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Introduction of Objective Structured Clinical Examination as assessment tool in formative examination of Dermatology, Venereology and Leprology department

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Abstract:
Introduction: *Objective Structured Clinical Examination (OSCE) is a method of clinical /practical examination where predetermined decisions are made on the competencies to be tested and checklist incorporating important evaluation of skills are prepared and administered to students. Making judgment on the competency of our peers and trainees is important in patient healthcare.[1] Inaccuracies in such judgments could place patients at risk. The overarching philosophy in OSCEs is that all candidates are presented with the same clinical tasks, to be completed in the same timeframe and are scored using structured marking schemes.[2] In comparison to the long case, OSCEs reduce bias relating to the type of clinical case selected and who performs the assessment. In formative forms of assessment the main purpose is to provide feedback to the students. The main emphasis on importance of accurately assessing the competency of medical students.[5] Such decisions help to protect patients by determining whether candidates can progress to higher levels of study or medical qualification. OSCEs are more expensive and very much sophisticated forms of assessment.*
Objectives: *Assess the feasibility and acceptability of introduction of OSEC in formative examination by students and faculty.*
Methodology: *There were a orientation program to faculties of our department as well to students of final year on above assessment process and convince them how it was effective for learning of student. They were explained every and each step including orientation, conduct and outcome of OSCE. We select a hall of 20x40 feet where comfortably 15 stations placed. After orientation of all students, Divided in 6 equal groups (15-16). Each student takes at least 15 to 30 minutes. Two marks were awarded for each performance. Therefore total number of station 15 and marks awarded against performance were 30. Once OSCE completed, collect all data from participants and analyze that how it was effective and implementable in skin department.*
Result: *Students were given feedback against questionnaire which was provided by trainer after completion of OSCE. It was acceptable in 91.1% and was feasible in 91.1% participant. Ninty seven percent (97%) participants agree that it improve clinical skill and 81% feel better than conventional method of formative examination.*
Observer was given feedback against questionnaire which was provided by us after completion of OSCE. Almost all observer were in opinion that it is acceptable in formative examination (95%), feasible(90%), improve clinical skill of medical students (98%), and better than conventional method of formative examination (96%).
Conclusions: *Introduction of OSCE in formative examination of department increase not only skill based learning but also make perfect them after completion of graduation. Therefore they ware able to diagnose skin related diseases. Medical teachers were shown more positive attitude than students. Students shown little hesitation in regard of replacement of conventional method of assessment of formative examination.*
Key Words: *OSCE, Formative examination, Medical education*

I. Introduction:

OSCE is a method of clinical /practical examination where predetermined decisions are made on the competencies to be tested and checklist incorporating important evaluation of skills are prepared and administered to students. Making judgment on the competency of our peers and trainees is important in patient healthcare[1]. Inaccuracies in such judgments could place patients at risk. First described in 1979, Objective Structured Clinical Examinations (OSCEs) have become one of the most widely used methods of assessing

aspects of clinical competency in healthcare education.[2,3] This method of assessment was originally developed in order to address the unreliability and lack of generalisability of traditional forms of clinical assessment such as the *long case*.[4] The overarching philosophy in OSCEs is that all candidates are presented with the same clinical tasks, to be completed in the same timeframe and are scored using structured marking schemes.[2] Compared to the *long case*, OSCEs reduce bias relating to the type of clinical case selected and who performs the assessment. Ideally the only variance in an OSCE should be the candidate's performance. In *formative* forms of assessment the main purpose is to provide feedback to the students. The assessment of clinical competence is of significant importance. The main emphasis on importance of accurately assessing the competency of medical students.[5]

Despite the popularity of OSCEs it is important to note they do not provide a complete profile of an individual's level of competency. No valid single method of assessment exists. OSCEs aim to assess certain aspects of clinical competency. Using multiple assessment tools longitudinally is considered the best approach in forming a more holistic opinion on an individual's level of clinical competency. By using several methods of assessment the inadequacies of individual methods may be overcome.[6] Attaining clinical competence is not a one-off event but a career long learning routine. Van der Vleuten described five such criteria — namely: *validity, educational impact, reliability, cost efficiency* and *acceptability* of the test.[7] Although excelling in all criteria would be ideal, pragmatically there often has to be compromise. Reliability of a test is a measure of its reproducibility and accuracy. OSCEs are widely considered to be a reliable form of assessment. There are many features of OSCEs that contribute to their reliability. Assessor consistency is improved by the use of highly structured marking schemes. Individual assessor bias is reduced by the use of multiple assessors. Ultimately having multiple cases, and sufficient test time, are the most important features that contribute to the reliability of OSCEs.[8] Godfrey Pell and colleagues describe a number of metrics *(such as Cronbach's alpha and R^2 coefficient)* that give an indication of the reliability and quality of an OSCE. The validity of an OSCE is determined by its ability to actually measure what it is intended to measure. In other words an OSCE is considered valid if it succeeds in measuring competencies that it was originally designed to test. There are different types of validity evidence. For example *content validity* of an OSCE is a measure of how well the OSCE stations match the learning outcomes of the course. Blueprinting an OSCE (i.e. stations selected to be used in an OSCE are representatively and systematically sampled from the entire range of learning outcomes for the course) enhances its *content validity.* Assessment provides a crucial role in the educational process. Not only does it check that learning has occurred but it can provide a powerful influence on future learning.[6,8] The current emphasis in education is moving away from 'assessment *of* learning' to 'assessment *for* learning'.

OSCEs are more expensive and very much sophisticated forms of assessment. It is highly resource-dependent and require contributions from a large number of individuals. Of course there are also patients, faculty staff and other supporting personnel required for the assessment. Considerable effort is also required prior to the OSCE. Costs regarding equipment, venue is little cheaper due selection of topic is very simple. Given the current economic imperative on academic institutions to make cost savings, there has never been a greater need to rationalize resources used in assessment.

OSCEs need to be acceptable by all stakeholders. Therefore it was important to seek feedback from candidates and examiners. In OSCEs, all candidates were experience the same assessment experience and conditions.

In OSCE, candidates are observed and evaluated as they go through a series of station in which they interview & examine standardized patients who present with same type of skin problems. Very specific tasks given on Station in OSCE. It was carefully structured to include all elements of the curriculum as well as a wide range of skills. Question must be standardized and asked only those questions that which were given in questionnaire. Marks were given by examiner after completion of procedure or answering of specific question. When candidate depart from OSCE room then add Global score- on the basis of overall performance of candidate and enter on final mark sheet.

Limitation of OSCE were need more trained examiners, It takes more time, relatively costly and availability of standardized patients.

During full course period of medical graduate students are posted in skin & STD department thrice, first time in 4^{th} semester for 2 weeks, 2^{nd} time in 6^{th} semester for 15 days (2 weeks) and 3^{rd} time in 8^{th} semester. Therefore it was very difficult to train and assess all students in such short period. That's why students not only ignore but also deficient throughout carrier after passing of degree. When they join as basic medical graduate in field either at PHC or District level they could not diagnosed even minor ailment of skin in spite of that volume of Skin related patient is more. We had introduced OSCE as assessment tool in my department in formative examination to improve not only assessment process, but also better learning of skills. Therefore medical graduate at least know basics of skin disease and help in to reduce skin related morbidity.

II. Aims and Objective

To assess the feasibility and acceptability of introduction of OSEC in formative examination by students and faculty.

III. Methodology:

First of all OSCE design on paper (Make blue print) in advance & set timeline. It was started with construction of statement, whatever given to candidate and examiners. Make list of equipment and arranged before hand to start the OSCE. Prepare questionnaire, mark sheets and make sign on that (global rating scale/checklist/both). List all material of set up on OSCE stations. Plan for the examination on due date. Diagram of station layout, directions for examiners, simulated patients and trained staff, possible registration table for students, timing and signals (stopwatch & whistles)

We have conducted a orientation program to faculty of our department as well to students of 6th semester on above assessment process and convince them, how it was effective to student learning in real assessment of skill. It developed confidence to manage patients after completion of degree whenever posted as medical officer. We have explained each and every step including orientation, conduct and outcome of OSCE practice to participants. It was not difficult task for faculty but little tedious. We have chosen a task, how to appreciate different sensation of skin and examination of superficial cutaneous nerve in formative examination to make correct diagnosis of different type of leprosy. We explained the procedure skin O.P.D. area of hospital. We have selected a hall of 20x40 feet where comfortably 15 stations placed. Total no. of Students were 90 & divided in 6 equal groups (15 students in each group). Each student taken around 30 minutes. Two marks were awarded for each performance. Therefore total no. of station were 15 and marks awarded against performance were 30. OSCE were completed within 15 days posting from orientation to making final mark sheet. Once OSCE completed, data were collected from participants and analyzed. OSCE starts from entry of candidate in room guided by one of the examiner to first station and then proceed afterward to rest station at given interval because time factor was important, otherwise some students not found appropriate time before final departure from room. Most important part of OSCE was real patients who felt discomfort and became irritated. Therefore result of particular student may be compromised. We have trained junior students as simulated patients. In OSCE fairness of examiners and examinees were very important, so to avoid any type of bias and cheating by participants videography of the whole course was done. We had distributed feed back questionnaire and wait for 15 minute and asked them to answer (only tick either in Yes or No box). After 15 minutes, we collected format. All data was entered in microsoft EXCEL sheet and analyzed.

IV. Result:

Out of 90 students were present of 6th semester 78 students attended all session and participated in the study, so effective number of participants was 78. Feedback from participants as shown in table 1.

Table 1 : Feedback of Participant (N=78)

S.N.	Questions	Yes	No
1	Is it acceptable in formative examination?	91.1%	8.9%
2	Is it feasible?	91.1%	8.9%
3	Is it improves clinical skill?	97%	3%
4	Is it better than conventional method of formative examination?	81%	19%

Fifteen (15) assessor were involved in this study, and all answered feedback questionnaire which was provided after completion of OSCE as shown in table 2.

Table 2 : Feedback of Assessor (N=15)

S.N	QUESTION	YES	NO
1	Is it acceptable in formative examination?	95%	5%
2	Is it feasible?	90%	10%
3	Is it improves clinical skill?	98%	2%
4	Is it better than conventional method of formative examination?	96%	04%

V. Discussion:

OSCE is a method of clinical /practical examination where predetermined decisions are made on the competencies to be tested and checklist incorporating important evaluation of skills are prepared and administered to students.

Once OSCE was successfully conducted and completed. We got feedback mainly based on acceptability, feasibility, improvement of clinical skill and compare with conventional method of examination.

Ninety one percent (91.1 %) of student consider that OSCE is acceptable and feasible and agreed for introduction of OSCE in skin department as assessment tool in formative examination. Ninety seven percent (97%) student accepted that it helped in improving their clinical skill.

On asking that Is it (OSCE) better than conventional method of formative examination? Eighty one percent (81%) students considered better than conventional method of formative examination while 19% students denied.

The present study reflects that most of the students agreed to replace conventional method of formative examination with OSCE. Therefore we concluded that most of students accept OSCE and shown interest in incorporating OSCE in university professional examination . OSCE helps develop confidence in students that was reflect in regard of clinical skills.

Among assessors, most (95%) accept OSCE but shown little hesitation regarding feasibility (90%). It was may be due to time consuming and tedious job. They observe in clinical improvement of students (98%) also shown interest in replacement of conventional method of formative examination. Observer given more positive response than students may be due better understanding of mechanism of OSCE.

VI. Conclusion:

Skill based assessments are designed to measure the knowledge, skill and judgment required for competency in a given domain. Assessment of clinical skills has formed a key part of medical education for hundreds of years. Most of the students agreed that introduction of OSCE in formative examination of dermatology, leprology and Veneorolology department increase not only skill based learning but also make perfect them after completion of graduation. Therefore they were able to diagnose skin related diseases. It was relatively time taking and expensive but out come was very convincing and learning oriented. Results of OSCE were encouraged. Teachers were shown more interest and positive attitude than students.

VII. Implication:

Introduction of OSCE in the department of dermatology, veneology and Leprology and increase reliability of assessment, also increase student confidence who will serve in better way to society after completion of graduation.

Conflict of Interest- None

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