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Perception of Objective Structured Clinical Examination (OSCE) by the 400 level medical students: Reflecting on the impact of the surgical residents

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Abstract

Introduction: Objective Structured Clinical Examination (OSCE) has gained widespread acceptance among both students and teachers due to its objectivity and standardisation. It is free from bias and is preferred over traditional examinations by most students. Despite these benefits, preparation can be difficult for new clinical entrants. The teaching ability of resident doctors is crucial for providing proper guidance to these young individuals.

Aim: This study aims to assess the perception of OSCE among new clinical intakes following their first OSCE in the surgery department, with emphasis on the overall impact of the surgical residents.

Methodology: A cross-sectional study involving 400 level medical students who had their first OSCE following completion of their debut surgical clerkship.

Results: A total of 99 students participated in the OSCE, with 59 (60%) ultimately involved in the study. 36.8% considered the exam difficult, and 76% were unsure about their preparation. Only 40.7% had prior OSCE simulation, whereas 59.3% had no simulation. 88% of the simulations were conducted by ABUMSA, while only 8% were performed by resident doctors, yet the overall impact of the residents was rated highly. The majority (69.5%) preferred OSCE to the conventional examination.

Conclusion: OSCE may pose significant challenges to new clinical intakes who are unfamiliar with this method of examination. Proper mentorship by resident doctors will greatly assist in guiding them.

Keywords: Medical Students;OSCE; Resident Doctors; Teaching

1. Introduction

OSCE is a typical type of examination that is often used in health sciences (e.g. medicine, physical therapy, nursing, pharmacy, dentistry) to test clinical skills and competencies such as communication, clinical examination, medical procedures, clinical decision-making, clinical thinking/reasoning, interpretation of clinical outcome results, etc.*It has been defined as an assessment tool based on the principles of objectivity and standardisation, in which the candidates move through a series of time-limited stations in a circuit to assess professional performance in a simulated environment. At each station, candidates are assessed and marked against standardised scoring rubrics by trained assessors.*[1]

The OSCE examination was developed in 1975 by Ronald Harden, Professor of Medical Education (Emeritus) at the University of Dundee.[2] Since its introduction, it has evolved rapidly to become a universally accepted standard examination in higher education assessment. The OSCE's global acceptance, involving educators, stakeholders,

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administrators, patients, and, most importantly, students, is a testament to its success and potential for further improvement. This widespread acceptance not only reassures us of the OSCE's effectiveness but also its potential for further refinement.[3]This form of examination is used in several medical schools and postgraduate examinations in Nigeria. One of its greatest advantages is the fact that it is devoid of bias, unlike the traditional clinical examination.[4] It was introduced for medical students' examination in Ahmadu Bello University Teaching Hospital (ABUTH) in 2018, and since then, it has been used for 'End of Posting' assessment at all clinical levels in the surgery department. These students also undergo mid-posting assessment using the traditional system of examination. An assessment of medical students perception of OSCE as compared to traditional examination showed that majority of the students preferred OSCE to the traditional examination.[4]

However, despite the popularity of OSCE, new clinical intakes who are naïve to this system of assessment may have entirely different perceptions before and after their first experience. Some of these perceptions may affect their preparation and readiness for the examination.

Resident doctors contribute significantly to the quality of undergraduate medical training, and it is assumed that by participating in the process, they also improve their professional competency.[5]Resident doctors are fully licensed medical practitioners undergoing specialised postgraduate training in a hospital setting. In Nigeria, these doctors are typically enrolled in fellowship programs accredited by the National Postgraduate Medical College of Nigeria or the West African Postgraduate Medical College. Their training involves rigorous clinical rotations and examinations to become specialists in their chosen fields.

Residency training in Nigeria is focused on three pillars: clinical services, research, and training. As part of their postgraduate medical/dental training, resident doctors are expected to develop logical and analytical skills and gain knowledge in their chosen specialty.[6]They are actively involved in medical students' training in the ward, accident and emergency, clinic, theatre, classroom, etc. Therefore, they play a pivotal role in the success of these students in their examinations. It is estimated that residents spend a quarter of their time teaching regardless of their future career, and survey data have demonstrated that students often view residents as some of their most important clinical teachers.[7]Full adaptation of the new clinical intakes may be related to the actions of the resident doctors in the specific units where they are posted. Provision of a suitable mentorship to these young students would ultimately improve their academic performance.

This study aims to assess the perception of OSCE among new clinical intakes following their first OSCE in the surgery department, with emphasis on the overall impact of the surgical residents.

2. Methodology

This is a cross-sectional study involving the 4th-year medical students of ABUTH, Zaria, who had their first OSCE on 11th July 2024 in the surgery department. Ethical approval was obtained from the ABUTH, Zaria health research ethics committee, and a structured proforma containing 19 questions was used to extract information from the students. The questions were categorised into biodata, questions concerning the OSCE, and questions assessing the impact of the surgical residents. This proforma was arranged in Google Form, and the link was sent to each participant via WhatsApp Messenger. The data were collated and analysed using SPSS version 21. Students who did not give consent were not included in the study.

Aim

To assess the perception of OSCE among the 400-level medical students of ABUTH Zaria, reflecting on the impact of the resident doctors.

Objectives

- To assess the general overview of the examination among the new clinical intakes.
- To assess the impact of surgical residents on medical education
- To identify loopholes in OSCE preparation for first-timers

Justification

Despite the popularity of OSCE, many people who have yet to experience it may face many challenges during their first attempt. Identifying students' perceptions before their first experience may help improve examination preparation, confidence and success.The role of resident doctors in medical students' training is crucial, and this can be assessed through feedback from the students.

3. Results

A total of 99 students participated in the OSCE and were eligible for the study, but only 59 (60%) responded. Among them, 26(44.1%) were females and 33(55. 9%) were males. Their age ranged from 21 to 27 years, with a mean age of 24 years.

A larger proportion of the students (72. 9%) had previous OSCE experience, while 27. 1% had no prior experience. Regarding their general perception of the examination, 21 students (36. 8%) found it difficult, and 12 (21. 1%) found it easy. 40. 7% had participated in a prior OSCE simulation, whereas 59. 3% had not. Most of these simulations (88.0%) were conducted by the Ahmadu Bello University Medical Students Association (ABUMSA), while only 8.0% were conducted by resident doctors and 4% by Christian Medical and Dental Association (CMDA). Regarding preparation, 74. 6% were uncertain, 16. 9% felt well prepared, and 8.5% did not prepare adequately.

Most respondents praised the overall arrangement of the venue, including the helpfulness of the arrows guiding to the stations. Resident doctors, who managed most stations, were commended for their professionalism. While 40 respondents (67. 8%) were satisfied with the timing of the stations, 19 reported some inconsistencies, particularly with stations such as History taking, Physical examination, and Oral stations.

In assessing the teaching skills of the surgical residents, 68% of the students said the residents were available to teach, and 76% said they are committed to teaching. The residents' overall impact on OSCE preparation was rated high, as 74.6% of the respondents said that they were very helpful. Additionally, 69. 5% preferred OSCE over traditional examinations.

Some requests and concerns from participants to the surgery department included a suggestion for more OSCE-specific teaching, the preference for OSCE due to its objectivity, since all students follow the same process, and the need for a dedicated period for learning basic surgical procedures using mannequins. Many also expressed a desire for increased OSCE simulation sessions. One student complained that at the procedure station, part of the allotted time was spent reorganising the work of the previous student, thus reducing the time available to perform the procedures.

Another participant recommended that viva stations should focus on a single topic, even if this means increasing the number of viva stations. There were also concerns about discrepancies in the information provided during history stations, and some participants felt that the timing for the viva and history stations should be extended.

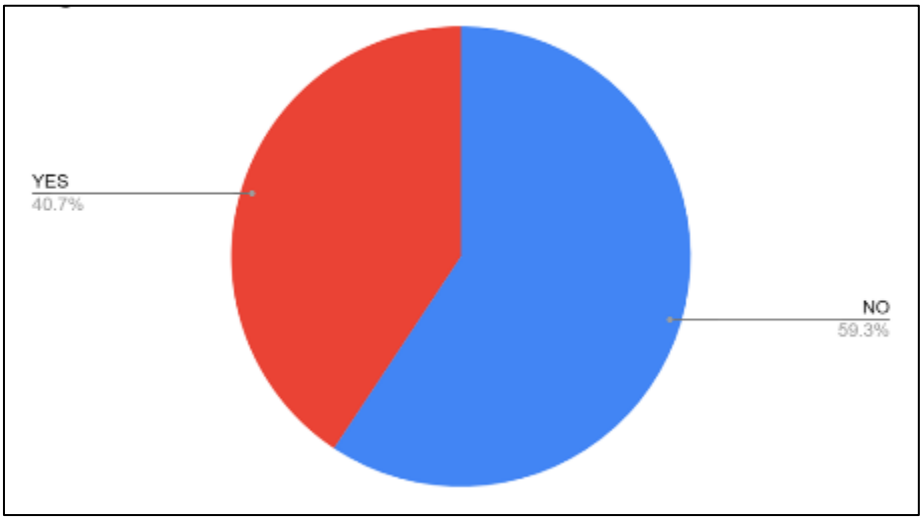

Figure 1 Participants Involved In OSCE Simulation

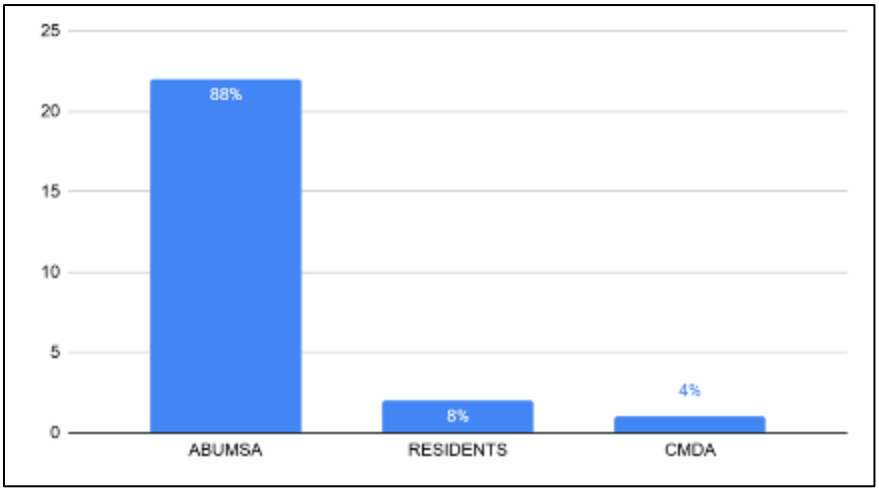

Figure 2 Sources of OSCE simulation

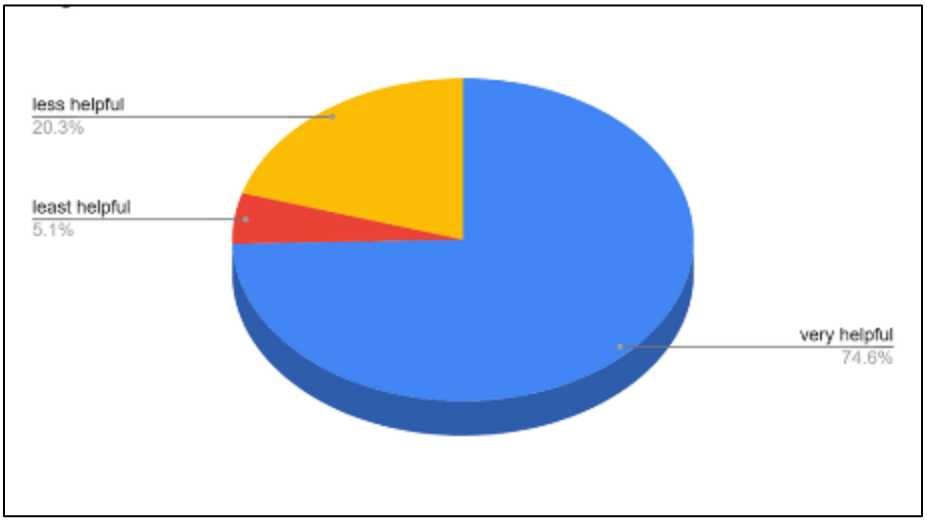

Figure 3 Overall impact of the residents

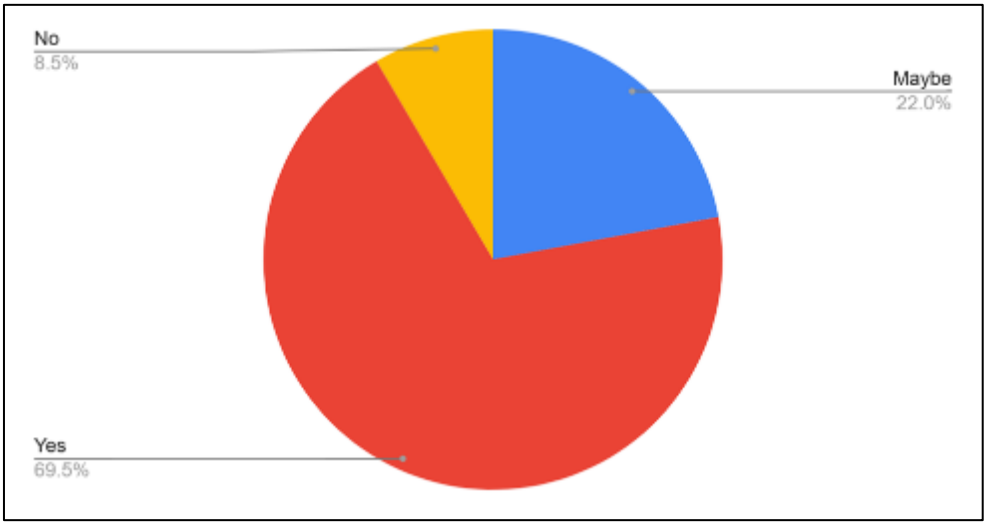

Figure 4 Preference of OSCE to conventional examination

4. Discussion

Adequate mentorship by surgical resident doctors is vital in all aspects of medical students' education more so to the new clinical intakes who are naïve to the system. Though these doctors may not have formal training in medical education, they are able to teach from their clinical and surgical experiences. Study done by Makama J et al, on the Quality of teaching provided by surgical residents: an evaluation of the perception of medical students found that Final year medical students' perception of teaching provided by surgical residents is encouraging in Ahmadu Bello University Teaching Hospital, Zaria (ABUTH).[8] This emphasizes the important role of the surgical residents in undergraduate medical training. Thus, the teaching skills of surgical residents should be encouraged and sustained. However, new clinical intakes who are naïve to OSCE may find it difficult to understand the demands of this system of examination therefore resident doctors teaching to these students could be more centered on examination preparation. The findings of only 8.0% of the students receiving OSCE simulation from the residents is discouraging as this may contribute to their high rating (76%) of preparation as equivocal and the majority (36%) rating it as difficult.This may suggest that surgical residents are lacking in the OSCE-directed teaching to these young students. Brasher et al evaluated the impact of duty hours regulation on medical students' perception of residents' teaching and found that duty hour regulation has a negative impact on medical students' perceptions of resident teaching. Therefore, surgical educators must develop programs that address resident teaching skills in a different environment.[9]

The overall impact of the resident doctors was rated high, indicating their positive contribution to undergraduate medical education.This is in keeping with a study by Pugh et al in 2021, evaluating if Resident Teaching Improves Medical Students' National Board of Medical Examiners (NBME) Knowledge and Satisfaction with Residents as Teachers using a resident paediatrics review developed into a lecture format to cover the most common pediatric NBME topics.They identified an objective increase in both the NBME scores and perception of resident teaching after the implementation of a resident-led review. This supports the notion that resident teaching can positively impact both students' knowledge and how learners view resident teaching.[7]

Another study by Pelletier et al,[10] identifying the role and impact of surgical residents on the various activities of a 4th year surgical clerkship showed that the overall satisfaction with the clerkship was encouraging. Surgical residents were perceived as being significantly more active than the attending staff in 14 out of 15 teaching behaviours. They were also seen as important in teaching certain clinical skills such as suturing, assisting in the operating room and managing emergency situations. They also contributed significantly to teaching the basic principles of surgery such as infections, surgical bleeding and fluid and electrolytes.

A similar study by Makama et al, assessing the quality of teaching provided by surgical residents using different domains such as the quality of a teacher, teaching skills, commitment to teaching, availability, inspirational ability, qualities of a supervisor etc, were rated good and outstanding by the students.[8]

The efforts of the surgery department in arranging the venue and overall setting of the arena, including the arrow directions, were appreciated by the respondents, as well as the examination questions and the timing of each station. However, some students reported inadequate time for the history and examination station, which may be attributed to inadequate preparation. This is similar to the findings by Sholadoye et al,[4] on the assessment and comparison of the strengths and weaknesses of objective structured clinical examination and conventional examination where more than half of the students perceived that the content of the OSCE was appropriate, wide-scoped, unbiased, and brought out specific areas of weakness. Some students (38.1%), however, felt that there was a need for improvement in the OSCE process, especially in time allocation. Majority of the respondents 69.5% prefer OSCE to the traditional method of examination as observed in other similar studies in the literature. This is largely as a result of its objectivity and unbias nature.[4,11,12]

5. Conclusion

The role of resident doctors in medical education is enormous. Medical students need guidance all through the medical school to be able to achieve maximum performance in all areas of their training. Provision of mentorship to the new clinical intakes will amount to a soft landing thereby influencing their academic performance as well as future career. Resident doctors should be equipped with appropriate teaching skills to be able to tailor their teaching to the specific needs of the students

Compliance with ethical standards

Acknowledgement

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Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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