



## A Comparative Study of the Two Evaluation Methods – Conventional Versus Objectively Structured Clinical Examination (OSCE)

### KEYWORDS

OSCE, Conventional method of assessment

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**ABSTRACT** *The aim of taking a clinical examination is to assess the students skills as well as attitude avoiding examiner variability as much as possible. Though Objectively Structured Clinical Examination ( OSCE ) has been advocated as an assessment method, it is yet to be practised in most of the medical colleges of India. The present study was undertaken with the objective of comparing the scores obtained by conventional method of examination and OSCE. The study was conducted in the department of Physiology , L.T.M.M.C., Sion, on 98 first year medical students who were asked to perform two clinical examinations and were assessed simultaneously by conventional method of examination and OSCE by two different teachers. A significant difference in the marks obtained was seen with one of the clinical examination. The study brought into focus the importance of OSCE in revealing certain lacunae in the student's understanding of a clinical examination and therefore this method of assessment should be advocated in medical colleges along with the conventional method of assessment.*

### INTRODUCTION :

The quality of an assessment depends on its reliability, validity, educational impact, acceptability and feasibility. Though marking should depend only on student and patient variability in a clinical examination, it is often seen that examiner variability based on subjectivity can significantly affect scoring. OSCE as an assessment tool was first described in 1975 by Harden and Glison in an effort to eliminate examiner variability in clinical examination. Since this method of assessment is yet to be implemented in majority of medical colleges in India, this study was undertaken to better understand the advantages and disadvantages of this assessment tool in comparison to the current conventional method of assessment and to explore the scope of its applicability in the current examination system.

### AIMS AND OBJECTIVES :

To Compare The Scores Of Medical Students Obtained By Conventional Method Of Assessment And OSCE.

### MATERIALS AND METHODS:

The Study was conducted In the Department Of Physiology, L.T.M.M.C., Sion,

On 98 First Year M.B.,B.S. Students.

2 Clinical Procedures were selected for comparison by conventional method of evaluation and OSCE:

1. Locate the apex beat
2. Elicit biceps jerk

The above procedures were taught in regular classes in the standard OSCE pattern.

### THE EXAMINATION EXERCISE

The students were assessed in groups of 25 for 4 consecutive days

Two examination stations were set up.

Each station – two teachers were allotted, one for assessing the student by conventional method and the other for assessing with the OSCE checklist

Total of 5 marks were allocated to each type of assessment procedure

Question I – Locate the apex beat of the subject and report your findings

### Total Marks – 5

#### CHECKLIST FOR APEX BEAT

SR. NO.	STEPS	MARKS ALLOTTED
1	Expose the precordium	0.5
2	Inspect the apex beat	1
3	Put the palm on the precordium over the mitral area to find apical pulsation	1
4	Use the ulnar border of the hand to further confirm the pulsation	1
5	Use the tip of the finger to finally locate the apex beat and mark the position	0.5
6	Count the intercostal space and report the exact position of the apex	1

Question II– elicit biceps jerk of the subject and report your findings

### Total marks – 5

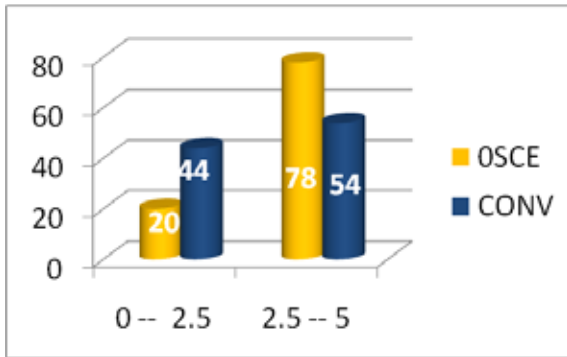
#### CHECKLIST FOR BICEPS JERK

SR. NO.	STEPS	MARKS ALLOTTED
1	Give proper instruction to the subject	0.5
2	Flex the elbow of the subject and make the forearm semi-pronated by resting it on the abdomen or on examiner's forearm.	0.5
3	Expose the front of the arm	0.5
4	Ask the subject to relax completely	0.5
5	Place your thumb on the biceps tendon firmly to stretch the muscle	0.5
6	Hold the hammer loosely between the thumb and index finger	0.5
7	Strike with the narrower end of the hammer on the examiner's thumb	0.5

8	Strike should be brisk by making a sudden jerky movement at the wrist joint	0.5
9	Observe contraction of biceps and flexion of the forearm	0.5
10	Elicit biceps jerk on the opposite side and compare	0.5

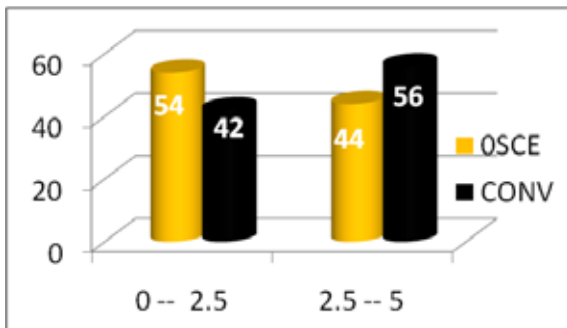
**OBSERVATION AND RESULTS :**

**Fig 1 : Comparison of marks obtained in Question 1 ( Locate the Apex beat )**



The number of students scoring more than 50% marks were more when assessed by OSCE as compared to conventional method of assessment

**Fig 2 :Comparison of marks obtained in Question 2 ( Elicit Biceps jerk )**



The number students scoring more than 50% marks were more when assessed by conventional method as compared to OSCE.

**TABLE 1 : The mean and standard deviation of marks obtained in all exercises were calculated. Paired t -test was done to compare the means**

EXAMINATION STATION	TYPE OF ASSESSMENT	MEAN OF MARKS SCORED	STANDARD ERROR	t - test	p - value
APEX BEAT	OSCE	3.19	1.16	2.68	0.008
	CONVENTIONAL	2.78	0.97		
BICEPS JERK	OSCE	2.58	1.15	-1.57246	0.118
	CONVENTIONAL	2.82	0.98		

There was a significant difference in marks in case of apex beat by paired t- test.

No significant difference was observed between both sets of marks in case of biceps jerk.

Other observations from the study:

With OSCE , it could be seen that there were some common

mistakes which many students made, like not inspecting the precordium before palpating in case of apex beat and not giving proper instructions to the subject while trying to elicit biceps jerk. These lacunae in the students' understanding of clinical examination were highlighted while assessing by OSCE.

**DISCUSSION :**

The present study shows that students scored significantly better by OSCE as compared to conventional method of assessment in case of apex beat but not so in case of biceps jerk.

Possible reasons for disparity in results at two stations maybe because of the fact that apex beat is an often repeated topic being taught in cardiovascular system examination as well as respiratory system examination. Biceps jerk is taught in motor system examination along with all the other jerks. So it can be said that with proper repetition of topics, the chances of students scoring higher with OSCE would be significant. Also with OSCE, teachers can have a better understanding of specific lacunae in students' performance of a clinical examination and can take appropriate steps to correct them.

The problems of conventional clinical evaluation can be listed as :

Patient variability

Examiner variability

The marks awarded reflect only the global performance of the candidate.

Problems in communication significantly affect the outcome.

Attitudes are usually not tested.

Objective structured clinical examination (OSCE) as an assessment method addresses almost all these problems and is definitely gaining support. The main features of OSCE/ OSPE is that :

Both the process and the product are tested giving importance to individual competencies.

This method measures technical skills and attitudes as well

Scoring is objective

Standards of competence are preset

Other studies	Topic	Results	Comparison with our study
Shallaly G.E.H. et al Nigam et al	Development and use of checklists for assessment of medical students in clinical examinations : a preliminary study	Significant difference was seen in short case exams. Use of checklists more objective.	Findings are similar to our study.
Mahajan et al	Comparison of OSCE with clinical cases	No correlation between scores	OSCE tests the affective domain of learning. Scores of conventional and OSCE differ significantly .

<p>SILVA, Cibeles C. B. M. et al</p>	<p>Objective structured clinical evaluation as an assessment method for undergraduate chest physical therapy students: a cross-sectional study.</p>	<p>OSCE exam had good internal consistency and is able to evaluate aspects that the traditional exam fails to evaluate</p>	<p>OSCE revealed lacunae in student's understanding of clinical examination</p>
<p>Kulkarni P. A.</p>	<p>Introduction of OSPE (Objective Structured Practical Examination) Along with Traditional Practical Examination (TPE) for first MBBS Students</p>	<p>OSPE is a good tool to avoid examiners bias , to bring objectivity in exam and for standardization of questions.</p>	<p>Findings are similar to our study.</p>

Study limitation was that only two OSCE stations were set up. More stations involving other systems for clinical examination could be used for a better understanding of differences between the two methods of assessment.

**CONCLUSION:**

OSCE is definitely a reliable method of assessment where the teaching method is also evaluated.

It can bring to focus lacunae in the student's understanding of a specific method of examination.

OSCE could be used as a complement to a traditional examination. Adding two or three relevant questions on applied aspects to each station would be more helpful in the assessment procedure.

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