OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

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Students' assessments are considered an integral part of the educational process. They are intended to result in the graduation of competent, safe doctors capable of professional practice. Assessments are usually used to decide whether the curriculum objectives and intended learning outcomes (ILOs) have been achieved, to identify who should succeed and who should not (summative assessment) and to highlight weaknesses in students' performance levels and give feedback to remedy students' problems (formative assessment).

The Objective (same test) Structured (well-planned, structured mark scheme) Clinical Examination (performance test) (OSCE) was first developed by Harden and Gleeson in 1979. This method of assessment was originally formulated in order to address the unreliability and lack of generalizability of traditional forms of clinical assessment such as the long case[1]. The OSCE is used as both a formative and summative assessment of the clinical competence of medical students. It is defined as "an approach to the assessment of clinical competence in which the components of competence are assessed in a well-planned or structured way with attention being paid to objectivity"[2]. Arguably, the OSCE is not an examination method; rather it is an examination format or framework into which many different types of test methods can be incorporated[3].

The OSCE became widespread in the field of undergraduate and post-graduate medical education from its formulation, mainly because of the improved reliability of this assessment format. It offers a fairer test of candidates' clinical abilities as all candidates are presented with the same test[4].

OSCE process:

In the OSCE, each clinical competence is broken down into various components. Each component is assessed in turn and is the objective of one or more of the stations in the examination. All students complete the same assessment by rotating round 20 or more stations, spending a specific amount of time at each station (5,10,20 min). The time allocated per station should be as uniform as possible to facilitate the smooth movement of examinees from station to station and the duration is decided according to the type and level of assessment (for example, medical students, residents, experienced doctors). In the OSCE, a series of standardized problems is presented to each examinee, often involving simulated patients (SP), who are trained to play roles. A predetermined objective scheme such as a checklist or global evaluation scale is used by the examiners in the rating process. This form of assessment of competence emphasizes: standardization, validity, objectivity and reliability[5].

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VALIDITY OF ASSESSMENT

Refers to the extent to which it measures what it is supposed to measure: a valid test should sample broadly and measure elements from history, giving consideration to applied clinical knowledge, patient management and patient education.

TYPES OF VALIDITY

Face validity involves assessing the different components of skills from history relating to applied clinical knowledge, patient management and patient education.

Construct validity is used to ensure that what is intended to be measured (i.e. construct) is actually measured. Subject experts can examine items and decide what specific items are intended to measure.

RELIABILITY OF ASSESSMENT

Reliability is the degree to which an assessment tool produces stable and consistent results.

TYPES OF RELIABILITY

Test–retest reliability is a measure of reliability obtained by administering the same test twice over a period of time to a group of individuals. The scores from Time 1 and Time 2 can then be correlated in order to evaluate the test for stability over time.

Inter-rater reliability is a measure of reliability used to assess the degree to which different judges or raters agree in their assessment decisions.

The following features help in making the OSCE a reliable tool for assessment of clinical competence: the use of multiple patients or stations, standard checklists for marking student performance, prior examiner training for reduction of examiner bias, and standard and uniform settings at stations for all candidates[6].

ADVANTAGES OF OSCE

- Provides an opportunity to test a student's ability to integrate knowledge, clinical skills and communication with patients. Wide spectrums of clinical tests can be incorporated into the OSCE. Such tests include written multiple choice questions, use of models, and examination of simulated or real patients and reviews of radiographs.
- Can provide valuable information relating to whether course objectives are being accomplished.

Thus, appropriate changes in the curriculum can be made to better address the needs of students.
- Provides the faculty with an assessment tool that is custom-fit to the goals of a specific education program. The examiners can use a wide spectrum of available data.
- Offers an additional parameter by which to evaluate student performance, anda student's core clerkship evaluations for post-graduate training. It is important to have multiple data points from which to determine a student's final grade for several reasons.
- High validity as a result of high level of station content and pre-agreed marking format (checklists) with evidence sourced to the literature or other best practices.
- High reliability as a result of high uniformity of assessment is the benchmark[(5)].

DISADVANTAGES OF OSCE

- Assesses case-specific skills, knowledge and attitudes. Assessments are often specific to a certain clinical problem rather than to a skill able to be generalized across clinical problems.
- Repeated examinations require an adequate pool of stations. This might be limited owing to financial constraints or other logistical difficulties.
- The OSCE format leads to assessment in a compartmentalized fashion. There is no opportunity to observe examinees carrying out complete evaluations of patients.
- It is costly and expensive to setup and requires a large number of personnel for its implementation. High levels of expense are involved in obtaining examination sites, as well as the use of models and simulated patients.
- Compared with other traditional methods of evaluation, the OSCE requires more preparation time and considerable clerical support.
- The time of the examiners can often be intimidating for those considering using an OSCE format for evaluating undergraduate and post-graduate students.

REFERENCES

1- Ponnamperuma, I. McAleer, S. and Davis, M. (2009).The Long case and its modifications: a literature review. *Med Educ*, 43(10), 936–941.
2- Harden, R. M. (1988). What is an OSCE? *Medical Teacher* 10(1), 9–22.
3- Hart, I. R. (1986). The OSCE-objective yes, but how useful? In: Hart, I. R., Harden, R. M. and Walton, H. J. (Eds). *Newer Developments in Assessing Clinical Competence*. Montreal, Quebec: Heal Publications Ltd, 22–28.
4- Boursicot, K. and Roberts, T. (2005). How to set up an OSCE. *The clinical teacher*,(1), 16–20.
5- Batra, B. and Norcini, J. (2015). Developing objective structured clinical examinations (OSCEs). FAIMER-Keele Master's in Health Professions Education: Accreditation and Assessment. Module 1, Unit 3. 3rd edition. *FAIMER Centre for Distance Learning*, CenMEDIC, London.
6- Turner, J. and Dankoski, M. (2008). Objective structured clinical exams: a critical review, *Fam Med*,40(8), 574–578.