients. [9] OSPE questions too are structured with addressing all the must know objectives, with feasibility of assigning the appropriate weight age to each aspect. [10] The assessment also becomes more objective, minimizing inter-examiner variability, thus improving the validity of the examination. [5] That is the reason why Gitanjali B opines that it can be a good substitute for the conventional method. [11]

Though originally initiated in medical education OSPE & OSCE are now being adopted by many disciplines of healthcare education. Because the OSPE is a new experience for most students and

teachers, it is important to explore this assessment from the perspective of the students as well as teachers. This study was therefore aimed to understand the perceptions of pharmacology teachers regarding OSPE.

**Aim:**

- To know the perception of pharmacology teachers regarding OSPE as a tool for assessment

**Objectives:**

- To evaluate whether teachers feel that
- OSPE is a better learning stimulus and a reliable and fair method of examination
- OSPE enabled wider assessment of Content and its way of Administration
- To know teachers' perception about OSPE and to know how it can be made more effective

## **MATERIALS AND METHODS**

**Type of Study:** Cross sectional study.

**Study Setting:** Dept. of Pharmacology, in a Medical College in Maharashtra.

**Study Population:** All teachers of Department of Pharmacology (N=10).

**Study Period:** 2 months

**Study Procedure:**

The study was conducted as follows.

1. The teachers in department of Pharmacology were briefed about the concept of OSCE/OSPE. They were invited to participate in the study.
2. Major aspects of application of knowledge of pharmacology which could be addressed in the form of OSPE stations were identified.
3. Questions pertaining to these themes were drawn, discussed, peer reviewed and finalized in the department of Pharmacology.
4. OSPE pattern was explained to the students, question patterns and sample questions were discussed with them in the class and OSPE was used as a part of the internal assessment.
5. Since this was being implemented for the first time in the department, a questionnaire was designed to assess the perceptions of the teachers involved in

all this procedure. It focused on the process, the feasibility and utility as a learning stimulus and validity as an assessment tool.

6. This Questionnaire assessing teachers' perception was to be answered on a Likert scale. It was distributed to all teachers at the same time. Enough time was given to contemplate and answer all the questions. This enabled us to assess how strongly they agree or disagree to each statement about OSPE.
4. Data was entered and analyzed using Micro-soft Excel.

## OBSERVATIONS AND RESULTS

Following tables show the responses of the 10 teachers to the different sets of questions.

Table 1 show there spones regarding OSPE as a learning stimulus as well as assessment tool. Most teachers felt that OSPE encourages students to pay more attention to studies. It tests application of knowledge in steps. Thus, it is perceived to be a good tool for examination as well as learning.

**Table 1: Evaluation of OSPE as a better learning stimulus& assessment tool (N=10)**

No	Statement	Strongly disagree	Disagree	Can't say	Agree	Strongly agree
1	Encourages students to pay more attention to practical examination	00	00	00	09	01
2	Tests application of knowledge in steps	00	00	04	04	02
3	Helps in identifying lacunae in the practical skills	00	01	04	04	01
4	Is a good tool for examination and learning	00	00	01	04	05

**Table 2: Evaluation of OSPE on the Basis of its contents (N=10)**

No	Statement	Strongly disagree	Disagree	Can't say	Agree	Strongly agree
1.	Covered the relevant and important topics	00	00	00	06	04
2.	Consistent with learning objectives of the syllabus.	00	00	00	07	03
3.	Covered the practical aspects which could not be covered in theory	00	01	02	04	03

**Table 3: Evaluation of OSPE as a reliable and fair method of examination (N=10)**

No.	Statement	Strongly disagree	Disagree	Can't say	Agree	Strongly agree
1.	Checklists made assessment objective	00	01	01	06	02
2.	All students exposed to same questions	00	01	01	06	02
3.	Exposure to all examiners avoided inter-examiner bias	00	00	01	06	03
4.	Permitted wider coverage of Syllabus	00	00	00	07	03

**Table 4: Evaluation of OSPE on the basis of its way of administration (N=10)**

No.	Statement	Strongly disagree	Disagree	Can't say	Agree	Strongly agree
1.	Students briefed about nature of OSPE examination	00	00	01	06	03
2.	The instructions were clear and adequate	00	01	00	08	01
3.	Time allotted was appropriate for all stations	00	00	00	07	03
4.	Descriptive answer station were followed by short answer station	00	00	02	05	03
5.	Position of Blank/Rest Station was after a station requiring detailed answer	00	00	00	06	04

Table 2 gives teacher's perception about OSPE on the basis of its contents. All of teachers agree that OSPE covers relevant and important topics, especially emphasizing practical aspects which could not be covered in theory examinations. OSPE is consistent with and addresses all the core learning objectives of the syllabus.

Table 3 reflects the perception of teachers regarding reliability of OSPE and fairness of assessment using this method. Most (80%) teachers agreed that OSPE is a reliable method of assessment as all students are exposed to same questions, assessed

more objectively with the help of a checklist. Permits wider coverage of syllabus, which also increases the validity of the assessment. It also minimizes inter-examiner bias, as each student is exposed to all examiners.

Table 4 shows teachers' perception about way of administration of OSPE. All teachers were well convinced about the need of student briefing before the initiation of examination, clear instructions, time allotted and spacing between stations.

Table 5 gives teacher's overall perception about OSPE and how it could be

made more effective. Majority of the teachers felt that initiating OSPE is time consuming and requires collective efforts. Most also felt that attending observed stations for all 30 students in a row is a monotonous task. Thus majority opine that OSPE is more stressful to teachers for implementation, yet more satisfying as an assessment tool than the traditional

examination ensuring greater and more uniform interaction between the students and the examiners. Most teachers appreciated that there is substantial difference between OSPE and traditional method of assessment and disagreed that OSPE reduces the chances of failing in examination as compared to traditional method.

**Table 5: To know teacher's perception about OSPE and to know how it can be made more effective (N=10)**

No.	Statement	Strongly disagree	Disagree	Can't say	Agree	Strongly agree
1.	Attending an observed station becomes monotonous	01	01	02	05	01
2.	Observed stations need more examiners	01	03	01	04	01
3.	Initiating OSPE in department is time consuming	01	03	00	02	04
4.	Initiating OSPE in department needs collective efforts	00	00	00	03	07
5.	OSPE is less stressful for Faculty than Traditional practical examination	01	04	03	01	01
6.	Examiners at the procedural stations can be intimidating	01	02	04	03	00
7.	OSPE is more satisfying compared to traditional method of assessment	00	00	03	06	01
8.	There is no much difference between OSPE and traditional method of assessment	03	04	00	03	00
9.	One cannot pass OSPE without attending practical classes	00	02	03	05	00
10.	OSPE reduces the chance of failing in exam compared to traditional method of assessment	00	04	03	03	00
11.	Traditional examination has more interaction with students compared to OSPE	00	07	00	02	01

## DISCUSSION

As said before, it is a well-known fact that conventional practical examination has several problems. The subjectivity and variability of the assessment for the different students are the major constraints. The structured format of OSPE is based on the OSCE, the examination pattern first introduced by Harden et al. (1975) [12] as a means to assess the clinical skills of final year medical students. OSCE enjoys growing popularity internationally. As OSPE, it can also be used to measure preclinical skills that other forms of assessment cannot. [13] It is being increasingly used as an objective instrument for the assessment of the knowledge and skills of medical undergraduates. This method of examination ensures uniformity, eliminates subjectivity, favoritisms and even chance factor influencing the difficulty level. Greater sampling gives the students a greater chance to express their knowledge. A good test must be acceptable to those using it, feasible, reliable and valid. Hence the present study was conducted among all teaching staff of Pharmacology Department,

to understand their opinion and acceptability.

In our study we found that, the entire faculty involved in conducting OSPE was in favor of converting the practical examination into the OSPE format. This feedback is comparable to the findings by B. H. Verhoeven, et al, that a properly structured OSPE, along with a short written component can replace the current clinical/practical examination exercise in the preclinical years and with improved reliability. [14]

We also found that most of the teachers consider OSPE as a better learning stimulus. It encourages students to pay more attention to practical examinations, as new questions and a wide variety of newer stations will continuously be added, as the OSPE station bank goes on evolving. All the faculty members considered OSPE better than traditional or conventional pattern of practical examination. This finding matches with the study by Menezes et al, and Nayar et al, wherein they found that OSPE has been accepted and appreciated by teachers as well as students as a distinct

improvement when compared with earlier pattern of practical examination. [9,15]

## CONCLUSION

OSPE does have certain limitations. For example, observed stations require more examiners, attending an observed station becomes monotonous and preparation of various stations is stressful and time consuming, collective efforts are required from all teachers. In spite of these limitations, OSPE is found to be more satisfying and ensures more interaction with students, enabling wider sampling of contents. Thus, OSPE provides an excellent means of practical examination. However, we should not forget the basic dictum that purpose of evaluation is not just to prove but also to improve. Use of OSPE as formative tool will help in modifying teaching - learning strategies so that both, the teachers as well as the students can derive maximum benefit.

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