PERCEPTION OF MEDICAL STUDENTS AND EXAMINERS TOWARDS OBJECTIVE STRUCTURED CLINICAL EXAMINATION: A FEEDBACK FOR IMPROVEMENT

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ABSTRACT

Background

Objective Structured Clinical Examination (OSCE) is globally used in the assessment of the clinical competency of medical students. Nevertheless, OSCE has to be carefully designed and organised to be fair and reliable.

Objectives

The study aimed to observe the perception of medical students and their examiners towards OSCE.

Materials and Methods

The survey is a cross-sectional study in which a self-administrative questionnaire was designed and filled by 286 third-year students and 64 examiners of the College of Medicine /University of Sulaimani after the end of phase-1 assessment OSCE of 2020-2021. Ethical approval has been obtained from the university. The study data were collected and analysed by SPSS (23.0).

Results

The response rate was high among the students and examiners; 95.6% (286/299) and 80% (64/80), respectively. The OSCE reliability test was acceptable (Cronbach's alpha = 0.78-0.81). The proportions of agreed students to the OSCE fairness, tested skills, and minimising the chance of failing were 42.7%, 51.4%, and 33%, respectively; however, 65.8% found the OSCE very stressful. Although 45% of the students felt dissatisfied with the OSCE instructions, 42-58% and 33-39% agreed with the OSCE organisation and performance, respectively. Among the examiners, the majority perceived that the OSCE was fair, well-organised, and timed. Compared to the conventional method, 79.7% of the examiners thought that OSCE was better in various domain assessments, whereas 60.9% found it exhausting.

Conclusion

Overall, students' perception of the OSCE was similarly spread to agree, neutral, and disagree, which was lower than the examiner's great satisfaction. These results highlighted the necessity of further improvement in future OSCEs.

Keywords: *OSCE, Clinical skill assessment, Student perception, Examiner perception, Feedback.*

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INTRODUCTION

Conventional methods of clinical competence assessment of medical students (short and long cases) have several disadvantages, such as lack of structure and standardisation and biased review with poor reliability and validity [1]. To overcome many of these weaknesses and improve medical students' clinical performance, objective structured clinical examination (OSCE) was introduced in the seventies of the last century [2,3]. Since its inception, the OSCE has gained widespread use as a method of clinical competence assessment [4-6] .The OSCE can evaluate several students' skills such as history taking, physical examination, problem-solving abilities, communication skills, and ability to perform practical procedures. The validity of the OSCE, as well as its reliability, have been well-established and widely reported in the literature [7-9].

Above all, OSCE is resource-dependent and has pitfalls, especially when it takes place in five sites simultaneously. Therefore, careful design and organisation are essential to maintain consistency and equality in multiple aspects, such as; testing materials, arrangement, and equipment [10].

In 2007, the College of Medicine, University of the Sulaimani, initiated the OSCE format in the clinical evaluation of the 6th-year students that obtain Bachelor of Medicine and Surgery (MBChB). Meanwhile, the traditional examination format was preserved for the pre-final years until the implementation of the integrated medical curriculum in 2018. The new curriculum is composed of two phases; preclinical phase 1 (1-3 years) and clinical phase 2 (4-6 years). In addition to summative assessment, OSCE is administered in the years 2-6 of the training program. The third-year students of the MBChB program have an end-of phase-1- assessment (EPA-1), which consists of two integrated written evaluations and an OSCE. The OSCE at this stage can be critical in the estimation of the student's knowledge and skills as well as in the review of the curriculum and the implemented teaching method. Therefore, this study was designed to explore the medical students' and examiners' perceptions of the attribute, quality, and organisation of OSCE when the new curriculum is in progress. Additionally, to identify changes needed to be made to improve the standard and quality of the assessment.

MATERIAL AND METHODS

OSCE setting and participants

The study included all third-year students attending the (EPA-1) OSCE at the College of Medicine, the University of Sulaimani, for the academic year 2020-2021. Members designed the OSCE from the consultation skills foundation course in consideration of blueprinting to ensure content validity.

The total number of enrolled students was 299, divided alphabetically into approximately five equal groups. The exam was conducted simultaneously in five different hospitals in Sulaimaniyah city: Shar Hospital, Maternity Teaching Hospital, General Teaching Hospital, Pediatric Teaching Hospital, and Smart Hospital. In each hospital, the OSCE took place in about three hours, as two academic members organised it into two concurrent circuits. Each circuit comprised ten stations (8 testing and two rest stations) and has been covered by 16 local examiners. The exam was conducted in three rounds; each round involved 20 students and lasted 50 minutes, as each station took 5 minutes. The required instruments were made available at each station. Figure 1 shows the OSCE flow chart.

The stations included completing several tasks, such as performing a procedure, assessing vital signs, and communicating. For example, the students were asked to insert a foley catheter, nasogastric tube, and chest tube in three stations. Although the simulator/ patients were unavailable, the students had to explain the appropriate way of performing those tasks to the examiners. Meanwhile, medical role players were available in the following stations; blood pressure measurement, oxygen saturation, pulse rate, and communication skill. The examinee's performance was calibrated using a checklist and global assessment. The checklist consists of 7 to 10 items of expected attitude, each with a corresponding score.

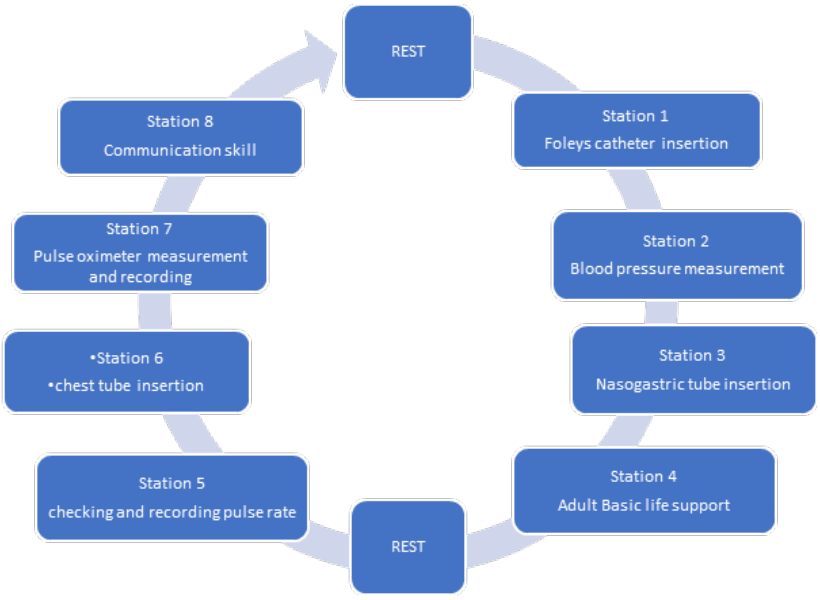

Figure 1. OSCE flow chart.

Study design

A cross-sectional survey was designed. On Jun 10, 2021, the students (n=299) were requested to complete an anonymous, self-administered questionnaire immediately after the examination and to handed-in to a member. In addition, an online questionnaire was prepared and sent out to the examiners (n=80) through the official college WhatsApp group on the day after the examination. Study instrument

The study questionnaires were prepared after a literature review of previous studies [11,12]. The student's questionnaire assessed the perception of the OSCE. The questionnaire consisted of 23 close-ended questions with corresponding responses using the Likert scale in the following format: strongly agree, agree, neutral, disagree, strongly disagree. These questions were designed to evaluate the student's insight into the OSCE fairness, level of stress, adequacy of the received instructions, organisation, level of difficulty, and time adequacy for task performance. In addition, four open-ended questions were asked.

The examiner's questionnaire has evaluated the perception of OSCE fairness, range of tested clinical skills and knowledge, organisation, time adequacy, clarity of the instructions, student level of stress, and whether OSCE minimises the chance of falling. Additionally, the examiners were asked about their preference for OSCE over conventional methods of clinical assessment, the learning opportunities provided by OSCE, and their suggestions for future OSCEs. The examiner's questionnaire contained 24 closed-ended questions and one open-ended question. Furthermore, the OSCE results were accessed to assess the OSCE internal consistency using Cronbach's alpha, calculated across all the examining stations.

Data analysis

The collected data were entered into the SPSS program version 23.0. The data obtained from open-ended questions were organised and presented.

Ethical approval

For this work, under the declarations of Helsinki, ethical approval was obtained from the ethical committee of the College of Medicine, University of Sulaimani.

RESULTS

Two hundred eighty-six students responded to the questionnaire representing 95.6% (286/299) of those who completed the S6 semester and attended the OSCE. Regarding sociodemographic characteristics, most students were male, of Kurdish ethnicity, and had

free tuition fees (58, 97.2, and 79.7%, respectively) (Table 1).

Among the examiners, 64 out of 80 (80%) have filled out the questionnaire. The OSCE involved examiners from all medical departments (clinical and basic sciences). The majority of the respondents were male (73.4%). Approximately 80% of the examiners had previous experience with OSCE as an examiner. All examiners held academic titles, and the majority were lecturers (56.3%) (Table 2). The frequency of distribution and percentage of the students' and examiners' responses are demonstrated in Tables 1 and 2. Overall, the success rate of the students was high (85.86%). The Cronbach's alpha value for the stations was acceptable, ranging from 0.78-0.81.

Students' perception of OSCE

Table 3 shows that 42.7% of the students perceived that the OSCE was fairly designed, yet as many as half (51.4%) had a positive perception that the OSCE evaluated a broad range of clinical skills. Thirty-three percent of students believed that the OSCE had minimalised the student's chance of failing, whereas 39.5% felt neutral about this point.

Two-thirds (65.8%) of the students indicated that OSCE was very stressful. Table 3 also displayed that more than half (52.8%) of students did not believe that the OSCE was less stressful than the conventional assessment method. Approximately 45% of the respondents showed their dissatisfaction with the fairness of the instructions received before the examination. Regarding the time allocated to perform the required skill, the responses are almost equal between agreement and disagreement, 31% and 30%, respectively; however, around 39% remained neutral about this statement. Table 3 shows that 42-58% of the students had a positive perception of the OSCE organisation, i.e., overall organisation, helpfulness of the organising staff, clear designation of station direction, room set up and lighting, and revision of clinical procedure before the examination. On the contrary, 29-41% of students remained neutral to the OSCE organisation criteria. Approximately half (47.5%) of the respondents were unsatisfied with the information about the stations before appearing in the examination.

Regarding the quality of OSCE performance, Table 3 shows that 33-39% of the students expressed their satisfaction with the OSCE performance criteria such as fairness of the tasks, tasks were interesting and educative, stations sequencing was logical, clinical skills tested were samples of critical basic skills learned and the exam has allowed learning. Table 3 also shows that more than one-third of students felt neutral about OSCE performance. However, 39% had expressed their dissatisfaction with awareness of the examination's nature.

The four open-ended questions were about the stations found to have not enough time, inappropriate clinical scenarios, missing equipment, and the responder's suggestions to improve OSCE.

The proportions of the students concerned that the time limit was not enough in the following stations; blood pressure measurement, chest tube insertion, nasogastric tube insertion, Foley catheter insertion, and communication skills were 19%, 9%, 7%, 7%, and 6%, respectively. Fewer students complained that the sphygmomanometer did not work (3%).

The student's suggestions included: providing clear instructions about the OSCE in advance, the examiner's helpfulness and kindness during the examination to decrease the stress level, increasing the duration of stations, availability of trained simulators, especially in primary life support station to simulate real-life scenarios, and improvement of daily practice sessions in such a way that students get equal opportunity of performing clinical procedures.

Examiners' perception of OSCE

Most of the examiners accepted that the OSCE was fair and covered a broad range of the required clinical skills, minimising the chance of failing, providing learning opportunities, organising well, and providing clear information and adequate time at the stations (Table 4). In addition, more than two-thirds of the examiner agreed that the OSCE is more valuable than the conventional method in assessing various domains and eliminating the variability of examiners. Nevertheless, 61% of the examiners agreed that OSCE is exhausting and lengthy compared with the conventional method.

The examiners offered several recommendations to improve future OSCEs. These include (a) conducting workshops for the examiners to increase their familiarity with OSCE, (b) better preparation of equipment and simulated patients to enhance examinees' performance, and (c) involvement of a more significant number of examiners to avoid exhaustion.

Table 1. Characteristics of the students.

Sociodemographic characteristics	Frequencies	Percentages
Venue		
Teaching Hospital	60	21.0
Shar Hospital	57	19.9
Smart Hospital	61	21.3
Pediatric Hospital	50	17.5
Maternity Hospital	58	20.3
Gender		
Male	120	42.0
Female	166	58.0
Ethnicity		
Kurd	278	97.2
Arab	4	1.4
Others	4	1.4
Educational fee		
Free	228	79.7
Parallel	46	16.1
Others	12	4.2
Total	**286**	**100**

Table 2. Characteristics of the Examiners.

Sociodemographic characteristics	Frequencies	Percentages
Venue of the OSCE evaluation		
Maternity hospital	12	18.8
Pediatric hospital	9	14.1
Shar hospital	17	26.6
Smart hospital	16	25.0
Teaching hospital	10	15.6
Gender		
Female	17	26.6
Male	47	73.4
Ethnicity		
Arabic	6	9.4
Kurdish	58	90.6
This was your first time as an OSCE examiner		
No	51	79.7
Yes	13	20.3
Department		
Anatomy and histology	2	3.1
Biochemistry	3	4.7
Family and community medicine	1	1.6
Gynaecology and Obstetric	7	10.9
Medicine	13	20.3
Microbiology	1	1.6
Pathology	5	7.8
Pediatric	6	9.4
Physiology	1	1.6
Psychiatry	2	3.1
Surgery	23	35.9
Academic degree		
Assistant Lecturer/Lecturer	40	62.5
Assistant Professor	20	31.2
Professor	1	1.5
Senior lecturer	3	4.6
Total	**64**	**100**

Table 3. Students' perception of attributes, organisation, and performance of OSCE.

	Strongly agree N(%)	Agree N(%)	Neutral N(%)	Disagree N(%)	Strongly Disagree N(%)
Attributes of OSCE					
The OSCE was designed fairly	30(10.5)	92(32.2)	99(34.6)	43(15)	22(7.7)
The exam covered a wide range of clinical skills	45(15.7)	102(35.7)	105(36.7)	27(9.4)	7(2.4)
The exam minimised the chance of failing	22(7.7)	72(25.2)	113(39.5)	52(18.2)	27(9.4)
The examination was very stressful	98(34.3)	90(31.5)	73(25.5)	21(7.3)	4(1.4)
OSCE is less stressful than other exams (like; MCQs, Case scenarios)	30(10.5)	53(18.5)	52(18.2)	82(28.7)	69(24.1)
The instructions received before the examination were clear (I knew what I was expected	31(10.8)	32(11.2)	94(32.9)	64(22.4)	65(22.7)
I had enough time to demonstrate the required skills	18(6.3)	71(24.8)	112(39.2)	58(20.3)	27(9.4)
Organisational aspects					
The OSCE was organised well	32(11.2)	99(34.6)	95(33.2)	49(17.1)	11(3.8)
I received adequate information about stations before appearing in the exam	17(5.9)	49(17.1)	84(29.4)	83(29)	53(18.5)
The venue (location) of the examination will be announced at the appropriate time	33(11.5)	79(27.6)	114(39.9)	43(15)	17(5.9)
The timetable (time and date of the exam) was available and announced at the appropriate time	37(12.9)	61(21.3)	102(35.7)	55(19.2)	31(10.8)
The organising staff were helpful and answered our queries appropriately	61(21.3)	90(31.5)	88(30.8)	37(12.9)	10(3.5)
Adequate equipment (tools), including simulators, were available for performing the procedures	49(17.1)	67(23.4)	117(40.9)	35(12.2)	18(6.3)
The place and the room prepared for the exam regarding setup and lightening were good	46(16.1)	120(42)	90(31.5)	26(9.1)	4(1.4)
The direction of movement from one station to another was clearly designed	64(22.4)	96(33.6)	88(30.8)	29(10.1)	9(3.1)
I revised the clinical procedures before the exam date	36(12.6)	83(29)	94(32.9)	49(17.1)	24(8.4)
Quality of performance					
I was aware of the nature of the exam	16(5.6)	67(23.4)	91(31.8)	65(22.7)	47(16.4)
The tasks asked to perform were fair	21(7.3)	73(25.5)	124(43.4)	50(17.5)	18(6.3)
Performing tasks at each station were interesting and educative	23(8)	88(30.8)	110(38.5)	53(18.5)	12(4.2)
The sequence of stations was logical and appropriate	22(7.7)	81(28.3)	140(49)	31(10.8)	12(4.2)
The chosen clinical scenarios were appropriate for allowing me to demonstrate the required skill	35(12.2)	68(23.8)	119(41.6)	49(17.1)	15(5.2)
The clinical skills evaluated were a reasonable sample of important basic clinical skills you have learned	29(10.1)	69(24.1)	126(44.1)	43(15)	19(6.6)
Exams provided opportunities to learn	23(8)	81(28.3)	118(41.3)	45(15.7)	19(6.6)

Table 4 Examiners' perception of OSCE.

Examiners' perception of OSCE	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
	N(%)	N(%)	N(%)	N(%)	N(%)
OSCE evaluation is fair	43(67.2)	10(15.6)	8(12.5)	2(3.1)	1(1.6)
OSCE covers a wide range of clinical skills	39(60.9)	12(18.8)	12(18.8)	1(1.6)	0(0)
OSCE provide opportunities for the students to learn	48(75.0)	7(10.9)	8(12.5)	1(1.6)	0(0)
The time was enough to demonstrate the required skill	34(53.1)	21(32.8)	6(9.4)	3(4.7)	0(0)
The received information about the examination were clear	42(65.6)	13(20.3)	7(10.9)	2(3.1)	0(0)
OSCE is less stressful compared with conventional method	29(45.3)	8(12.5)	19(29.7)	7(10.9)	1(1.6)
OSCE minimize chance of failing	33(51.6)	14(21.9)	15(23.4)	2(3.1)	0(0)
OSCE force the student to learn different procedures in detail	35(54.7)	9(14.1)	19(29.7)	1(1.6)	0(0)
Variability of the examiner can be removed in better way by OSCE	43(67.2)	8(12.5)	11(17.2)	1(1.6)	1(1.6)
OSCE specifically highlights the weak and strong points of the subject	35(54.7)	10(15.6)	18(28.1)	1(1.6)	0(0)
OSCE assess various domain better than conventional method	46(71.9)	5(7.8)	13(20.3)	0(0)	0(0)
OSCE lead to change in bedside teaching pattern	42(65.6)	2(3.1)	17(26.6)	3(4.7)	0(0)
OSCE scores provide true measure of essential clinical skills	34(53.1)	7(10.9)	20(31.3)	3(4.7)	0(0)
OSCE is exhausting and lengthy compared with conventional examination	16(25.0)	23(35.9)	22(34.4)	3(4.7)	0(0)
The OSCE was organized well	28(43.8)	24(37.5)	9(14.1)	3(4.7)	0(0)
The time table as available and announced at appropriate time	36(56.3)	15(23.4)	8(12.5)	4(6.3)	1(1.6)
The organizing staff were helpful and answered queries appropriately	35(54.7)	23(35.9)	6(9.4)	0(0)	0(0)
Adequate equipment including simulators were available for performing the procedures	24(37.5)	11(17.2)	19(29.7)	8(12.5)	2(3.1)
The place and the room prepared for the exam regarding setup and	28(43.8)	15(23.4)	9(14.1)	8(12.5)	4(6.3)
You had enough knowledge about the use of checklist and global assessment	39(60.9)	19(29.7)	5(7.8)	1(1.6)	0(0)
I was aware of the nature of the exam	38(59.4)	10(15.6)	12(18.8)	4(6.3)	0(0)
The task asked to perform was fair	42(65.6)	12(18.8)	8(12.5)	2(3.1)	0(0)
Performing of the task was interesting and educative for the student	39(60.9)	16(25.0)	7(10.9)	2(3.1)	0(0)
The clinical skill evaluated was a reasonable sample of important	37(57.8)	20(31.3)	5(7.8)	2(3.1)	0(0)

DISCUSSION

In assessing medical students' clinical skills, OSCE appears more reliable than traditional methods. However, it has drawbacks that can be overcome with careful planning and management [13,14]. Therefore, the medical education department has conducted this study to improve the objectivity, validity, and reliability of our college OSCEs. Therefore, students' perceptions regarding attributes of OSCE, organisation, and quality of performance, as well as examiners' perceptions, were evaluated.

Student's perception of OSCE

Regarding the attributes of OSCE, nearly half of the students agreed that the OSCE was fairly designed, and a greater proportion believed that a wide range of skills had been included, which was in line with other studies[15,16,17].In contrast, numerous studies have revealed a greater positive perception of the students towards attributes of OSCE [8,18-21] .Meanwhile, only one-third of the students agreed that the OSCE could minimise their chance of failing; This was expected, as it was their first time performing this assessment. Similar results were found in a study in Jamaica, in which less than a third of the examinees perceived that the OSCE minimalised the chance of failing [11]. OSCE should be wisely designed to cover the medical curriculum's important aspects [12].

Before the examination, instructions were given to the students; however, only 1/5 of the students found them helpful in clarifying what they were expected to do during each session. The open-ended questions showed that some students sought further information to visualise what was required. This was the student's first experience in real-world OSCE, assessing numerous clinical skills. Thus, it is essential to provide clear instructions before the exam[22].

Although a 5-minute time frame is standard for demonstrating a specific clinical skill, only one-third of the students found the time limit needed to be increased. Therefore, the teaching staff and curriculum should direct the students to repeat the learned skills so they can confidently perform the clinical tasks in a standard way and within the time limit.

Collectively, the student's responses regarding the attributes of the OSCE were neutral by one-third and disagreed by the rest, which suggests the necessity for further improvement.

Following other studies, the majority of the students thought that the OSCE examination was very stressful [23-25] .Stress can negatively affect students' performance. [25-27] .Inadequate preparation before the examination might increase student anxiety[28,29]. Again, this OSCE was the end of the phase-1 assessment, where many clinical skills learned in the past years were assessed in one day, which might have influenced the student's perception. It should be remembered that the students filled out questionnaires directly after the examination while they were exhausted and stressed.

Another important aspect of OSCE is organisation. Interestingly, around half of the students thought that the exam was well-organised. Similarly, half of the opinions agreed regarding the helpfulness of the organising staff, adequacy of the equipment/tools, including the simulators for performing the procedures, and the direction of movement from one station to another. On the contrary, one-third of the students thought that the OSCE organisation was neutral, and the remaining proportion disagreed with the statement. The organisation of OSCE is essential, particularly if it is run in several hospitals simultaneously [30]. Further improvements in OSCE organisation are the whole team's responsibility, including exam schedules, regulations, instructions, station number and duration, marking tool, and circuit development before the OSCE [1].

Few students believed that simulators were needed in the following stations; basic life support, chest tube insertion, and nasogastric tube insertion. The performance of such skills with the presence of simulators may improve students' perception and decrease variability[31].Nonetheless, it is costly to provide mannequins in 5 places with 2 circuit stations; alternatively, revising the requested skills and replacing them with the ones that can be tried on a trained patient is more logical[32] .Although few students suggested the assessor should be more helpful, their concern should be considered as the examiner's attitude can affect a student's performance [19,20,32] .

Regarding the quality of performance, one-third of the students agreed that the tasks of the OSCE were fair, attractive, educative, logical, and appropriate to demonstrate the students' performance and to provide them, students, with opportunities to learn. On the contrary, other studies have observed a more optimistic impression of the students [18,33-35] .It was suggested that the OSCE station number should be 12-20 to be reliable. [36] In the current study, the OSCE station number was

ten, near the standard station number.

Examiners' perception of OSCE

In the present study, the examiners showed great satisfaction with OSCE attributes, quality, and organisation following international papers [29,33,37-38] .The OSCE examiners involved in the current study were from multi-speciality, and most of them had previous experience in OSCE, using the checklist and global assessment. Most examiners agreed that the OSCE assessment was fair and that the tasks were interesting and educative. They thought the test covered multiple clinical skills, minimised the chance of failing, and provided enough time for task demonstration.

The examiners supposed that the OSCE tasks provided an excellent opportunity for the students to learn. In addition, most of them believed that OSCE could minimise assessor variability, highlight the subjects' strengths and weaknesses, and assess various domains compared to the traditional assessment methods. Despite the positive perspectives of the examiners on OSCE, more than half of them agreed that it is exhausting and lengthy. An extended examination can cause fatigue and affect examiner rating [39,40].

Overall, numerous studies revealed that the perceptions of examiners and examinees were positive regarding OSCE, despite the that both groups highlighted certain obstacles such as stress, difficulty, and resource-demanding[41-44].The examiner's suggestions in terms of OSCE design and organisation, as well as the familiarity of the assessors with the nature of OSCE, should be considered in future assessments.

The reliability of the OSCE was acceptable (although using one index is insufficient) [1,12], and the pass rate was high. However, the student's satisfaction was less than the examiner's satisfaction; This could be partly due to the coronavirus disease 2019 (COVID-19) pandemic, which has changed the instruction method from campus-, hospital-based to blended learning, a new experience for faculty and students. Blended learning could effectively cover specific aspects of medical education, but face-to-face and hands-on knowledge of clinical skills are needed [45-47].

Initiation and implementation of an integrated OSCE at the end of the preclinical phase were new experiences for the examiners and the medical students in our locality. Therefore, the validity, reliability, objectivity, and feasibility of the OSCE should be reflected to improve student assessment. Nevertheless, blueprint reviewing and analysing the feedback from both examinees and examiners can be beneficial in monitoring the OSCE. [1,19,35].

The strength of the current study is that it was the first study in our university to be conducted, aiming to assess students' and examiners' perceptions of OSCE. In addition, self-administered questionnaires filled after the exam and before the release of the results could minimise interviewer bias and self-report-related issues such as memory decay. The sample size was relatively large, the response rate was high in both groups, and space was provided for open-ended questions. Our study had a few limitations as it was a questionnaire-based observational study without interviewing the participants, and the student's exhaustion after the exam might have affected their perceptions.

In conclusion, the opinions of the third-year medical students and their examiners regarding attributes of OSCE, organisation, and quality of performance were evaluated. Around half of the students believed that the OSCE was fairly designed and well organised, and they agreed that the test staffs were helpful and good facilities were made available during the exam. However, the majority of the students expressed that the OSCE was stressful. In contrast, the examiner's perceptions showed greater satisfaction with all the aspects of the OSCE, and they offered few suggestions for future assessments. Further action is needed to improve OSCE to reliably assess students' clinical skills and improve their satisfaction since there is an apparent difference between students' and examiners' perceptions.

Recommendations

The OSCE blueprint should be designed early and appropriately implemented. Careful assignment of the time limit to fulfil the requested task is needed, and clear instructions should be made ready and scheduled. In addition, the staff involved in OSCE must be well-trained and competent, for which further training is suggested.

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Conflict of interest

There is no conflict of interest.

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