OSCE: YET TO FIND ITS PLACE IN MEDICAL CURRICULUM IN INDIA

Akansha Bansal[1], Ajay Gaur[2]

[1]Senior Resident, Department of Paediatrics, Gajra Raja Medical College, Gwalior, Madhya Pradesh.
[2]Associate Professor and HOD, Department of Paediatrics, Gajra Raja Medical College, Gwalior, Madhya Pradesh.

ABSTRACT

BACKGROUND

Objective Structured Clinical Examination (OSCE) is in its preliminary stage in the Indian Medical Curriculum. OSCE provides an established and reliable way of skill assessment in an objective and transparent manner. There is a need to rethink and reorganise our medical examination system in a more rational way so that much emphasis should be given to the formative assessment of the students rather than the traditional long/short case presentation and assessing theoretical knowledge.

AIM

To assess the clinical skills of undergraduate students of final year MBBS via 6 observed stations of OSCE and to compare the results with the traditional practical examination theoretical assessment.

SETTINGS AND DESIGN

Cross-sectional study conducted in the Department of Paediatrics of a tertiary level Medical College Hospital.

MATERIALS AND METHODS

The study was conducted on the 90 students of final year MBBS who have completed their one month posting in Paediatrics Department. Students were asked to undergo an OSCE examination at 6 observed stations and time of 5 minutes was allotted for each station. After that, they were asked to write down the answers of the same questions in the notebook provided and the results of the OSCE and written answers were then compared.

RESULTS

Only 12 (13.33%), 15 (16.66%), 9 (10%), 21 (23.33%), 4 (4.44%) and 6 (6.66%) of students performed all steps correctly respectively at 1st, 2nd, 3rd, 4th, 5th and 6th station. Significant improvement in the results was seen when OSCE scores were compared to the written results.

CONCLUSION

OSCE is the most preferred way of assessing clinical skills of students. More efforts should be made to integrate it into each and every institution's medical curriculum.

KEYWORDS

Objective Structured Clinical Examination (OSCE), Medical Curriculum, Clinical Skills, Undergraduate Students.

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INTRODUCTION: Acquisition of clinical skills is one of the most important aspects of the medical curriculum. In the past few years, more and more emphasis is being given on the practical aspect of teaching rather than only theoretical learning. In the medical curriculum, students have to interact with the patients at their social, emotional, educational and psychological level and thus only theoretical teaching is of no use for them. What is required is to have an integrated teaching programme for them including the assessment of cognitive, psychomotor and affective components. The limitation of the traditional theoretical teaching methods is that the students are performing better in their writing skills, whereas they lag behind when the question of skill assessment and aptitude testing arises. To overcome this problem, more and more emphasis is being given to the practical training of the students. Objective Structured Clinical Examination (OSCE) is nowadays considered as the standard method of assessment of medical students for both preclinical and clinical courses worldwide and also gaining importance in India.[1]

The OSCE was first introduced in 1975 by Haden and Gleeson[2] and since then, it has become a standard method of assessment of both undergraduate and postgraduate students. It was originally described as 'a timed examination in which medical students interact with a series of simulated patients in stations that may involve history-taking, physical examination, counselling or patient management,[2] but now it has broadened its scope and has undergone a lot of modifications.[3] The purpose of the OSCE is to increase the competency, clinical skills, counselling skills, interpretation

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Corresponding Author:
Dr. Akansha Bansal,
C/o. Dr. D. K. Bansal, Shanti-Kunj, Shri Ram Colony,
Shivpuri, Madhya Pradesh.
E-mail: sweetaks21@gmail.com
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of data and problem solving skills and to reduce the theoretical mugging and examiner related bias. In the process of Objective Structured Clinical Examination (OSCE), there are several stations, which may be observed i.e. performance in the presence of an examiner or unobserved, i.e. solving some case scenario or answering some question. Stations are set keeping in mind to assess the capability of the student to take clinical history, perform-specified physical examination, interaction with the patient, communication skills, problem solving skills and critical analysis and thinking. A specified time is allotted for each station and a predetermined checklist is made with the help of experts for the evaluation of the students. The advantage of the OSCE is its validity, reliability and versatility and it has been included in the curriculum of many countries. However, in India, it is still in its preliminary phase and apart from the National Board of Examinations, none of the other educational agencies have incorporated it into the curriculum. It has to cross a long way before it could be included in the medical curriculum to its full extent. Hence, this study was conducted with the objective to assess the clinical skills of undergraduate students of final year MBBS via observed stations of the OSCE and to compared the results with the traditional practical examination theoretical assessment.

METHODS: This was a cross-sectional study conducted in the Department of Paediatrics of a tertiary level medical college hospital in final year MBBS students who have completed their posting in Paediatrics for one month. Total enrolled students were 100 and 10 students were excluded due to absence on the scheduled day. So, 90 students were taken in this study. Appropriate ethical approval was taken from the Head of the Department and consent was taken from the students for participation in the study. Information regarding the examination was given to participants 1 week before the scheduled date. On the day of examination, all the participants were called at sharp 9:00 o'clock in the morning and the required instructions were given. They were informed that there were 6 stations that were observed stations where they have to perform what is asked there on the patient in the presence of an examiner. Time of 5 minutes was allotted for each station and a predetermined checklist prepared with the help of 2 experts was given to the examiner. Same examiner examined each station to reduce examiner-related bias and the patient was changed after a set of 10 students. After all 90 students have finished each of 6 stations, they were asked to write the answers of the same questions, which were there at the stations. The results were then analysed and then they were called after 1 hour to tell about their performance and feedback was taken.

RESULTS: A total of 90 students of MBBS final year participated in this study, out of which 35 (38.88%) were girls and 55 (61.11%) were boys (Table 1 and Figure 1). There were 6 observed stations to assess the clinical skills of the students. At the first station where steps of the measurement of blood pressure in a child were to be done, only 12 (13.33%) participants performed all 10 steps correctly, whereas a major chunk of students 57 (63.3%) were able to perform only less than 5 steps correctly. Likewise, at the second station, where palpation of lymph nodes in the head and neck region of the child was to be done, only 15 (16.6%) of the participants did all 10 steps correctly whereas 38 (42.2%) participants did only less than 5 steps correctly. Similarly, at the third station where elicitation of fluid thrill was to be done, only 9 (10%) of participants did all steps correctly, whereas 25 (27.7%) participants were not able to do 5 or more steps correctly. At the station 4, where elicitation of knee jerk was to be done, slightly increased number of students 21 (23.33%) did all steps correctly whereas, 47 (52.22%) participants were able to do less than 5 steps correctly. At station 5, where feeding history was to be taken from the mother, only 4 (4.44%) of participants were able to ask all questions from the mother whereas 79 (87.77%) participants were taken incomplete history. At the last station where the steps of measurement of liver span were to be done, only 6 (6.66%) participants were able to do all steps correctly whereas 54 (60%) participants performed less than 5 steps correctly (Table 2 and Figure 2).

When the participants were asked to write the answers of the same questions, it was seen that the performance improved markedly. For the first question of measurement of blood pressure in a child, 46 (51.11%) of students answered correctly as compared to 12 (13.33%) of students who performed all steps correctly. Similarly for question 2, 3, 4, 5 and 6, the score improved from 15 (16.66%) to 35 (38.88%), 9 (10%) to 51 (56.66%), 21 (23.33%) to 63 (70%), 4 (4.44%) to 39 (43.33%) and 6 (6.66%) to 72 (80%), respectively (Table 3 and Figure 3).

In their feedback, most of the students replied that though their performance was poor and they were under time and performance pressure, still they want such sessions to be included in their curriculum.

Participants	No.	%
Boys	55	61.11
Girls	35	38.88
Total	**90**	

Table 1: Distribution of Participants

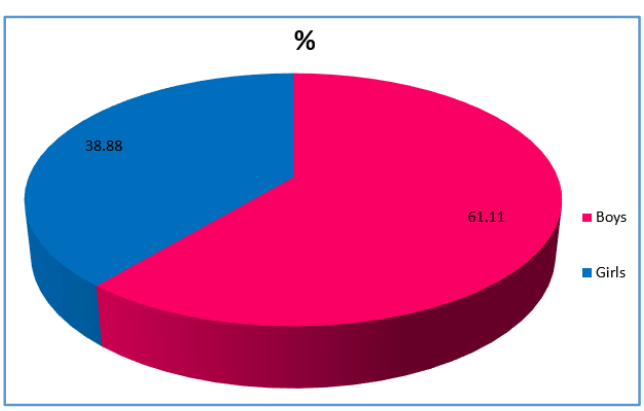

Figure 1: Distribution of Participants

Station	No. of Steps Performed Correctly	Participants	
		No	%
Station-1 Steps of measurement of BP in a child	All 10 steps	12	13.33
	≥5 steps	33	36.66
	<5 steps	57	63.33
Station-2 Palpation of lymph nodes of head and neck region in a child	All 10 steps	15	16.66
	≥5 steps	53	58.88
	<5 steps	38	42.22
Station-3 Elicitation of fluid thrill in a child	All 10 steps	09	10.00
	≥5 steps	65	72.22
	<5 steps	25	27.77
Station-4 Elicitation of knee jerk	All 10 steps	21	23.33
	≥5 steps	43	47.77
	<5 steps	47	52.22
Station-5 Elicitation of feeding history of a child from mother	All 10 steps	04	4.44
	≥5 steps	11	12.22
	<5 steps	79	87.77
Station-6 Steps of measurement of liver span in a child	All 10 steps	06	6.66
	≥5 steps	36	40.00
	<5 steps	54	60.00

Table 2: Performance of Students at Various OSCE Stations

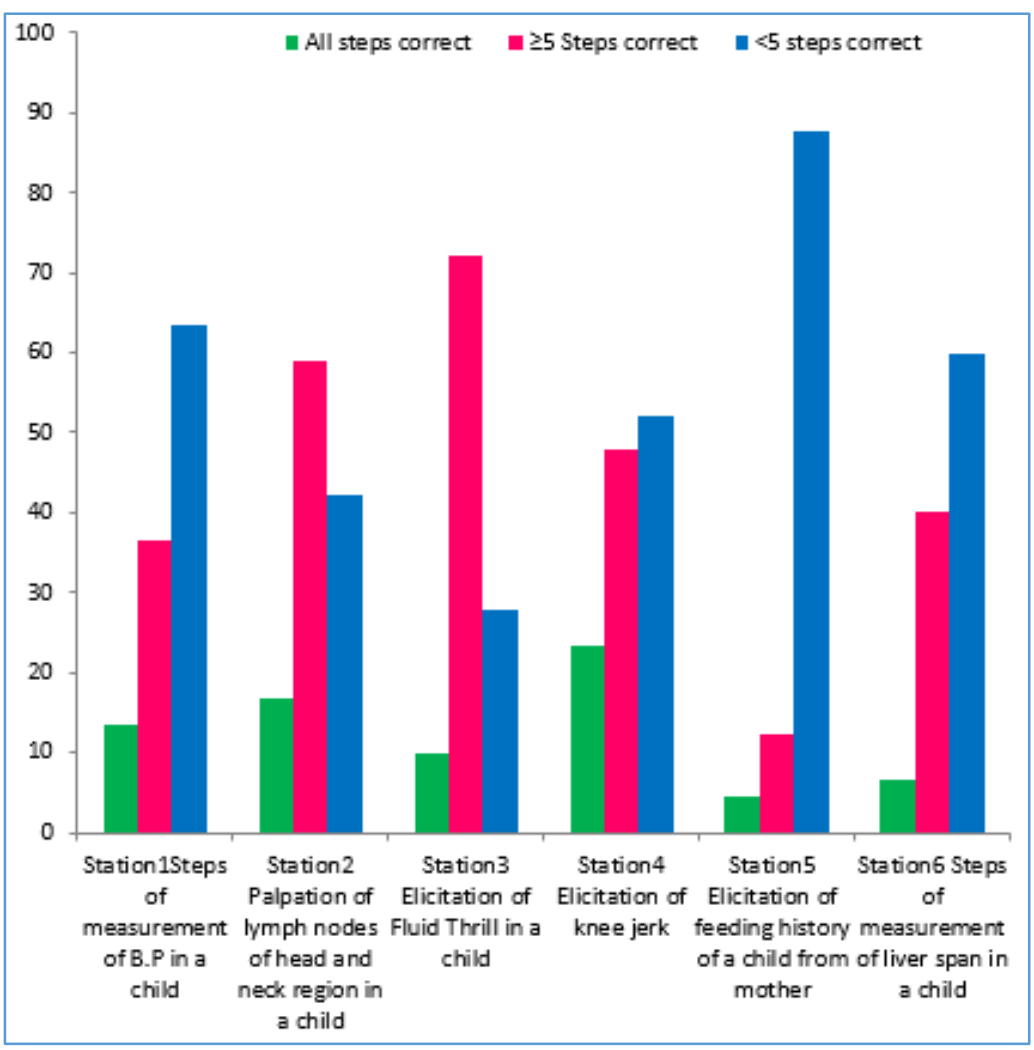

Figure 2: Performance of Students at Various OSCE Stations

Stations	Participants who performed all steps correctly in OSCE		Participants answering all questions correctly	
	No.	%	No.	%
Station-1	12	13.33	46	51.11
Station-2	15	16.66	35	38.88
Station-3	09	10.00	51	56.66
Station-4	21	23.33	63	70.00
Station-5	04	4.44	39	43.33
Station-6	06	6.66	72	80.00

Table 3: Comparison of Performance of Students in OSCE and Written Examination

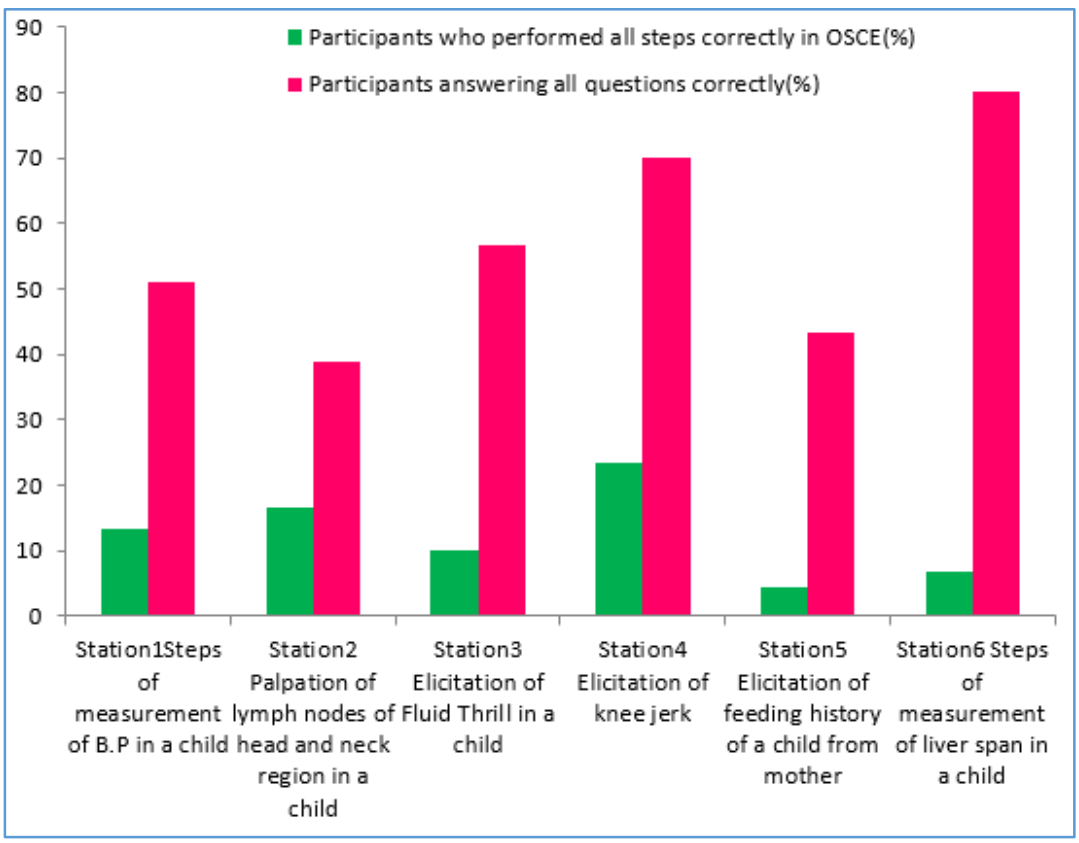

Figure 3: Comparison of Performance of Students in OSCE and Written Examination

DISCUSSION: The results are very heart throbbing. This is the actual scenario of our medical curriculum where we keep on mugging up the facts without ever trying how we actually have to implement them in our clinical practice. For dealing with a patient, a doctor has to be calm and composed with the capability to apply all his knowledge collectively. In this study, a lot of participants were noted to have trembling, shaking attacks because they are not habitual to deal with the patients. They were noted not to greet the patient or thank him before or after the procedure. All these behavioural, communication skills are the part and parcel of our teaching, which are lacking in the current curriculum. The Objective Structured Clinical Examination takes into account these behavioural and communication skills along with clinical skills for the total development of the medical students. After asking them to write down for the same questions, it was seen that most of the students knew the maximum facts, but they did not know how to perform them and in what manner correctly in the defined time interval.

Several studies have been conducted on the formative assessment of the students like in a study conducted by Krishnarao Satish et al for the assessment of III MBBS students using OSPE/OSCE in community medicine about teacher's and student's perception and found that all the participants were in the favour of using this assessment method in future. However, they have also mentioned that students found some difficulty in the management of time at some stations. Also, lack of practice with the OSCE/OSPE format might be the cause of dissatisfaction with the available time.[4]

Aneesh Basheer in his study on the impact of medical students in India on assuring quality primary care stated that the use of Objective Structured Clinical Examinations (OSCE) as an assessment tool has been modified into an effective active learning tool in many countries, but in the Indian system, they are yet to find their place.[5,6] He further stated that even after so long, OSCE has not found its place among

routine performance-based assessment of students in India[5].

In a study conducted by N. Ananthakrishnan on the Objective structured clinical/practical examination (OSCE/OSPE), it was stated that the conventional clinical and practical examination are endowed with several problems. The subjectivity involved may reduce the correlation coefficient between marks awarded by different examiners for the same candidates performance to as low as 0.25. Also, the marks awarded reflect only the global performance of the candidates' and are not based on demonstration of individual competencies. Attitudes are usually not tested at all by the conventional examinations and even in clinical skills, often the student is questioned only regarding his final conclusion.[7] These defects of clinical and practical examination have been realised for long, but still we are in a very preliminary phase of this formative assessment like the OSCE and OSPE in our country. He also stated that in a checklist of clubbing where there was a 5-point checklist, more than 93% students got point 1 and 5 correctly, 45-50% got points 2 and 3 correctly whereas only 25% got point 4 correctly. This observation was important because in a conventional clinical situation, 93% of students would have observed that clubbing was present and got full credit, although they had not palpated for fluctuation or examined the opposite hand or the feet.[7]

A single oral or written examination does not fulfil all the functions of assessment such as assessing knowledge, comprehension, skills, motivation and feedback. Written examinations (essays and multiple choices) though test cognitive knowledge, which is only one aspect of competency, but lack others.[8,9] In a study conducted in the Medical College, Kolkata, on the Objective Structured Practical Examination in Biochemistry to introduce OSPE as a method of assessment of practical skills and learning and to determine student satisfaction regarding the OSPE, on the first MBBS students of 2011-12 batch, it was found that 16 students have failed to achieve an average of 50% or above in the assessment, 49 students on an average achieved >75%, 52 students achieved between 65% and 75% and 29 students scored between 50% and 65%.[8] 16 students who did not manage to get even 50% of average marks as their performance was equally poor in both performance and question stations. This data also shows that still our students are not well versed the pattern of OSCE and OSPE and more efforts should be done to make them familiar and habitual.

In a study conducted by Dr. Piyush Gupta and Hema Jyoti Bisht in the Department of Paediatrics, University College of Medical Sciences, New Delhi, to find out a practical approach to running an Objective Structured Clinical Examination in Neonatology for Formative Assessment of Medical Undergraduates. The undergraduates reported it very useful and stated that it helped them to come out of their bookish knowledge and they are now able to apply it practically in a more scientific manner. Also, they found it as an opportunity to brush up and test their practical and communication skills.[10]

CONCLUSION: Thus, though our students are still lacking in the competencies required for undergoing OSCE and OSPE examinations, they still find it the way they needed for long. They are still going through the long 3-4 days assessment exams, which are tiring and cumbersome on one side and not being useful to the students on the other side. Inclusion of OSCE in the medical curriculum will give an opportunity to our medical professionals to enhance their clinical skills along with their relationship with the patients and their family members. The implication of the OSCE will help in removing the prejudice in examining students and will provide new hopes and dimensions to the students. But, before its implication in the medical curriculum, some training programmes should be conducted on a mass scale in different regions of India to train the faculty members. Likewise, PowerPoint presentations and video-CD must be distributed to the individual colleges separately for undergraduate and postgraduate students. Sample videos should be shown to the students about taking history, performing physical examination, communications skills at least in a biweekly or monthly fashion and before implementing it before the final examinations, students must have gone through it at-least 2 or three times. Thus, the need of the time is that though it is still in the preliminary phase in India, efforts must be done to integrate it in the undergraduate and postgraduate curriculum in the next few coming years.

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