



## OBJECTIVE STRUCTURED PRACTICAL EXAMINATIONS AS A FORMATIVE ASSESSMENT TOOL IN COMMUNITY MEDICINE

### Community Medicine

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### ABSTRACT

**Background-** Assessment for practical skills in medical education has lot of scope for improvement. Objective Structured Practical Examination (OSPE) has been considered as one such method. Feedback is given to the students and teachers after the examination.

**Methods-** Five stations were designed based on the practical examination on housing conditions. A feedback questionnaire was designed for the students and the faculty about their overall experience about OSPE, its feasibility and objectivity.

**Results-** Majority of the students (90%) found OSPE as a better method of assessment as compared to traditional practical method, 92% said OSPE prepares them better, 95% found OSPE is a better stimulus for study, 98% found it more reliable.

**Conclusion-** The faculty was happy with the feedback part associated with OSPE. But preparing a checklist was a time-consuming task. We conclude that OSPE is useful in community medicine for formative assessment as it gives feedback to the students and teachers and provides integration in teaching and learning.

### KEYWORDS

OSPE, housing, environment, Integration of teaching and learning.

**Introduction-** It's a well-known fact that assessment drives learning. Assessment for practical skills in medical education has lot of scope for improvement. The objectivity and the validity of practical examination is always a matter of concern. Conventional practical examination has several problems especially in terms of its outcome [1,2,3]. In such examinations marks awarded reflect only the general performance of the students without assessing the individual competencies. Hence a more valid, more subjective method of practical examination is the need of the hour if we really want to assess individual competencies of the students. Objective Structured Practical Examination (OSPE) has been considered as one such method. This method is derived from Objective Structured Clinical Examination (OSCE) By Harden and Glessoon [4,5]. The OSPE assesses practical competencies in an objective and structured manner with direct observation of students' performance during planned clinical test stations [4-7]. OSPE is a method where students are observed on various steps with the help of a checklist. Feedback is given to the students immediately after the examination. And OSPE also gives feedback to the teachers as well. The use of OSPE for formative assessment has great potential as the learners can gain insight into the elements of clinical competencies as well as feedback on personal strengths and weaknesses. Community Medicine is a preclinical subject which is taught in the first three years of MBBS Course. The assessment is usually by traditional practical examination where the examiner mainly focuses on the overall performance rather than observing the students performing the steps. Feedback which is an essential component of formative assessment is totally missing in traditional practical/clinical examination. There is no feedback given to the students. Hence there is a need for more objective and structured assessment method for formative assessment. So, it was decided to implement OSPE as a Formative assessment tool for the MBBS students in the department of Community Medicine for the examination of housing conditions.

**Materials and Methods-**The study was carried out in the department of Community Medicine, MLBMC, Jhansi. Ethics approval was obtained from the Institutional Ethics Committee. No. of students involved were 150 and number of teachers involved are 15. The students were informed about OSPE and a written informed consent was obtained from the students. Participation was strictly voluntary. A dummy check list was shared with the students as they were being exposed to OSPE for the first time.

Faculty orientation program was conducted in the department for the teachers. Five stations were designed based on the housing conditions to determine the environmental factors. A structured check list was prepared by all the residents of the department and got validated by the

senior faculty members of the department and Medical Education. A feedback questionnaire was designed for the students and the faculty about the contents, timing of stations, their overall experience about OSPE, its feasibility and objectivity.

All the stations were housing stations and as follows:

1. Measure the floor area of the allotted area.
2. Determine the ventilation in the room allotted.
3. To visualise the presence of Kitchen belongings and equipment's.
4. Measurement of adequate lighting in the room allotted by students.
5. To determine the walls and floor tiles.

After the OSPE a feedback is obtained from the students and faculty. The responses were analysed by using 5 Point Likert Scale ranging from Strongly Disagree to strongly Agree.

### Results

132 students participated in the study as the participation was voluntary.

**Table 1: Scoring of students on 5 stations**

SN	Station	Score 100%	Score 75-99%	50-74%	< 50%
1	Measure the floor area of the allotted area.	41	35	18	6
2	Determine the ventilation in the room allotted	11	36	13	40
3	To visualise the presence of Kitchen belongings and equipment's.	14	14	32	40
4	Measurement of adequate lighting in the room allotted by students.	35	31	20	14
5	To determine the walls and floor tiles	30	27	14	29

Table 1 shows about the performance of the students it was seen that students performed better on measurement of floor area station, followed by measurement of lighting and least on determining ventilation.

**Table 2: Analysis of Feedback questionnaire**

SN	Question	SD	D	DK	A	SA
1	OSPE Is a better method of assessment as compared to traditional examination	0%	0%	10%	63%	27%
2	OSPE prepares students thoroughly for the task	0%	0%	8%	52%	40%
3	OSPE is a better stimulus for learning than the traditional examination	0%	0%	5%	37%	53%
4	Is OSPE a reliable and fair examination?	0%	0%	2%	34%	64%
5	Timing of OSPE stations was right.	0%	0%	5%	55%	45%
6	The stations covered all important and relevant points in the syllabus	0%	0%	15%	43%	42%
7	OSPE makes the students aware of areas of weaknesses.	0%	2%	8%	44%	46%
8	OSPE minimizes luck factor in examination.	0%	1%	11%	65%	23%
9	OSPE is less stressful as compared to traditional examination.	5%		10%	48%	20%
10	The use of checklist in OSPE makes the examination fair and unbiased.	2%	2%	6%	46%	44%
11	OSPE helps in emphasizing all the steps in the examination.	3%	2%	5%	68%	22%

SD (Strongly Dis Agree) D: Disagree DK: Don't know A: Agree SA: Strongly Agree

Table 2 shows feedback from the students and faculty about OSPE. Majority of the students (90%) found OSPE as a better method of assessment as compared to traditional practical method, 90% said OSPE prepares them better, 93% found OSPE is a better stimulus for study, 95% found it more reliable, 94% were happy about the time allotted to each station, 89% said it removes luck factor part from the examination, 66% found it less stressful, 92% students were happy for the use of check list. Majority of the faculty was happy with the feedback part associated with OSPE. But preparing a checklist was a time-consuming task. They also suggest that OSPE can be undertaken only once or twice in a year as it involves too many faculty at the same time.

### Discussion

Maharani Laxmi Bai Medical College is affiliated to Bundelkhand University, Jhansi where summative examinations and internal assessment examinations are conducted in the traditional pattern. OSPE is conducted as a formative and summative examination in selected medical colleges across India and allotted a limited percentage of Marks [8].

An attempt has been made at MLBMC to test the feasibility of OSPE as a formative assessment tool in the department of Community Medicine. The results are highly encouraging. We conducted OSPE with only 5 stations due to the constraints of the limited faculty in the department and help of teachers from the Medical Education Unit to finish the examination on the same day at multiple settings. Students were satisfied with OSPE as all the students were exposed similar questions with the same difficulty index, the use of checklist removed bias or subjectivity on the part of examiners. Some students found OSPE also as a stressful experience probably due to the checklist with the examiners, but this anxiety can be eliminated if the students are repeatedly exposed to OSPE. Similar findings were reported by Pinaki Vani et al and Mohan Sagdeo et al [9] [10]. Duffield reported to inculcate critical thinking ability of the students with OSPE [11]. Two more studies reported favourable results in favour of OSPE, a study conducted by Abraham et al [12] at Maleka Manipal Medical College concluded that students were in favour of the OSPE compared with traditional practical examinations and a study at a Pakistan Medical College by Sandila et al [13] found that the OSPE was an effective tool to discriminate between good and poor performers in physiology practical examinations.

**Conclusions-** OSPE is useful in Community Medicine for formative assessment as it gives feedback to the students and teachers and provides integration in teaching and learning. With the encouraging results that we received, we strongly recommend OSPE as an effective formative assessment tool for any subject as we did it with 132 students.

Limitations of the study- We had to restrict OSPE to only 5 stations due to staff crunch and many students.

Conflict of interest- None declared

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