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Research Article

STUDENT EVALUATION OF AN OSCE IN GENERAL MEDICINE AT MAMATA MEDICAL COLLEGE, ANDHRA PRADESH

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ABSTRACT

The assessment of student's clinical competence is of paramount importance, and there are several means of evaluating student performance in medical examinations. The **OSCE** is an approach to student assessment in which aspects of clinical competence are evaluated in a comprehensive, consistent and structured manner with close attention to the objectivity of the process. The faculty of general medicine in collaboration with other clinical departments, Mamata Medical College, Khammam first implemented the objective structured clinical examination (OSCE) in the final MBBS Part-II examination during the internal assessment examination for the 2011-2012 academic years. The study was set out to explore student acceptance of the OSCE as part of an evaluation of final MBBS students. A self-administered questionnaire was completed by successive groups of students immediately after the OSCE. Main outcome measures were student perception of examination attributes, which included the quality of instructions and organization, the quality of performance, authenticity and transparency of the process, and usefulness of the OSCE as an assessment instrument compared to other formats. There was an overwhelming acceptance of OSCE in general medicine with respect to comprehensiveness (90%) transparency (90%) & authenticity of required tasks. Students felt that it was a useful form of examination. Student's feedback was invaluable in influencing faculty teaching curriculum direction and appreciation of student opinion and overall the students were agreeable with newer form of OSCE. The majority of the students felt that OSCE is a fair assessment tool compared to traditional long and short cases and it covers a wide range of knowledge and clinical skills in general medicine.

Keywords: Objective structured clinical examination, Final MBBS.

INTRODUCTION

In the last two decades, there has been a rapid and extensive change has occurred in the assessment methods of medical education. Several new methods of assessment have been developed and implemented. These newer methods focused mainly on clinical

skills, communication skills, procedural skills and professionalism. Despite the availability of various assessment methods worldwide, the clinical examination in India has remained largely unchanged, especially in this part of our country.

Several weaknesses of the present method of assessment have been pointed out. The need for a more objective approach to the assessment of clinical competency was felt.¹ The Objective Structured Clinical Examination (OSCE) is a versatile multipurpose evaluation tool that can be utilized to assess health care professionals in a clinical setting. It assesses competency, based on objective testing through direct observation.

OSCE was introduced by Harden and his colleagues in 1975. OSCE consists of a series of stations that examines the competency of students in taking histories, practicing specific clinical tasks, and interpreting some clinical data. It provides a uniform marking scheme for examiners and consistent examination scenarios for students. It also generates formative feedback for both the learners and the teaching program. Immediate feedback collected may improve students' competency at subsequent stations and even enhance the quality of the learning experience. Finally, it can objectively assess other important aspects of clinical expertise, such as physical examination skills, interpersonal skills, technical skills, problem-solving abilities, decision-making abilities, and patient treatment skills. OSCE is being used worldwide to provide formative and summative assessments in various disciplines.^{2,3} But in India, OSCE is used only in very few medical colleges as part of assessments.

The study was designed to evaluate student overall perception of OSCE, determine student acceptability of the assessment method and to collect feedback.

SUBJECTS AND METHODS

Study Design and Participants

This study was carried out by faculty of general medicine in collaboration with other clinical departments at Mamata Medical College, in the final MBBS Part-II examination during the internal assessment examination for the 2011-2012 academic year. In the present study, a total of one hundred and twenty nine students were participated in the assessment process and were randomly divided into Five groups (n=26). The study protocol was approved by the ethics committee and the college academic council. The students were briefed about the assessment procedure by one of the investigators six months before the internal examination.

OSCE consisted of eight stations and all these stations covered different aspects of clinical examination, e.g., eliciting a focused history, examination of system, problem solving oriented around the patient, interpretation of lab data and charts, reading X-rays, instruments, drugs and photographic material.

The clinical examination station included examination of cardiovascular system, respiratory system, gastrointestinal system, nervous system. Four stations had 5 minute duration, two had 10 minutes and two had 15 minutes duration. The 15 minute duration was given for system examination. Two minute break was given for rest to reduce student and patient fatigue. One minute was allowed for change of station and reading instructions.

Data Collection: The data was collected using a 32 item questionnaire as described by De Lisle (2001) and Russell et al., 2004.^{4,5} The questionnaire consists of four parts. First part is to evaluate the content, structure and organization of OSCE and the second part is to rate the quality of performance and objectivity of OSCE process. The third and fourth part is to collect the students' opinion about the usefulness of OSCE as an assessment instrument compared to the previous format.

RESULTS

Data was collected from a total of one hundred and twenty nine students who appeared the 2nd internal assessment of final MBBS part II. All the students responded to the questionnaire representing 100% (129/129).

OSCE Evaluation: The majority of the students responded positively about the new assessment method. They agree that the OSCE covers a wide range of knowledge (90%) and clinical competencies (82%). 86 % of the students felt that the assessment was well structured and sequenced. Nearly three fourth of the students felt that the assessment process helped them to identify weaknesses and gaps in their clinical competencies (Table 1).

67% of the patients felt that the assessment process allowed them to compensate in some areas but only 40% agreed that the chances of failing with OSCE are minimized and less stressful compared to other formats of assessments.

Table 1: OSCE evaluation

Question	Agree %	Neutral %	Disagree (%)
Exam was fair	84	10	6
Wide knowledge area covered	95	5	
Needed more time at stations	90	10	7.5
Exams well administered	78	12	10
Exams very stressful	40	50	10
Exams well structured & sequenced	86	10	4
Exam minimized chance of failing	40	30	30
OSCE less stressful than other exams	40	40	20
Allowed student to compensate in some areas	67	21	12
Highlighted areas of weakness	78	13	9
Wide range of clinical skills covered	86	6	8

Table 2: OSCE Performance Testing

Question	Not at all %	Neutral %	To great extent %
Fully aware of nature of exam	38	22	40
Tasks reflected those taught	4	23	73
Time at each station was adequate	44	35	21
Setting and context at each station felt authentic	18	24	58
Instructions were clear and unambiguous	24	24	52
Tasks asked to perform were fair	3	27	70
Sequence of stations logical and appropriate	13	30	57
Exam provide opportunities to learn	11	21	69

Majority of the students (84%) were of the opinion that the assessment was fair. However, the students felt that they needed more time at stations.

Performance Testing: The majority of students felt that the required tasks were consistent with the active curriculum that they were taught. More than half of students were satisfied with conduct, organization and administration of OSCE (Table 2).

Perception of Validity and Reliability

Only fifty per cent students felt that the OSCE scores were standardized and 43 % were of the opinion that the assessment provided the true measure of essential clinical skills (Table 3).

Table 3: OSCE Perception of validity and reliability

Question	Not at all %	Neutral %	To great extent %
OSCE exam scores provide true measure of essential clinical skills	14	43	43
OSCE scores are standardized	8	37	55
OSCE practical and useful experience	4	23	73

Comparing Assessment Format

Three-fourth of the students considered OSCE as the fairest assessment format (76%) compared to long and short case (24%). OSCE was considered the most useful and practical experience compared to other assessment formats.

Students were of the opinion that the opportunity for feedback helped them to know the gap in their knowledge; mistake committed and thus will help in driving the learning process.

DISCUSSION

When OSCE was first introduced medical students used to interact with a series of simulated patients in stations that may involve history-taking, physical examination, counselling or patient management,⁶ as time passed on the OSCE examination has been broadened in its scope and a lot of modification were done to suit peculiar circumstances^{7,8} including an assessment of communication skills. Most reputable colleges of medicine in United Kingdom, United States, Canada and in several other countries have

adopted the OSCE and is the standard mode of assessment of competency, clinical skills, and counselling sessions, complementing cognitive knowledge testing in essay writing and objective examination.^{9,10} In India, the state medical universities have yet to adopt the OSCE examination. However, the Medical Council of India has started the initiative to include its assessment methods in the undergraduate curriculum and has also included OSCE in teachers' training program level 1.

In the traditional clinical examination a narrow range of clinical skills are tested under the observation of normally two examiners in a given clinical case and therefore, the scope of the examination is basically related to patient histories, demonstration of physical signs, 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^{11, 12} Data gathered by the National Board of Medical Examinations in the USA (1960–1963), involving over 10,000 medical students showed that the correlation of independent evaluations by two examiners was less than 0.25.¹¹

The advantages of OSCE apart from its versatility and ever broadening scope are its objectivity, reproducibility, and easy recall. In our study, most of the students agree that OSCE is standardized, fair and transparent method of assessment. Few students felt that instructions were not clear and were ambiguous; time provided was not sufficient; and the examination was stressful. However, no examination method is flawless and some of the difficulties experienced by the students can be corrected. Allen et al in their study found that the OSCE can be a strong anxiety-producing experience, and that the level of anxiety changes little as students' progress through the examination.¹³

CONCLUSION

In summary the study shows that OSCE is the fairest assessment format compared to long and short cases; is more transparent, authentic and valid. The OSCE can be introduced for undergraduate clinical assessment.

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