OBJECTIVE STRUCTURED PRACTICAL EXAMINATION (OSPE): AN EXPERIENCE AT DOW UNIVERSITY OF HEALTH SCIENCES (DUHS) KARACHI

ABSTRACT

Objective: To compare the objective structured practical examination (OSPE) with conventional medical examination in a preclinical setup at Dow University of Health Sciences (DUHS) Karachi.

Design: Observational case series study.

Methodology: This study was carried out at Dow International Medical College Karachi during the preclinical examination in 2008, to observe the views of students as well as examiners, regarding the difference between the objective structured examination and old conventional type examination.

An analysis was performed through the printed proforma and results were assessed by the statistical analysis.

Results: Statistically a significant number of students and examiners favoured the objective structured examination as compared with old conventional methods of viva.

Conclusion: This is an evaluation system that has demonstrable reliability and it is more enjoyable for both, the faculty and students.

Keywords: Objective Structures Practical Examination (OSPE), Students, Viva.

INTRODUCTION:

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 answer examination, open book and take home examinations, problem or case oriented examination.

In the medical institutions proficiency of medical students is also assessed through the above type of examinations except open book and take home examinations.

In view of large turn out for admissions in medical institutions, considerably more and larger groups of students have been admitted in various programmes and its very difficult now to assess the students under common parameters.

In response to Higher Education Commission Pakistan (HEC) directive, the scenario to assess the medical students has been completely changed i.e. multiple choice question type examination has been replaced by Best choice questions whereas oral / viva examinations has been replaced by objective structured practical examination (OSPE) and objective structured clinical examination (OSCE) in Basic Medical Sciences and Clinical Sciences respectively to overcome the problems which are faced in conventional practical examinations in medical institutions.1,2,3 Which have inherent deficiencies in which examiner variability significantly effect the scoring.

These defects of clinical and practical examination have been realized for long and have given rise to attempts hence improving the current scenario.1,2,3 Dow University of Health Sciences (DUHS) Karachi and its constituent medical institutions, hence started above type of examination since April 2008 in place of earlier system of viva and practical examinations with the objective to reduce the chances of examiner bias and assess the students learning skills.
The objective of this study is therefore:
- To observe the opinions of students as well as the examiners (Internal and External) of different basic medical sciences subjects.
- To see the feasibility, reliability and validity in comparison with old conventional method of examination.

**MATERIAL AND METHODS:**
For the above study randomly 150 students of different semesters (1st to 4th) of Basic Medical Sciences and 20 examiners (External and Internal) were requested to give their comments on the prescribed printed proforma regarding this type of examination under the following heads i.e. Long question examination, short question type examination, examination at parent institutions, attitude of examiners etc as shown in table-1. SPSS version 12 and chi-square test of proportion were used for statistical analysis.

**RESULTS:**
Randomly selected 150 students were requested to fill the proforma showing the type of assessment under different heads as shown in table. The results showed that statistically significant number of students favoured this type of examination as shown in table. However statistically non-significant comments regarding the length of examination, examiner’s attitudes and atmosphere were also observed as shown in table.

**DISCUSSION**
The above study is conducted at Dow International Medical College, one of the constituent medical institution of Dow University of Health Sciences (DUHS) Karachi and a venue to conduct the preclinical examinations of DUHS.

It is well known that conventional practical examination has several problems. Further the subjectivity also affects the correlation negatively between marks awarded by different examiners and performance of same candidate. Regarding the defects in old conventional methods i.e. MCQ with appropriate content may still be poorly worded question with more than one interpretation possibility, and student’s depth of knowledge can not be assessed through short and long answer examinations, where as there are also chances of examiner’s bias. One of the most important data gathered by the National Board of Medical Examiners (NBME) in the United States involving 10,000 medical students criticized the use of oral examination to assess the skills of medical trainees at all levels.

An earlier innovation in this regard is the objective structured clinical examination (OSCE) later extended to practical examination (OSPE) described in 1975 and in greater detail in 1979 by Arden and his group from Dundee. This method with some modification has stood the test of time and has largely overcome the problems of conventional examinations mentioned above. Recently this method was the subject of an international conference at Ottawa in 1985 where the worldwide experiences with OSCE and OSPE were exchanged. This type of examination has an international growing popularity. It can also be used to measure preclinical skills that other test do not perform.

The objective structured examination in many countries is a gold standard even in clinical skills assessment. It has become indispensable for the assessment of medical students, clinical clerks, interns, residence and candidates for licensure and certification examination. This method of examination completely eliminates subjectivity, favouritism and simultaneously the student has greater chances to

<table>
<thead>
<tr>
<th>Type of assessment</th>
<th>No. of students in favour of exam</th>
<th>No. of students not in favour</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Correct information was conveyed to students for time, place and format.</td>
<td>140 (93.33%)</td>
<td>10 (6.67%)</td>
<td>P=0.001 Significant</td>
</tr>
<tr>
<td>2. OSPE examination</td>
<td>110 (73.33%)</td>
<td>40 (26.66%)</td>
<td>P = 0.001 Significant</td>
</tr>
<tr>
<td>3. BCQ type paper</td>
<td>90 (60.0%)</td>
<td>60 (40.00%)</td>
<td>P = 0.001 Significant</td>
</tr>
<tr>
<td>4. Short question answer paper</td>
<td>17 (11.33%)</td>
<td>133 (88.66%)</td>
<td>P = 0.001 Significant</td>
</tr>
<tr>
<td>5. Long question answer paper</td>
<td>9 (06.0%)</td>
<td>141 (94.00%)</td>
<td>P = 0.001 Significant</td>
</tr>
<tr>
<td>6. Old conventional method of viva and assessment</td>
<td>23 (15.33%)</td>
<td>127 (84.66%)</td>
<td>P = 0.001 Significant</td>
</tr>
<tr>
<td>7. Examination should be at parent institution (Venue)</td>
<td>143 (95.33%)</td>
<td>7 (04.66%)</td>
<td>P = 0.001 Significant</td>
</tr>
<tr>
<td>8. Examination was too lengthy</td>
<td>83 (55.33%)</td>
<td>67 (44.66%)</td>
<td>P = 0.06 Non-significant</td>
</tr>
<tr>
<td>9. Attitude of the examiners was good</td>
<td>113 (75.33%)</td>
<td>37 (24.66%)</td>
<td>P = 0.06 Non-significant</td>
</tr>
<tr>
<td>10. General atmosphere was tensionized</td>
<td>80 (53.33%)</td>
<td>70 (46.66%)</td>
<td>P = 0.24 Non-significant</td>
</tr>
<tr>
<td>11. Exhausting for examiners as well as for students</td>
<td>86( 57.33%)</td>
<td>64 (42.66%)</td>
<td>P = 0.01 Significant</td>
</tr>
<tr>
<td>12. Increases self confidence in students</td>
<td>95 (63.33%)</td>
<td>55 (36.66%)</td>
<td>P = 0.001 Significant</td>
</tr>
</tbody>
</table>
In some of the clinical setups the OSCE examination elicited a unique pattern of change on the subscales of depression dejection and fatigue compared with other type of examination.\(^{17}\)

Whereas in our preclinical setup it was not observed but statistically significant number of students (57.33\%), complained of only fatiguence. Which may be due to the constant presence of observers / examiners watching and recording the students performance may have probably added to students strain and increased fatigue and depression. OSCE requires the integration of clinical and theoretical knowledge and skills.\(^{18}\)

The experts are now recommending objective structured examination for both educational and assessment purpose even for the other faculties as well.\(^{19}\)

**CONCLUSION:**

This is an evaluation system that has demonstrable reliability and it is more enjoyable for both, the faculty and students.

**MORAL:**

Any good assessment requires time, effort, people and money. Thing don’t just happening. We all need to put our head, heart and hands in it.

\[7 = \text{Exhausting for examiners as well as for students}\]

In the validation of a standardized patient examination format. Acad Med 1993;68:515.


15. Hodges B. Creating, monitoring and improving a psychiatry OSCE. A

express their knowledge. It is not only the excellent opportunity of medical education research but generates the large amount of data to improve the quality of next examination, however in different locations this system has also some limitations\(^i\) i.e. there is risk of fatigue of observer to observe the same type of skills in several number of students.

In our setup i.e. at DUHS, there is a great success of this type of examination. Students as well as examiners showing that it is feasible and practical (table) to conduct this type of examination with only reservation of prolonged time and fatigue which was statistically non-significant (P-value less 0.06) and the venue which was far away to reach comfortably and it requires much labour, more time and more resources in this regard.

The validity of OSPE is supported by comparison of non-OSPE measures where there are much more chances of examiners bias and students skills can not be assessed.

One of the benefit which was observed thoroughly is that it helps in identifying the students who are particularly deficient in knowledge of the subject.\(^{16}\)

In addition to that in our setup i.e. at DUHS, statistically significant increase in self confidence (95\% of students P-value .001) to face the various examiners was also seen.

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