

Review

Clinical evaluation methods in general nursing programmes in Nigeria

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This paper highlights currently practiced clinical evaluation methods in General nursing programmes in Nigeria, explain the acronyms OSCE / OSPE, view their methodologies, advantages and limitations. Finally, useful suggestions that address unique evaluation practices capable of producing credible clinical evaluations, as well as empowering teacher – student – client relationships and cooperation are proffered.

Key words: OSCE, OSPE, clinical practice, clinical evaluation, nursing programmes.

INTRODUCTION

Educators put a lot of time and effort in preparing the assessment and evaluation of their students; and Clinical evaluation is one of such intensely prepared assessment. Clinical evaluation in nursing education as stated by Bartfay et al (2004) is an essential requirement of health professional education with potential implications for students, teachers, the recipients of nursing care and the environment. The Objective Structured Clinical Examination (OSCE) has gained acceptance as a benchmark for clinical skills assessment since its development in the 1970s (Bartfay et al. 2004). OSCE is an assessment tool in which the component of clinical competence e.g history taking, physical examination, communication, attitude, simple procedures etc. are tested using agreed check lists and rotating the student around a number of stations with some stations having observers. The clinical evaluation of students' learning in General nursing is the focus of this paper with OSCE / OSPE as an objective tool for assessment.

Currently practiced clinical evaluation methods in Nigeria

Most nursing institutions (i. e Departments of Nursing,

Schools of Nursing and Schools of Psychiatric Nursing) across the Nation practice the Progress Assessment evaluation method including the Oral Practical and rarely, the Objective Structured Clinical examination (OSCE). While the Progress Assessment evaluation method is used during continuous assessment or as formative evaluation, the other two i.e Oral Practical and OSCE, are used for the purpose of summative evaluation usually at the end of a semester / session, year and for the N&MCN Professional Examination.

Progress assessment evaluation method

The Progress Assessment test is periodically administered to students while on clinical postings. Here emphasis is placed on students' psychomotor skills in carrying out nursing procedures already learnt. The evaluator who is either a nurse educator, clinical instructor or a clinician evaluates the students over a period spanning the clinical posting using direct observation method. The student is assessed and scored using a standard score sheet designed by the institution and most often, the student is corrected on the spot. Furthermore, the evaluator may need to sign a prescribed

Clinical Instruction Booklet, grading the students' performance on a given skill as being poor, good, excellent, proficient etc. or as the case may be. These records sometimes form part of the assessment at the level of summative evaluation such as the N&MCN Professional Examination. The purpose of this evaluation method is to note the students' mastery of a given procedure, measure improvement over time and diagnose student difficulties among others. It also gives the teacher an opportunity to evaluate his/her teaching methods, evaluate the effectiveness of a course and motivate students to study.

The oral practical examination

The oral practical method of assessment is a highly favoured method of clinical evaluation especially for General Nursing and Psychiatric Nursing Examinations. Here, a few examiners (2 - 4) are involved in examining a number of students and in different clinical areas of practice e.g. paediatric, male, and or female wards. Students are then evaluated based on the clinical procedures and patients in the given ward as at the time of the evaluation. Although there is a common checklist for each examiner to assess each student, the questions asked are usually not consistent. Each student is examined for a period of 1hour going through two examiners i.e. 30 minutes per examiner per student. During the period with each examiner, the student carries out a procedure or more as deemed fit by the examiner.

For centuries, the oral (viva voce) examination has been the predominant method and sometimes the only method used to assess clinical skills. The traditional method gives the examiner freedom to vary the questions from one student to another. This approach has been shown to have many deficiencies and some of the aspects that are assessed orally can be incorporated into the objective – structured approaches in clinical and practical assessments.

Deficiencies in the conduct of oral/practical examinations

The content is not standardized as they are not defined to be tested.

The questions are not identical and equivalent in content and difficulty. For clinical viva just as for theoretical, students should be faced with similar or equivalent patients and asked to perform the same task. The use of simulated patients can be applied in some cases to standardize the test situation.

There is marked examiners' inconsistency as structured marking sheets or rating forms are not prepared. Examiners are also not briefed on their use.

Few examiners are used thus, prolonging the examination to longer sessions.

Each examiner marks independently (Rakin, 2002).

These conventional clinical and practical examinations as observed by Ananthakrishnan (2014), is beset with many problems. The author further stated that although marking should depend only on student variability, patient / experiment variability and the examiner variability significantly affect the scoring. In fact, the subjectivity involved in the use of this assessment method may reduce the overall marks awarded by the different examiners for the same candidate to a very low level. In addition, the marks awarded also reflect only global performance of the candidate and does not demonstrate the individual competencies. Problems in communication significantly affect the outcome. Attitudes are usually not tested at all by the conventional assessment method. Even in clinical skills, often the student is questioned only regarding his/her final conclusion. The ability to examine a client and arriving at that conclusion is not observed by the examiners. The final score indicating the student's overall performance gives no significant feedback to the candidate.

These defects of clinical and practical examinations have been realized for long and have given rise to attempts at improving the current scenario (Ananthakrishnan, 2014). All these attempts are relatively new and are still in the process of being tried out. An earlier innovation in this regard is the objective structured clinical examination (OSCE) later extended to the practical examination (OSPE) described in 1975 and in greater detail in 1979 by Harden and his team from Dundee. This method with a few modifications has stood the test of time internationally and has largely overcome the problems of the conventional clinical examinations earlier mentioned.

Unfortunately, in Nigeria, the method is only being used in Midwifery examinations; as it was first introduced in the 1990s. The purpose of this paper once more, is to introduce OSCE and OSPE as an evaluation tool and draw attention to its advantages and disadvantages.

OSCE

OSCE is a kind of multi-station examination for clinical subjects and first described in 1975 by Harden and Gleeson (Preet, 2014). It is an assessment tool used in evaluating students' clinical competence where examiners plan carefully the areas to be examined. In this examination, the candidates rotate around a circuit where at each station; clinical competencies have to be performed. These competencies usually involve clinical skills such as taking patient's history, physical examination; wound dressing, administration of drugs, giving a health talk, checking vital signs, making conclusion

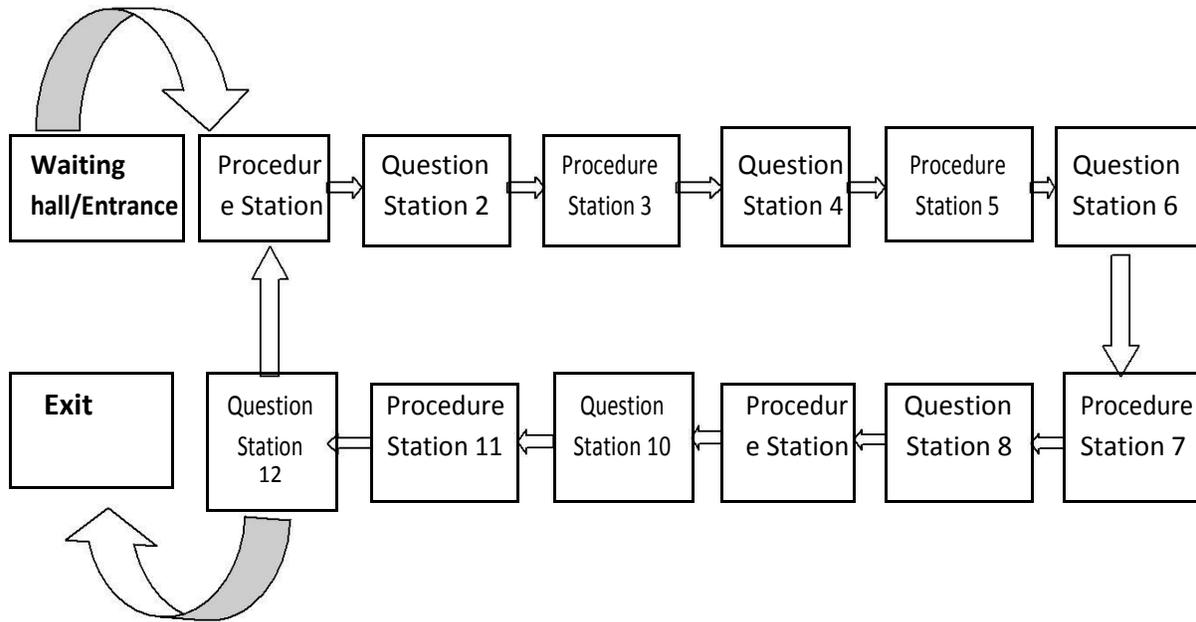


Figure 1: An Example of a floor plan for an OSCE in a large room

conclusions on the basis of their findings etc. (Boursicot and Roberts, 2005). Each component is tested using an accepted check list. The OSCE has been used to evaluate those areas most critical to performance of health care professionals, such as the ability to obtain/interpret data, problem-solve, teach, communicate, and handle unpredictable patient behavior, which are otherwise impossible in the traditional clinical examination (Ward & Willis 2006).

In the United Kingdom, United States, Canada and indeed most reputable colleges of medicine including midwifery training programs in Nigeria, the OSCE is the standard mode of assessment of competency. Where clinical skills, and counseling sessions satisfactorily complement cognitive knowledge testing in essay writing and objective examination.

Meaning of OSCE

The acronym **OSCE** stands for Objective Structured Clinical Examination.

Objective

The adjective objective is something, having actual existence or reality. Something that is uninfluenced by emotions or personal prejudices; an objective critic. OSCE is said to be objective because examiners use an agreed check list for evaluating the students.

Structured

This is because every student is presented with the same problem and performs the same task in the same time frame. In addition, the marking scheme for each station is structured.

Clinical

The tasks are representative of those encountered or faced in real clinical situations.

Examination

This is so called because the skills are assessed in the form of a formal test of knowledge or ability (examination).

METHODOLOGY

The students normally rotate a number of stations and they spend a specified time at each station. On a signal example, through the ring of a bell, the students move on to the next station preferably in a clock wise direction (see Figure 1). The time allowed is the same for all the stations and the stations must be designed with this in mind. About 4 - 5 minutes is an appropriate time for each station. A further 30 seconds should be allowed for students

TABLE1: Example of a procedure station**Task / Instruction** – Examine the scrotal swelling in this patient and report your findings as you go along**Check list:**

1. Candidate greets the patient and introduces self (1/4mk)				
2. She/he explains the procedure to the patient (1/4mk)				
3. Takes permission from the patient (1/4mk)				
4. provides a screen for privacy (1/2mk)				
5. wash and dry hands (1/4mk)				
6. exposes abdomen and genitalia (1/2mk)				
7. examines both sides of the scrotum using both hands (1/2mk)				
8. takes care not to cause discomfort (1/4mk)				
9. palpates the spermatic cord (1/2mk)				
10. palpates the abdomen (for lymphnodes in case it is a patient with a testicular tumour) (1mk)				
11. palpates the supraclavicular nodes (1mk)				
12. reports her findings to the examiner as she goes along (1/2mk)				
13. tidies up the patient and leaves him comfortable (1/4mk)				
14. thanks the patient (1/4mk)				
15. wash and dries hands at the end (1/4mk)				

TOTAL = 6 ½ MARKS (Modified from Ananthkrishnan, 2014)

students to move from one station to another to complete any final comments. The number of OSCE examination stations vary from 12 – 15 or even 20 stations each of which as earlier stated requires about 5 minutes per station. Since the stations are independent of each other, the student can start at any of the stations and complete the cycle. Using 12 stations of 5 minutes each, as is currently practiced in Midwifery in the country, 12 candidates can conveniently complete the examination in one (1) hour.

Each station is designed to test a clinical competence (Ananthkrishnan, 2014). At some procedure stations students are given tasks to perform on patients, models or simulators. At all such stations as observed by Bartfay et al (2004); Major (2005); Ward & Barratt (2005), there are examiners with agreed check lists to score the student's performance. At the other stations referred to as "Question stations", students respond to objective question type or interpret data or record their findings of the previous procedure station. They are thus equal number of "Procedure stations" and same number for "Question stations".

For credibility and objectivity, all the students to perform the examination gather, wait and start from a large hall and exit from an opposite door at the end of the assessment. It is thus expected that candidates yet to be examined should not have contact with those already examined. Candidates are earlier briefed on the movement in the examination hall and advised to switch

off / stay without their phones until end of the exams (Boursicot and Roberts, 2005).

The scores for each item on the check list are decided by the examiners depending on the importance of the item. It is important to note that the affective domain which is not usually assessed by the conventional clinical examination is tested here as seen in points. 1,2,3,4,8,13 &14 above.

OSPE

OSPE however means Objective Structured Practical Examination. It has similar characteristics as the OSCE assessment method. The students rotate through a series of stations and undertake a variety of tasks to test practical skills reliably and validly. They may have to carry out an activity or practical procedure, for instance chemical analysis, use of an instrument, or communication with someone. In some stations, the students may be asked to recall their findings or interpret what was done in the previous station. There may also be examiners in some stations while other stations may have no examiners. The number of stations normally vary from 14 – 20 and the time allocated in each station is about 5 minutes. Examiners use checklists and scoring cards to assess the student.

At question stations, the student may be asked to answer short questions, multiple - choice questions or

TABLE 2: Example of an OSPE**Task / Instruction** – Examine the urine specimen provided for protein using the hot test.**Check list:**

	0mk	1/4mk	1/2mk	1mk
1. Candidate fills the test tube up to 2/3 level (1mk)				
2. Boils the upper 1/3 of the urine in the test tube (1mk)				
3. Adds 2% acetic acid drop by drop (1mk)				
4. Compares change in the top layer with the bottom layer of the urine or with colour chart provided (1mk)				
5. Wash hands at end of procedure (1/2mk)				
6. tidies up the environment for the next candidate (1/2mk)				

TOTAL = 6 MARKS (Modified from Ananthkrishnan, 2014)

identify labeled exhibitions. Arrangements are normally made to agree on what should be in each station and the allocation of marks that should be given for the different stations.

This type of evaluation has been widely used in various medical schools and found to be quite appropriate in final qualifying examination and also in giving feedback to students and teachers during course assessment. Many institutions prefer using this type of assessment because of wide coverage of skills during the assessment. The examination is applicable in any subject where practical skills need to be assessed (Rakin, 2002 and Ngatia & Mutema, 2006).

Features of OSCE / OSPE

- ❖ There is adequate sampling of skills and content. And as stated by (Newbie, 2010), the assessment covers a broad range of clinical skills much wider than a conventional examination.
- ❖ The stations are short i.e the task at each station does not exceed 4 – 5 minutes.
- ❖ The stations are numerous ranging from 12 – 20 stations as desired.
- ❖ The stations are very highly focused.
- ❖ Pre-structured check list / marking schemes are used.
- ❖ Scoring is objective, since standards of competence are pretested and agreed check lists, used for scoring.
- ❖ Simulations / models can be used for acute cases.
- ❖ There is reduced examiner / patient input thus increasing the validity of the examination.

Advantages of OSCE / OSPE

The OSCEs / OSPEs are potentially more reliable method of assessment because of the following reasons:

Large samples of students' clinical abilities can be assessed.

The examiner can specify in advance what has to be assessed.

The use of checklist encourages a more objective assessment.

Each student has a number of examiners.

All students have the same, nearly identical patients. The benefit of OSCE as observed by Rentschle et al, (2005), is that it provides a formative evaluation for both students and the educational institute. Following a research study carried out by these researchers on the use of OSCE, they arrived at a conclusion that the faculty, students and standardized patients found OSCE to be a worthwhile experience.

Limitations of OSCE / OSPE

The process of conducting OSCE / OSPE however is not without limitations. They include:

The risk of observer / examiner fatigue especially where the examiner has to record the performance of several candidates on lengthy check list.

Since all stations invariably require equal time, care must be taken to organize the stations.

Some educators feel that breaking clinical skills into individual competencies is artificial and not meaningful (Ananthkrishnan, 2014).

RECOMMENDATIONS

General nursing institutions in the country are still using the same conventional practical examination, adopted long time ago. While, the deficiencies observed in this examination are well known. The objectivity and validity in practical examination like any other examination is necessary to be observed. Therefore, adoption of a valid

method for practical examination is recommended for the evaluation of individual competencies of students with reliability. Considering the advantages of OSCE / OSPE as against few limitations, there is great need for the Nursing and Midwifery Council of Nigeria (N&MCN) to make deliberate efforts and commitments to adopt OSCE / OSPE as a tool for assessing students' clinical skills in General nursing. The following implementation processes are suggested:

General nursing should take a leaf from Midwifery and start the OSCEs utilizing some schools as pilot schools.

OSCE/OSPE demonstration workshops for Nurse Educators are advocated for competence in structuring valid and reliable blueprint for Clinical evaluation in General nursing.

With a sound blueprint as suggested, this will ensure that different domains are evaluated equitably and the balance of subject areas tested is fairly decided.

Midwife educators who are already knowledgeable and conversant with the process of OSCE/OSPE, should be invited to work in collaboration with Nurse Educators to structure the Procedure and Question Stations including their Check list to precision.

SUMMARY / CONCLUSIONS

In this paper, an attempt has been made to discuss the current conventional clinical evaluation methods in General nursing programmes in Nigeria, explain the acronyms OSCE / OSPE, view their methodologies, advantages and limitations. Recommendations are also made. The OSCE/OSPE type of evaluation has been widely used in various Health institutions because it has several distinct advantages. It has been found to be quite appropriate in the N&MCN Professional Examinations for Midwives and also in giving feedback to students and teachers during course assessment. Many institutions prefer using this type of assessment because of wide coverage of skills during the assessment.

In conclusion therefore, since the examination is applicable in any subject where practical skills need to be

assessed, including other numerous advantages, it is recommended that OSCE/OSPE be utilized as an objective tool for clinical assessment in General nursing institutions.

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