

ORIGINAL ARTICLE

PERCEPTION OF FINAL YEAR MEDICAL STUDENTS ABOUT OBJECTIVE STRUCTURED CLINICAL EXAMINATION IN THE DEPARTMENT OF GENERAL SURGERY

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ABSTRACT

Background -Assessment of clinical skills of medical students has a central role in medical education yet the suitable evaluation methods have persistently debated by educators and students.

Objectives – To assess perceptions of final year medical students about the Organized Structured Clinical Exam (OSCE)

Methods and materials - A cross sectional study was performed to assess views of final year medical students who had taken the OSCE in the Department of Surgery of Mekelle University College of Health Sciences, as well as other traditional exam formats in other departments in the medical school

Results - Of the 154 students who took the final qualifying exam, 127 (82.5%) responded to the survey. Eighty-four (66%) of the respondents were males. The OSCE was considered as the best assessment method of practical exams by 70 (55.1%) of the respondents, with the conventional long exam next in preference, by 47 (37%) students. For questions addressing the advantages of the OSCE, the average favorability score was between 4.2 - 4.6 out of Likert's type 5-point scale rating. Coverage of common and relevant topics, uniform student assessment, and communication skill assessment were items receiving high favorability scores by a particularly high percentage of students, (96.9%, 95.3% and 70.9% of all students, respectively)

Conclusions - Most of the students favored the OSCE compared to conventional exam styles. Though the study should be confirmed and extended in other settings, we recommend OSCE to be the main exam type for clinical year surgery examinations.

Key words – Final year medical Students, Perceptions, OSCE

INTRODUCTION

Student evaluation is one of the core components of training. Assessment of clinical skills has a central role in medical education and the selection of suitable methods has been a matter of permanent concern for clinical teachers, course directors and medical educators(1). There have been several ways of evaluation in medical schools. The classical written exam and practical exams include long case, short case and oral (viva) exams. Written examinations (essays and multiple choice questions) test cognitive knowledge, which is only one aspect of competency. Traditional clinical examination basically tests a narrow range of clinical skills. The scope of traditional

clinical exams basically encompasses patient history taking, demonstration of physical examination skills, and assessment of a narrow range of technical skills. It has been shown to be largely unreliable in testing students' performance and has a wide margin of variability between one examiner and the other(2).

Nearly four decades ago another form of evaluation, the Objective Structured Clinical Examination (OSCE), was introduced by Harden and Gleeson³. It assesses competency based on objective testing through direct observation. It is precise, objective, and reproducible allowing uniform testing of students for a wide range of clinical skills. Unlike the traditional clinical exam, the OSCE could evaluate areas most critical to performance of health care professionals such as communication skills and abil-

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ity to handle unpredictable patient behavior⁴. Since its introduction OSCE has become a standard method of assessment in both undergraduate and postgraduate students in many medical schools^{1,3}. The OSCE is now established as one of the most valid, reliable and effective test for the assessment of clinical skills. In a typical OSCE, examinees rotate through a number of stations staffed by either real or standardized patients, where they are required to perform different clinical tasks. The examinees are observed and their performance is assessed using structured checklists(1, 5).

The OSCE style of clinical assessment, given its obvious advantages with respect to objectivity, uniformity and versatility of clinical scenarios that can be assessed, shows superiority over traditional clinical assessment. It allows evaluation of clinical students at varying levels of training within a relatively short period, over a broad range of skills and issues. The OSCE removes prejudice in examining students and allows all to go through the same scope and criteria for assessment. Additionally the OSCE allows uniform scenarios for all candidates, is safe with no danger of injury to patients or to the student, has no risk of litigation, allows for stations can be tailored to level skills level being assessed, and allows for teaching audit⁴. Nonetheless, the OSCE is not free of problems. It is cumbersome and expensive to establish, needs organizational training and may subject students to the idealized 'textbook' scenarios, which may not mimic real life situations(6).

Student attitude is an important part of assessment. Studies showed that students who took the OSCE feel it is both a reliable and valid method of assessing clinical competence(7, 8). Studies assessing students' attitudes towards the OSCE showed favorable results (5, 9). The OSCE is infrequently seen in Ethiopian medical schools with only one published study, from Jimma University, to the best of our knowledge¹⁰. We undertook this study to assess students' perception about the OSCE in Mekelle University, School of Medicine department of Surgery where OSCE is consistently the method of practical examination. Since other departments in the medical school use traditional practical exams, this provided a very good opportunity to compare these examination methods.

METHODS AND MATERIALS

A cross sectional study was conducted at Mekelle University College Health Sciences, School of Medicine, Department of Surgery in September 2014. Mekelle University is located in northern Ethiopia, and is comprised of seven colleges. In the School of Medicine, nearly all clinical departments utilize traditional methods including long case, short case and viva examinations as the practical exam. In contrast, the Department of Surgery utilizes the OSCE as the only yearly practical exam, for both undergraduate and post graduate trainees.

All final year medical students who sat for their qualifying exam in September 2014 were included in the study. The study subjects had the OSCE at least once in the Department of Surgery, and long and short exams in the other departments. Data was collected at an orientation session before students start their internship. A pretested structured self-administered questionnaire, which contains 10 items on Likert's type 5-point scale on perception about OSCE & comparison of OSCE with other practical exams, was used to collect data from anonymous student volunteers. Data was cleaned, double checked for completeness, coded and entered to SPSS version 20, and analyzed. Items rated 'agree' and 'strongly agree' were considered as favorable to OSCE. Mean item scores were calculated assuming a value of 5 for strongly agree, 4 for agree, 3 for indifferent, 2 for disagree and 1 for strongly disagree, and weighted according to number of participants in each response category. The study was approved by the department of Surgery, Mekelle University, College of Health sciences.

RESULTS

Of 154 students who took the final qualifying exam 127 (82.5%), responded to the survey. Eighty-four (66%) of the 127 respondents were males with a male to female ratio of 2:1. All of them had taken the OSCE at least once before and had taken the classic long, short and viva exams in the other departments. When asked which form of the practical exam was the best way of assessment, 70(55.1%) selected OSCE, whereas 47(37%) chose the long exam (Figure 1).

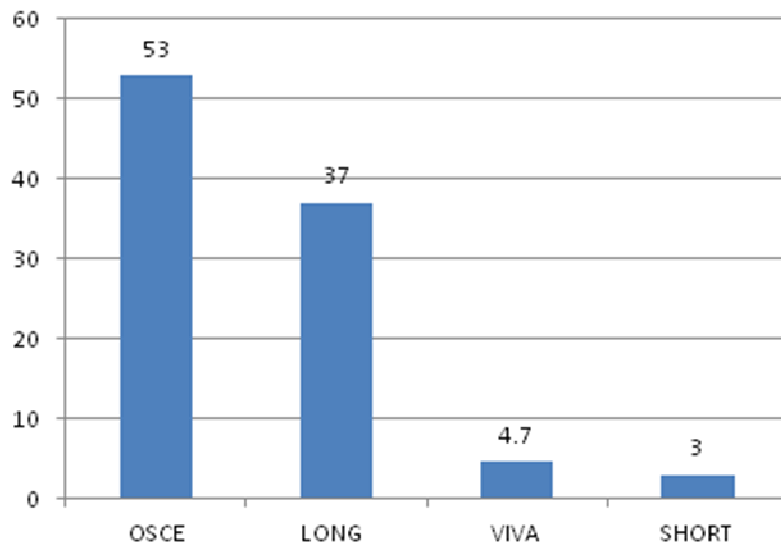


Figure 1. Preferred type of clinical exam by class of 2014 final year medical students of Mekelle University College of Health Sciences

Similarly, when asked if the OSCE is better than the conventional long and short exams and 101 (79.5%) agreed or strongly agreed while only 16 (12.6%) disagreed. For each item or question, out of a maximum of 5, the average favorable score based on numerical equivalents of each of the categories from 'strongly agree' (value of 5) to strongly disagree (value of 1) was between 4.2 and 4.6 (i.e. between the categories of 'agree' and 'strongly agree') Asked whether the OSCE covers common and relevant topics, 123(96.9%) students responded favorably (selecting either 'strongly agree' or 'agree') while one student (0.8%) disagreed, and three (2.4%) were indifferent. Regarding the advantage of OSCE covering vast topics, 108 (85.1%) responded favorably. When asked if OSCE assesses students uniformly, 121 (95.3%) agreed or strongly agreed. 110 (86.6%) students also gave favorable responses to the question whether the provision of similar case scenario for all students as good, For the item that OSCE minimizes examiner bias, 112 (88.2%) agreed or strongly agreed, while eight students (6.2%) disagreed (Table 1).

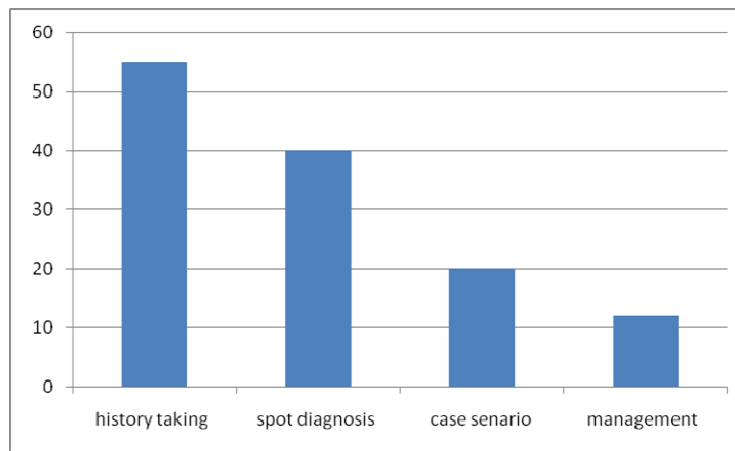
A Likert's scale average less than four out of five (but all above 3.5) was seen in four parameters, namely, on safety of the exam to the examinee and the patients, assessing communication skill, examination stress & switching from one station to the other. The mean attitude score for safety of OSCE to the patient and the examinee was 3.8. On the issue whether OSCE can assess communication skill of students 90 (70.9%) students gave favorable answers. The item assessing if OSCE reduced exam stress was responded to favorably by 87 (68.5%) students. The item Switching from one station to another is confusing was agreed or strongly agreed by only 33 (26.5) of students, whereas 79 (62.2%) of the students disagreed or strongly disagreed that station switching was confusing. (Table1).

Evidence of drawbacks to the OSCE included responses that the OSCE takes a long time, by 68 (53.5%), tiresome, by 73 (57.5%), questions are too detailed, by 15 (11.8%) students, whereas only eight (6.3%) of them claimed that the test is too simple. For the question as to which part of OSCE is difficult, 55 (43.3%) of respondents selected the history taking station, 40(31.5%) the spot diagnosis station, 20 (15.7%) the case scenario station. (Figure 2)

DISCUSSION

Student attitude is an important part of evaluation in any teaching and learning activity. Studies have shown that students who have taken the OSCE felt that it is both a reliable and valid method of assessing clinical competence(7,8); other studies have demonstrated positive student attitudes towards the OSCE (5, 9, 10 and 11). Verma & Singh from India reported a total average favorable score of 4.1 in their Likert's type 5 scale questions, which is comparable to our finding (10). Our study showed not only a high total

Percentage of students



mean favorable score but also a high favor rate (more than 4) for the individual items in most of its basic characteristics; reliability, covering lots of areas, evaluating all students with similar cases and absence of examiners bias.

Similar finding were also seen in studies in Jamaica, Pakistan, Iran, Nigeria, Sudan and Ethiopia. (5, 8, 9, 11-13). In Jamaica the acceptance rate of the OSCE in the Department of Child Health was overwhelming; the majority of students agreed that the OSCE was comprehensive and covered a wide range of knowledge (95%) and clinical competence (86%). Students considered the OSCE as the fairest assessment format (68%), comparable to our findings in this study & other studies in Africa and Asia (8, 9, 11-13). However in this same Jamaican study students found the OSCE to be intimidating (48%) and more stressful (35%) than other assessment formats. (5)

A study in Pakistan showed 84% (n=107) of the students were confident that the OSCE was an acceptable method to assess practical clinical skills for undergraduate medical students. However, the OSCE was unacceptable to 15% (n=19) of the respondents (12). Our study results were similar, 79.5% (101) students accepting and considering the OSCE as a better exam. Another study from Iran showed medical students perceived the OSCE as an acceptable method and a fair examination in comparison to the MCQ and Oral examinations (8). Nearly 70% believed that the most basic skills were assessed by the exam. Sixty three percent of participants found the exam very stressful (8).

In our study, the OSCE was considered stressful only by 23 (18.1%) of the students. Our finding was contrary to findings in Brazil where a large number of students considered OSCE as exceedingly stressful (1)m as well as Jamaican study mentioned above . A study in Nigeria showed that 53 (35.1%) students

considered the OSCE as the second most fair test format, and 56(37.1%) also suggested that the OSCE needs to be used more frequently than the other assessment formats (13). Regarding exam stress 80 (53%) of the respondents said OSCE made them to be nervous, again in contrast to our findings.

In a study in Khartoum, Sudan, among medical students who took the OSCE, the majority, 259 (87.2%), considered the OSCE as a fair examination method when compared with traditional clinical exam; similar to our own findings (11). In the same study, regarding advantages of the OSCE, 174 (58.6%) stated that it covered a wide range of knowledge, 227 (76.4%) found it less stressful as compared to other assessment formats, which is consistent with our findings. In this study, 179 (60.3%) concluded that the OSCE with standardized patients is better than ward assessment with real patients and 182 (69.4%) felt that it should be followed as the method of assessment in Surgery. In our study, although with a lower percentage, 70 (55.1%), it is still the most preferred exam type (11).

A study in Jimma showed that 66 (54.1%) of students agreed that the OSCE covered common and relevant topics consistent with stated teaching objectives (9). Sixty-seven (54.9%) respondents expressed

their opinion that the test was fair in assessing knowledge and skills. Some 64 (52.5%) felt that the OSCE was less stressful than other types of tests they had previously experienced (9). In terms of fairness, the OSCE was rated to be the second most fair test format behind essay and short answer questions (9). These findings, as stated above are comparable to our study here.

Conclusions and Recommendations: This study showed most of the students favored the OSCE as a better exam than the conventional exam styles in its basic characteristics and exam principles. Moreover, most of the students agreed that the OSCE is better in covering common and relevant topics, in assessing students uniformly, and in minimizing examiner bias and stress. Though these findings should ideally be confirmed and extended in other educational settings, on the basis of our study we recommend the OSCE to be used as one of the main exam types for clinical year surgery exam. We also recommend other departments to adopt OSCE as the means of student evaluation and study further its applicability and usefulness.

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