

## Fourth year MBBS student's perception on Objective Structured Practical Examination (OSPE) in Community Medicine

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### Abstract:

**Objectives:** This study was designed to analyze the response of medical students' on Objective structured practical examination, in both the private and public sector. This was a small effort to evaluate the feasibility of using objective structured practical examination as an assessment tool in 4th year undergraduate medical students.

**Material and Methods:** A close ended questionnaire was distributed among 147 fourth year MBBS students at Lahore Medical and Dental College, Lahore and 90 fourth year MBBS students at Sahiwal Medical College, Sahiwal to assess students' evaluation of the OSPE from 1st June 2017 till 1st July 2017

**Results:** Of the 147 questionnaires from LMDC and 90 questionnaires from SLMC, all were returned and the answers graded. According to this study OSPE has been accepted as a fair mode of assessment by 62% of LMDC students and 71% of SLMC students. 41% at LMDC and 32% at SLMC declared it a relevant tool of assessment in the subject of Community Medicine. Almost 52% students at LMDC and 53% felt stress free during OSPE as compared to viva and 68% at LMDC and 70% at SLMC said that the time provided at each station was adequate. About 30% LMDC students and 38% SLMC felt that this format helps them to identify their weak areas.

**Conclusions:** Use of OSPE is reliable and feasible for formative as well as summative assessment among the undergraduate medical students

**Keywords:** Formative and Summative assessment, OSPE, Tool of assessment

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### Introduction:

Assessment at regular intervals is very much part and parcel of medical education. It not only improves the learning habits in medical students but also enhances the competence level for further studies.

It is a well-known fact that every assessment drives student's attention towards learning. The proficiency assessment of the students is done through different type of examinations in the educational institutes of public and private sector at undergraduate and postgraduate levels. They are multiple choice examinations, short and long (essay type) answer examination.

The theory or written examinations are used

to assess the knowledge of students. While the purpose of practical examination is to assess the cognitive, psychomotor and affective domain as well. But this purpose is not met somewhere as most of the time the students are assessed for knowledge only and not for attitude and skill. It is a well-known fact that the students learn for what they are assessed i.e. "learning is assessment driven". A single or only one assessment method is not enough in assessing a student's capacity and capabilities.

It is well known that conventional practical examination has several problems.<sup>1-3</sup> Further the subjectivity also effects the correlation negatively between marks awarded by different examin-

ers and performance of same candidate.<sup>4</sup>

Oral / viva examinations has been partially replaced by objective structured practical examination (OSPE) in basic medical sciences and clinical sciences respectively to overcome the problems which are faced in traditional practical examinations in medical institutions.<sup>5</sup>

During OSPE, the students are rotated through different pre-defined response stations. On every station students are asked to answer the given short objective type question or identify the given objects/instrument or interpret given data, etc. within a specified pre-defined time i.e. 3 mins per station.

Examination is meant mainly for student's interpersonal skills, history taking skills, physical and diagnostic skills. It evaluates student's knowledge base and problem solving ability. Assessment is performed at each station with a pre-determined checklist made with the consensus of all examiners. It has demonstrated reliability and validity for assessing clinical performance, though labor and time intensive and requires some expertise.<sup>6-7</sup>

The objective of OSPE is to reduce the chances of examiner bias and assess the students' skills. Historically, it has originated from medical education, and is now being adopted by many disciplines of healthcare education. Because the OSPE is a bit new experience for some students and lot of teachers, it is important as educators, that we explore this assessment from the perspective of the student.

Considering all this, the study is aimed to know the perceptions of students in community medicine of both the public and private medical colleges regarding OSPE. The rationale of this study was to know the perceptions of students both in public and private medical colleges regarding OSPE as a tool for assessment and to see if there is any difference in both regarding it being a fair method of evaluating the medical students.

### Material and Method:

This was a descriptive cross-sectional comparative study done at Lahore Medical and Dental College, Lahore (LMDC) – private Medical School and Sahiwal Medical College, Sahiwal (SLMC) – public medical school from January to April 2017 after approval from college ethical committee of both medical colleges. The study population was taken from Forth year MBBS students at LMDC & SLMC. The Sampling technique done was Random sampling. The sample size taken from both Medical colleges LMDC + SLMC was respectively  $147+90 = 237$  students after their consent. Data was initially collected on a preformed questionnaire and later on entered on SPSS 17.0 Version for further analysis. Tables and figures were used where necessary. A p-value of  $<0.05$  taken as statistically significant.

### Results:

The response rate of the students was 100% as all the students appeared and filled the questionnaire at both the private and public medical colleges. As seen in the table-1 and based on the response to the questionnaire, students' perception towards OSPE is hereby analyzed.

Students were asked about format of examination if the instructions were adequate to understand the format of OSPE. Students of Lahore Medical and Dental College answered with mean value of 6 and Sahiwal medical college students answered with mean value of 6.4. Standard Deviation was found to be 1.704 and 1.169 respectively. The p value for this question was found 0.051. It was questioned if the examination was fair and unbiased, LMDC students answered with mean value 6.16 and standard deviation 1.488 while Sahiwal Medical college students answered this with mean value 6.48 and standard deviation 1.211. The p-value for this was found 0.085. Students were asked if examination has covered the entire community medicine syllabus, results for LMDC students had mean value of 5.82 and standard deviation 1.675 while for Sahiwal medical college students had mean value of 6.19 and standard deviation 1.198. p-value was found 0.072. Regarding the

examination was well structured and sequenced LMDC students answered with mean value 5.97 and standard deviation 1.630 while Sahiwal medical college students answered with mean value 6.44 and standard deviation 1.029. p-value for this was found 0.015. Students were asked if the format of examination was stress free as compared to other methods of examination, LMDC students answered with mean value 5.84 and standard deviation was 1.696 while Sahiwal medical college students had mean value 6.09 with standard deviation 1.371. p-value for this question was 0.235.

Other parameter to analyze the perception of students about conduct of examination if it was well organized. LMDC students answered with mean 6.24 and standard deviation 1.449 while Sahiwal medical college students answered with mean 6.48 and standard deviation 0.915. The p-value was found 0.161. The environment was tension free as compared to other methods of examinations, LMDC students answered with mean value 5.99, standard deviation 1.548 and Sahiwal medical college students answered with mean value 6.13, standard deviation 1.463. p-value was found 0.470. LMDC students were asked if Time provided at each station was adequate results showed mean value 6.22, standard deviation 1.484 while Sahiwal medical college students answered the same question with mean 6.46, and value of standard deviation 1.143 and p value was 0.207.

OSPE was evaluated as assessment tool and same was asked from the students if OSPE is a relevant tool of assessment in the subject of community medicine. LMDC students answer result had mean 5.60, standard deviation 1.654 and Sahiwal medical college students answer result had mean 5.36, standard deviation 1.769 while p value was found as 0.286. To the question, OSPE is effective in evaluation our competencies in community medicine LMDC students had mean 5.59, standard deviation 1.582 and Sahiwal medical college students had mean 5.82, standard deviation 1.859 and p-value was 0.235. Students were asked if OSPE marks will confidently reflect their level of performance,

LMDC students answered with mean value 5.44 and 1.697 sd while Sahiwal medical college students answered with mean 5.52 and 1.831 sd. p- value was 0.733.

Further going for more details from students, it was analysed that OSPE result format will help students to identify their weak areas. LMDC students had mean value 5.41 and 1.583 sd while Sahiwal medical college students had 5.62 mean, 1.639 sd. p-value for this question was 0.335. Moreover, it was asked if OSPE Scoring is transparent and objective, LMDC students answered with 5.84 mean and 1.612 standard deviation, Sahiwal medical college students answered with mean 6.08 and standard deviation 1.392, p-value was found 0.255.

#### **Discussion:**

OSPE is considered a standard tool for assessing pre-clinical practical skills. It not only improves the quality of student's performance in practical classes but also helps them for their clinical practices so that good clinicians can be produced in future. The study students gave their feedback about OSPE as an examination tool by responding to a pre-defined questionnaire given to them. The 100% response rate of students at both LMDC & SLMC showed that the results presented are reliable, valid and indicate the strength of students' opinion. They also revealed the need for more improvement in OSPE. In general terms, students' gave a positive feedback regarding its wide coverage of learning objectives. It also helped the students to identify their gaps in understanding the subject, and helped them to learn and practice all basic practical skills.

On the basis of student's positive response it is assumed that students considered OSPE as an unbiased and fair and assessment parameter. Students viewed that OSPE covered their whole syllabus and students gained confidence over their subjects after OSPE. So this means that the methodology helped them in their learning process to acquire better practical skills and has stimulated their learning habit.

These findings correlate with previous researchers, according to which OSPE was declared a useful, reliable, effective, and challenging mode of assessment by the students.<sup>8</sup>

According to a study conducted in King Faisal University of Saudi Arabia, a marked improvement in mean score was seen after regular practice of OSPE.<sup>9</sup> In our study both at public sector SLMC, and at private sector, LMDC, students thought that OSPE helps identifying the areas of weakness and improves their learning and understanding of the subject. The strength of study was that, the majority of the students were of the view that OSPE is a well-organized method of exam and they did not face any problem during conduction of examination. Regarding the stressful nature of the exam, majority of the students were of the opinion that they were relatively relaxed during exam and OSPE is less stressful than viva but still some students took it as a stressful sort of examination.

Students are of the opinion that time given at each station was not sufficient. In our view more effort is required on the part of faculty to design comprehensive questions to be answered by the students in given prescribed time easily.

According to previous studies on modes of examination, it was concluded that examiners variability significantly scoring of students.<sup>10</sup> In this study students took OSPE as a reliable method of examination, but some were either neutral or disagree with this point of view. In an Indian study majority of the students considered OSPE as an effective, useful and device to discriminate between different categories of students.<sup>11</sup>

### Conclusion:

OSPE is considered a very helpful, convenient and acceptable mode of assessment for evaluating practical skills in both private and public institutions. It is reliable for both formative and summative assessments for medical students. It will not only enhance their learning habits but will also improve their performance in practical skills to become good public health consultants

in future. However students' participation on wider scale in the evaluation of this assessment tool is essential for further improvement.

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### Role and contribution of authors:

Dr. Humayun Mirza, collected the references, data and did the initial writeup.

Dr. Mehwish Arif, helped in collecting the references and helped in the introduction writing

Prof. Seema Daud, critically review the article and made the final changes

Ajlal Rehman, helped in interpretation of data

Aqsa Munawar, collected the referenecs and helped in discussion writing.

Dr. Ashfaq Ahmed, went through the article, and advised meaningful changes in the discussion and conclusion writing.

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