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Original Article

### STUDENT NURSES' KNOWLEDGE AND ATTITUDES TOWARDS OBJECTIVE STRUCTURED CLINICAL EXAMINATION AT KENYA MEDICAL TRAINING COLLEGE KAKAMEGA CAMPUS

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#### ABSTRACT

Evaluations and assessments have continuously been critical components of preparing students. This is because they are reliable way to audit the level of students teaching and learning. Objective Structured Clinical Examination is a useful method for assessing competence, skills, as well as for enhancing the knowledge required for clinical work. The study aimed at finding out the levels of knowledge and attitudes of student nurses with regard to the objective structured clinical examination assessment approach. A cross-sectional study was done where questionnaires were used to collect data. The questionnaires focused on the level of knowledge and attitude of student nurses to the objective structured clinical examination approach focusing on execution, time allocation, characteristics and student preparedness. Descriptive analysis was done and data presented in the form of frequency tables and pie charts. Majority of the students (57.5%) understood that Objective Structured Clinical Examination provided students with the ability to integrate knowledge, skills and attitude. Forty percent (40%) of the respondents strongly agreed to have received adequate information before taking exams while twenty-five percent (25%) strongly noted that the assessments were stressful. In conclusion, students' knowledge, attitude and experience indicate that Objective Structured Clinical Examination continues to be a valuable and accepted method of assessment though a few students understand its importance. Objective Structured Clinical Examination is an effective assessment tool and should be used in the preregistration nursing programme. The study recommends that the management process involved in the preparation of Objective Structured Clinical Examination should be enhanced. There is a need for the careful preparation and organization of Objective Structured Clinical Examination. This should include the aspect of examiners preparation, students' preparation and technical preparation.

## INTRODUCTION

Evaluations and assessments have continuously been critical components of preparing students. This is because they are reliable ways of auditing the level of students teaching and learning (Saburi *et al.*, 2010). Pishkar *et al.* (2013) describe Objective Structured Clinical Examination as an assessment well known to assess instructive objectives in areas of knowledge, attitude and skills among students in the medical field.

Introduced in 1970s, OSCE has been used to evaluate student's capabilities to carry out a skill and apply knowledge in a well organised and controlled environment with an aim of achieving the required goals (Harden & Gleeson, 1979). Objective structured clinical examination has widely been used in the training of Medical Doctors with an increasing use in nursing education (Nutly *et. al.*, 2011).

McAleer and Walker (1990) describe Objective Structured Clinical Examination as a method of assessing clinical skills in which the integration of knowledge, application of skills and attitudes are evaluated in an organised manner with an emphasis on achieving the required objective at each station. This approach has been established through experiments and is being used for undergraduate medical, clinical and practical evaluation in some institutions. The structure of a typical Objective Structures Clinical Examination is made up of a series of 12-20 stations each testing one or two components of clinical competence. Students are rotated through all stations at predetermined time intervals, thus one series (circuit) of 12-20 stations accommodate 12-20 students who are examined simultaneously. The process is repeated untill all students are examined (McAleer & Walker, 1990).

Bhatnagar, Saoji and Banerjee (2011) describes objective structured clinical examination as a well-established method of assessment that consists of well-organized stations specifically for evaluating clinical skills. This method allows actual demonstration of applied knowledge and skills rather than testing knowledge alone (Rajiah, & Veettil, 2013)

Objective Structured Clinical Examination has been referred to as a means for assessing competence skills needed for enhancing the expertise essential for clinical work. In this method students demonstrate their acquired skills, attitude and knowledge in the skills lab. According to Sharma, Chandra, and Chaturvedi (2013), OSCE is important and useful in evaluating students' integration of knowledge and attitudes into practice.

According to Harden and Gleeson (1979), the use of OSCE to evaluate students in the clinical area increases their confidence levels therefore making it an important assessment tool in the medical field. This has led to the increased use of OSCE assessing students during their clinical learning since it's a good tool in assessing competence related learning outcomes (Khan & Ramachandran, 2012).

The preregistration programmes in training nurses require the learners to demonstrate their competence in both integration of knowledge and skills in their clinical areas. This is achieved through continuous examination of student's ability to demonstrate their cognitive and psychomotor abilities (Nursing and Midwifery Council, 2010).

The Millers pyramid ranks clinical competences into four categories defining what students should be able to demonstrate at each category. Objective Structured Clinical Examination is an assessment technique that allows the students to show how they have integrated the knowledge learned into practice in simulated learning environment (Miller, 1990).

There are several methods used in clinical assessment including objective Structured Clinical Examination which is used to evaluate student's progress during learning or at the end of a program to check if the learning objectives have been achieved. Evaluation of student's progress in learning provides an avenue for providing feedback on their learning, aiding them to improve on their weaker areas and reinforce their stronger areas (Taras, 2005; Aliner, 2003). Nutly *et al.* (2011) argues that OSCE prepares students to work in clinical areas for practise when it used as a tool to evaluate students learning progress.

Kenya Medical Training College curriculum stipulates that students should be assesses at the end

of every clinical placement. The findings from the clinical exams help to ascertain and evaluate the students' clinical competence. This can be seen by looking at the students' capability to apply knowledge learning by choosing the relevant aspects of the knowledge learned during Objective Structured Clinical Examination.

There is insufficient literature on the structure of OSCE despite it being used as assessment tool in various disciplines in the medical field. Students' views about assessment of practical knowledge vary from one student to another which prompted the evaluation of OSCEs use in examination of clinical skills (Negahdary et al., 2016). Therefore, this paper aimed at finding out the student nurses' knowledge and attitude towards the Objective Structured Clinical Examination.

## METHODOLOGY

**Study Design:** A cross-sectional study was done at Kenya Medical Training College, Kakamega Campus among Diploma students in Community Health Nursing. The students were put into clusters then a sample size of 40 students (involving 20 students from First year September 2013 class and 20 from the First year March 2014 class) was selected by simple random sampling. Questionnaires were used for data collection focusing on the level of knowledge and attitude of student nurses towards Objective Structured Clinical Examination approach focusing on student's preparation, the level of tension experienced and confidence during the assessment. Descriptive analysis was done using frequencies and percentages and presented in tables, pie charts and bar graphs.

**Ethical Consideration:** Masinde Muliro University of Science and Technology Research Ethics Committee approved the research. Permission to conduct the study was sought from the Principal KMTC, Kakamega. All the eligible research participants voluntarily gave informed

consent before participating in the study. Confidentiality of the participants was maintained.

## RESULTS

### Introduction to OSCE

**Table 1: Respondents Academic Year**

| Year of objective structured Clinical Examination | First Year | Second Year |
|---|------------|-------------|
| Respondent  | 25         | 15          |

The data collected indicated that twenty-five (62.5%) of the respondents who took part in the study were introduced to Objective Structured Clinical Examination in the first year while fifteen (37.5%) were introduced to Objective Structured Clinical Examination in the second year.

**Figure 1: The frequency of OSCE assessment**

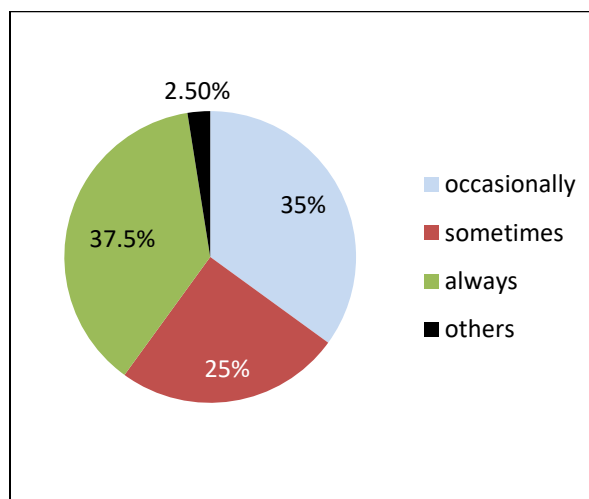


Figure 1 study results showed that majority of the respondents (n=40) 37.5% of had been assessed by OSCE most of the times, followed by 35 % who claimed to have been assessed occasionally, 25% were assessed sometimes while 2.5 % did not have a specific answer. From this study, it shows that most of the students were assessed frequently.

### Students' knowledge on Objective Structured Clinical Examination

**Table 2: Definition of Objective Structured Clinical Examination**

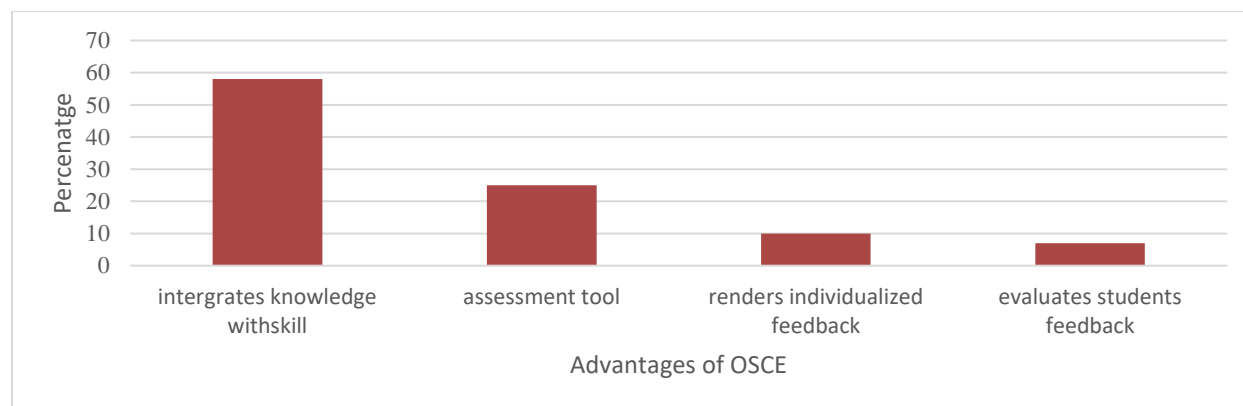
| Description of Objective Structured Clinical Examination   | Frequency | Percentage |
|--|-----------|------------|
| Made of multiple stations that evaluate the students' ability to take history, examine patients and interpret clinical data. | 12        | 30%        |
| The students rotate around the stations performing the tasks required at each station.                                       | 2         | 5%         |
| It's used to measure the students' ability to perform the skills learned.  | 9         | 22.5%      |
| All  | 7         | 17.5%      |

Table 2 shows that most of the respondents (30%) defined OSCE as an examination that is made of multiple stations that evaluates the student's ability to take history, examine patients and interpret clinical data while 22.5 % defined it as an assessment tool to measure the student's ability to perform the skills learned. Only two respondents (5%) defined it as an assessment format in which the students rotate around the stations performing the tasks required at each station while 17.5% believed that all the provided definitions were correct.

#### Advantages of Objective Structured Clinical Examination

Figure 2 shows that majority of the students (58 %) understood that OSCE provides students with the ability to integrate knowledge, skills and attitude while 25% described it as an assessment tool that examines cognitive, psychomotor and affective abilities. 10% knew that it renders individualized instruction and feedback while the remaining 7% described OSCE as a way of evaluating students' feedback. Some of the respondents agreed with all the responses.

**Figure 2: Advantages of Objective Structured Clinical Examination**

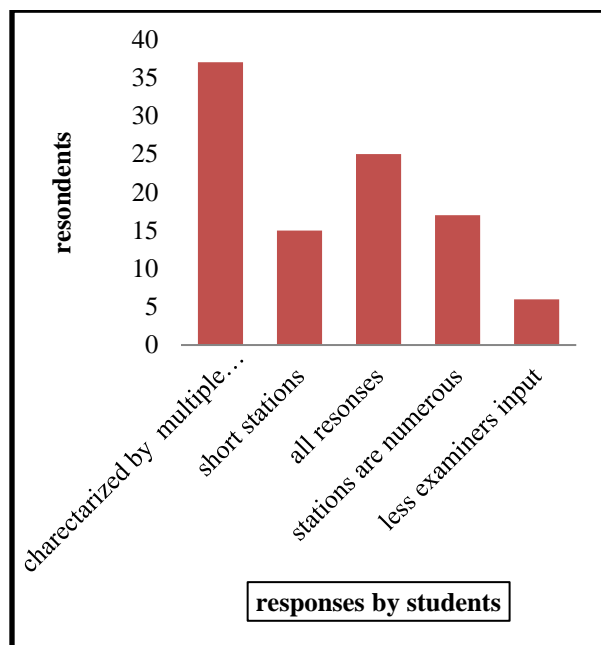


#### Characteristics of Objective Structured Clinical Examination

Figure 3 shows the characteristics of Objective Structured Clinical Examination. It can be noted that most of the respondents (37.5%) viewed Objective Structured Clinical Examination to be characterized by multiple stations with specific instructions of the task the student is meant to

perform at every station. 15% of the respondents responded that stations are short, 25% acclaimed all the responses. 17% agreed with the fact that stations are numerous while the remaining 6% agreed with the fact that there is fewer examiner's input.

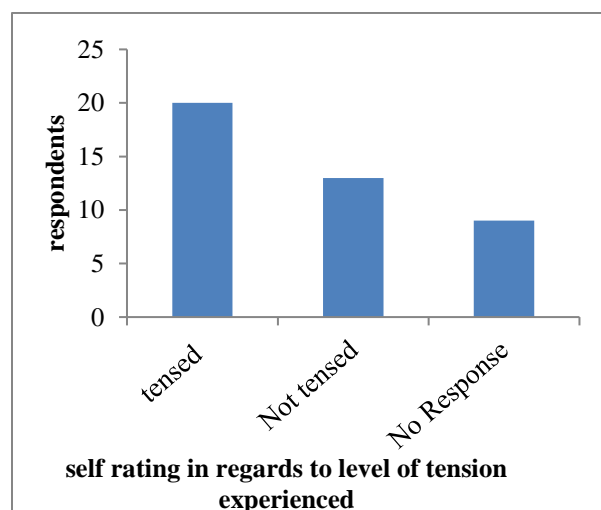
**Figure 3: Characteristics of Objective Structured Clinical Examination**



### Level of Tension of Objective Structured Clinical Examination

The results on the level of tension experienced by students during Objective Structured Clinical Examination indicated that 50% were tense during the assessment while 32.5% didn't tense during the assessment. On the other hand, 22.5% had no responses to the fact that OSCE was stressful (see Figure 4).

**Figure 4: The Level of Stress**



**Figure 5: Preparations during OSCE**

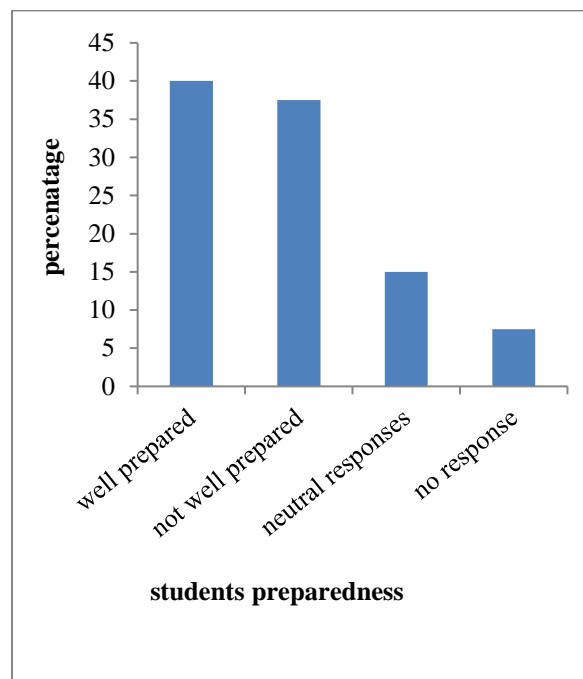
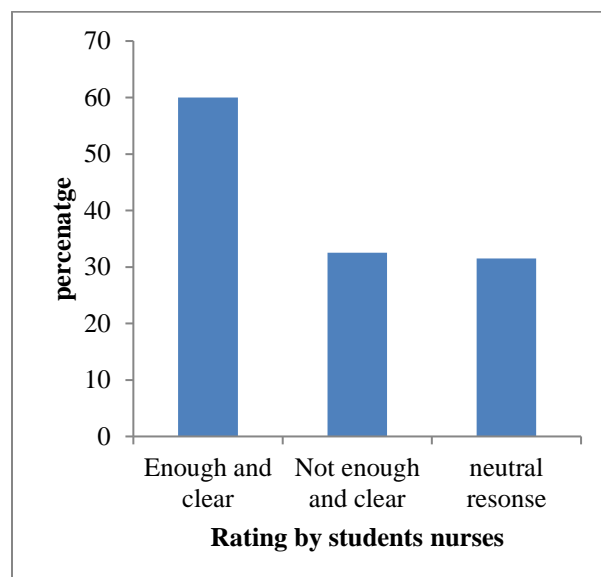
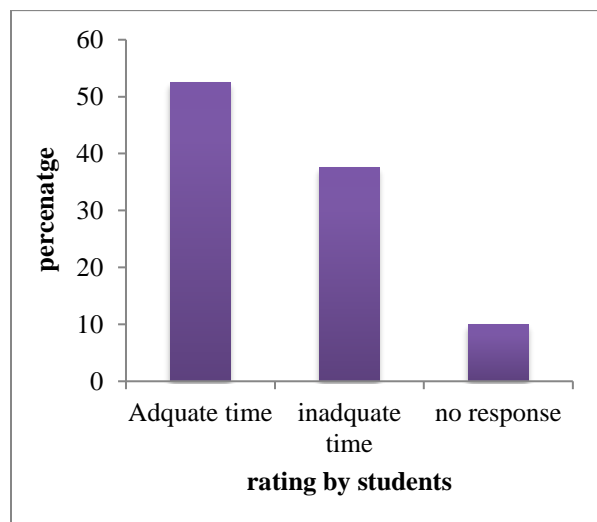


Figure 5 show that 40% of the respondents were well prepared and received adequate information before appearing in the exams. 37.5% were not well prepared, 15% had neutral responses and the remaining 7.5% had no response. This clearly showed that OSCE rehearsals are important since they give students prior knowledge of what is expected of them during the assessment.

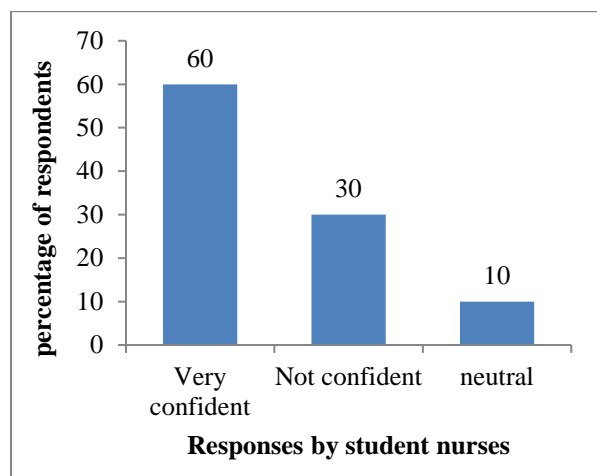
**Figure 6: The extent of information received at OSCE**



**Figure 7: Time allowed reading the instruction and allocated for each station**



**Figure 8: Confidence to perform the procedure**



The results from the study in *Figure 6* show that 60% of the respondents strongly agreed that instructions on each station were clear as expected. 32.5% of the respondents said instructions were not enough or clear, and 31.5% had neutral responses. On the other hand, when asked to comment on the time allocated for each station (see *Figure 7*). 52.5% agreed that time was adequate, 37.5% of the respondent asserted that with the fact that time allocated was inadequate while the remaining 10% didn't respond. Most (60%) of the respondents (*Figure 8*) agreed that performing of the tasks at each station was interesting and they were confident doing it. 30% of the respondents were not

confident enough to perform the tasks required, and 10% were neutral.

## DISCUSSION

It's important to inform students about the aims of OSCE with specifics on whether the examination covers the learned outcomes that have already been taught (Alinier, 2003).

The study aimed at assessing the students understanding of Objective Structured Clinical Examination (see *Table 2*) and the results indicate that most of the students were able to describe Objective Structured Clinical Examination. Alinier (2003) describes OSCE as a tool for assessment that requires students to rotate around multiple stations performing different tasks in a specified period of time. Objective Structured Clinical Examination allows students to apply the knowledge learned when performing skills needed for the management of patients in daily routine.

The study results show that most of the respondents (see *figure 3*) described OSCE as being characterized by stations with specific instructions on the task the student is meant to perform at every station. Ward and Barratt (2005) came up with Objective Structured Clinical Examination made up of 10 stations where the learners are meant to perform physical examination in some stations; take history from the simulated patients in some of the stations and there communication skills put on the test including oral examination; discussion on patients management in case scenarios; interpretation of laboratory results and their significant.

The study looked at the level of stress students experience during an Objective Structured Clinical Examination (see *Figure 4*), and half of the respondents reported to have been stressed during the assessment. A study done by El-Nemer and Kandeel (2009) reported that the first-year students had difficulties during the OSCE. On the other hand, Fidment (2012) concluded that most the students get nervous during the OSCE period. They all experience different level of nervousness which affects their performance during the assessment.

The study also looked at the level of preparedness for OSCE assessment (see *Figure 5*), and only a few

were prepared. This clearly showed how important OSCE rehearsals are since they give students prior knowledge on what is expected of them during the assessment. According to El-Nemer and Kandeel (2009) rehearsals are an important aspect in OSCE assessment and this should be done days prior to the assessment day as this helps the students to understand what is expected from them on the assessment day. In addition, assessors should put in consideration that students may feel that they were not well oriented for the OSCE exams.

According to the study, most of the respondents were confident in performing the tasks during the objective structured clinical examination. To improve students' learning the students should be subjected to the same tasks and with same amount of time since a variety of skills can be examined in view of student's clinical competence during Objective Structured Clinical Examination.

## CONCLUSIONS

As observed in this study, the knowledge and attitude towards objective Structured Clinical Examination influences their performance. Despite OSCE being widely used as an assessment method in nursing education, students are not well prepared and well oriented before examination. It was also noted that the students were able to define OSCE and described it as an important tool in nursing education.

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