

# KNOWLEDGE AND PERCEPTION REGARDING OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE) AND IMPACT OF OSCE WORKSHOP ON NURSE

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## Abstract

**Objective:** To evaluate the knowledge and perception of nurse educators regarding objective structured clinical examination (OSCE) construction and self-assessment of skills implementing OSCE in a workshop. Impact of OSCE workshop on Nurse educators.

**Background:** Assessment is a powerful driver of student learning: it gives a message to learners about what they should be learning, what the learning organization believes to be important, and how they should go about learning. OSCE is a practical test to assess specific clinical skills. It is a well established method of assessing clinical competence.

**Method:** A cross sectional descriptive study designed to evaluate the knowledge and perception of nursing educators regarding OSCE at OSCE workshop at North Batinah Nursing Institutes Sohar Hospital Oman. The participants were given reading material and participated in interactive hands-on exercises. Performance was determined by direct observation of participants performing a mock OSCE. Pretests and posttests were conducted to assess change in knowledge.

**Result:** The participants demonstrated a significant improvement in their mean score of the posttest in comparison to pretest. The participants highly evaluated the workshop and were positive in their future ability to conduct an OSCE.

**Conclusion:** Adopting an interactive hands-on workshop to train the nursing educators is feasible and appears to be effective. The feedback from participants in the workshop was overwhelmingly positive. This workshop has changed some of the perception of nurse educators regarding the uniformity of OSCE scenarios, teaching audit, demonstration of emergency skills and whether they are time consuming to construct and administer.

**Key words:** knowledge and perception, OSCE, Nursing educators, self-assessment

## Background/Introduction:

Assessment is an integral part of the health care profession. Clinical examination skills are the bridge between the patient's history and the investigations required to make a diagnosis: an 'adjunct to careful, technology-led investigations'[1].

The objective structured clinical examination (OSCE) has become a standard method of assessment in both undergraduate and postgraduate students[2]. OSCE is a practical test to assess specific clinical skills, a well-established method of assessing clinical competence. The OSCE was first introduced in medical education in 1975 by Ronald Harden at the University of Dundee[3-4]. The aim of the OSCE was to assess clinical skills performance. Currently, the OSCE assessments, the administration, logistics and practicalities of running an OSCE are more expensive than traditional examinations[5]. However, this must be set against their reliability, which is far superior to the traditional short case, a versatile multipurpose evaluative tool that can be utilized to assess health care professionals in a clinical setting. It assesses competency, based on objective testing through direct observation[6].

The OSCE style of clinical assessment, given its obvious advantages, especially in terms of objectivity, uniformity and versatility of clinical scenarios that can be assessed, allows evaluation of clinical students at varying levels of training within a relatively short period, over a broad range of skills and issues[7-8].

It is critical to improve faculty and preceptor's ability to facilitate and assess learning and to apply instructional design principles when creating learning and assessment tools, help faculty to more objectively assess student performance by implementing objective structured clinical examinations (OSCE) and validated knowledge assessments[9-10].

This study was done on nursing educators who are participating in the OSCE workshop, to evaluate their knowledge and perception regarding OSCE and to assess pre and post work shop knowledge enhancement with self-assessment.

## Method

A cross sectional survey designed to evaluate the knowledge and perception of nursing educators regarding OSCE at OSCE workshop in North Batinah Nursing Institute at Sohar Hospital Sultanate of Oman. All nurse educators from different regions of Oman participating in the workshop and giving consent to participate in study, were included in this study.

**Data Collection:** Data was collected through self-filled questionnaire by the participant which included demographic characteristics (age, gender, year of practice) and questions regarding knowledge and perception of OSCE construction as well as self-assessment of their own performance. Principal Investigator ensured uniformity, explained the questionnaire objectives to the participant and obtained written consent before collecting the data. Survey instrument was made after literature search was reviewed by and agreed on via several brain storming sessions. Validation of questionnaire on small group (pilot) was also done.

**Ethical Considerations:** This study proposal was approved by Internal Review Board for ethics of Oman Medical College as well as Ministry of Health Oman.

## Workshop description

This workshop was design to train the trainer in OSCE organization and implementation. This workshop aimed to encourage constructive dialogue between health professional educators in the use of OSCE for student learning and assessment, creativity to develop OSCE, encourage a liberation of minds, to meet the challenges of

developing and assessment of skills in health professional education and ensures that all the examiners have been prepared to the same standard and fully understand their role. The main objectives were to understand the structure of the OSCE, the roles of the supervisors and the students, list the logistics of setting an OSCE, demonstrate how to construct an OSCE station, and learn how to train a simulated standardized patient.

The workshop emphasized interactive sessions based on working out exercises and hands-on experience in addition to core lecture presentation on OSCE process; validity and reliability of the OSCE stations being used, length of each OSCE station, the range of advanced clinical skills being examined, clinical skills to discern whether the nurse practitioner student can independently assess and perform the task.

## Workshop Structure:

The participants were given reading and an information website regarding OSCE and its construction. The program was conducted for a whole day.

After introducing the facilitators and providing a brief description regarding the workshop content, the participants took a pretest. The second activity for this day included Historical Background Application of OSCE in the Foundation Course of Nursing followed by an introduction to the structure, importance, validity and reliability of the OSCE with learners' understanding and importance in nursing education. The participants were given a few OSCE cases to study before they started constructing their own OSCE station of setting an OSCE, including the blueprint, inventory, and venue preparation.

The participants were divided into groups of two or three. Each group was asked to write a short case station that included the information for students (aim, data, and task/s), the scoring sheet for the supervisor

	Program Activities	Duration
1	Welcome note, orientation and pre-test	30 minutes
2	Overview of the Training Workshop and its Objectives	30 minutes
3	Historical Background Application of OSCE in the Foundation Course of Nursing	30 minutes
4	Learners understanding of OSCE	30 minutes
5	Importance of OSCE in Nursing education	30 minutes
6	Constructing stations and logistics	1 hour
7	Test the station: Preparation, training the simulator patient, being a candidate and supervisor	2 hours
8	Feedback on stations: Get feedback from learner and give feedback to candidate	30 minutes
9	Evaluation : Post -test and workshop evaluation	30 minutes

and materials required/ the scenario for the standardized patient. Each group shared the prepared case with the others. All the participants commented on the case and agreed on the final material. At the end of the session, the participants prepared the blueprint and inventory for the cases they constructed. These stations were used as the hands-on experience of the OSCE.

The last segment was the demonstrating of what had been learned and observed in previous sessions. The participants were involved in preparing the stage for five OSCE stations. The participants were divided into groups of two. Standardized patients were available for each group to train. Then a real OSCE was performed. Each member of the group acted alternatively as a supervisor and as a student.

After that, participants met to receive feedback from the standardized patients and to provide each other with feedback regarding the process of OSCE from the perspectives of students and supervisors as well as the possible amendments to be done to the station write-ups.

The final activity was evaluating the workshop and completing a posttest.

During the evaluation session, the participants were encouraged to report any development related to future implementation of the OSCE in their universities.

#### Evaluation

Participants were asked to complete an anonymous satisfaction survey. Participants elicited their opinion on a 5-point Likert scale (1=Poor, 5=Excellent) to assess the quality of teaching material, facilitators' knowledge and skills, value of hands-on experience, quality of syllabus/handout, overall course evaluation, and their ability to conduct an OSCE.

#### Data Analysis

Data were analyzed using the Statistical Package for Social Science (SPSS version 18). The obtained data were coded, analyzed, and tabulated. Descriptive analysis, including frequencies, was performed, and the paired sample t test with a 95% confidence interval was used to compare means and test for statistical significance.

#### Result

The response rate was 75%, out of 36 participants 28 completed the pre and posttest with feedback.

Paired sample t-tests were done on the 10 questions that were asked to participants before and after the workshop.

While all the responses are generally favorable, with average scores for all question (pre and post) being above the mid-likert point, there were significant pre-post differences for 3 of the questions.

It is clear that the views of participants on whether OSCE scenarios are uniform (q4), whether they allow for teaching audit and for demonstration of emergency skills (q5), and whether they are time consuming to construct and administer (q7) have changed as a result of this workshop. For all three of these items there a significant increase in the level of agreement following the workshop.

#### Feedback

The feedback from participants in the workshop was overwhelmingly positive. With all median value either 'agreeing' or 'strongly agreeing'. Figure 2 shows the average of the feedback for each question (with standard error displayed).

## Result

Gender	n (%)
Male	7
Female	21
<b>Age Mean</b>	
34.57	
<b>Years of practice</b>	
0-5	4
5-10	8
>10	13
<b>Designation</b>	
Staff Nurse	9
Nurse Manager/Executive	1
Tutor/Lecturer	8
Clinical instructor	8
Other	2
<b>Specialty</b>	
trauma/emergency	3
critical care	1
adult medicine	10
pediatrics	3
surgery	2
other	9

## Discussion

There is a growing international interest in teaching clinical skills in nursing education. OSCE is a form of performance-based testing used to measure candidates' clinical competence. It is designed to test clinical skill performance and competence in skills such as communication, clinical examination, medical procedures, prescription, and interpretation of results. The workshop aimed to encourage the nurse educators to construct OSCE for student learning and assessment and to encourage creativity to develop OSCE. Expert-delivered workshops improve the ability to implement assessment approaches

when compared to self-study alone [11].

Our study group in the workshop has shown great enthusiasm and improvement in knowledge. The context, educational tools, and collective motivation to learn and suggested the approach as a feasible and effective strategy for disseminating and incorporating medical teaching.

Our study has shown a significant improvement in posttest scores, signifying better knowledge about OSCE and its implementation.

Literature supports the utility of OSCE as a reliable tool for assessment and this should be used as choice for clinical skills assessment [12].

In the workshop trainers learnt how to construct the OSCE and few concepts were cleared after the workshop. It is evident that it should be applied carefully to get maximum benefit [13].

The participants exhibited a significant improvement in the mean score of the posttest delivered at the end of the workshop as compared to the mean of pretest. OSCE can be used as an assessment tool for formative and summative assessment, as a resource for learning, as a basis for abbreviated versions of physical examination assessments and to identify gaps and weaknesses in clinical skills [14-15].

There was significant knowledge improvement in posttest on the question about the scenarios are uniform for all candidates, OSCE allow for teaching audit and for demonstration of emergency skills and OSCE is time consuming to construct and administer. There are various evidence based information that multiple and emergency skills can be evaluated in OSCE [16-17]. Many studies have shown that trainer workshops are an effective training tool for continued medical education among health care professionals in several fields of education. This methodology allowed the participants to apply the learned material through discussion with the facilitators and granted them the opportunity to ask questions for any further clarifications [18-19]. Our workshop participants showed appropriate posttest knowledge, some of the theme was cleared after the workshop. It is imperative to train the trainer to get the maximum benefits and appropriate health care delivery [20-21].

The overall evaluation of the workshop was over whelming positive. The majority of participants

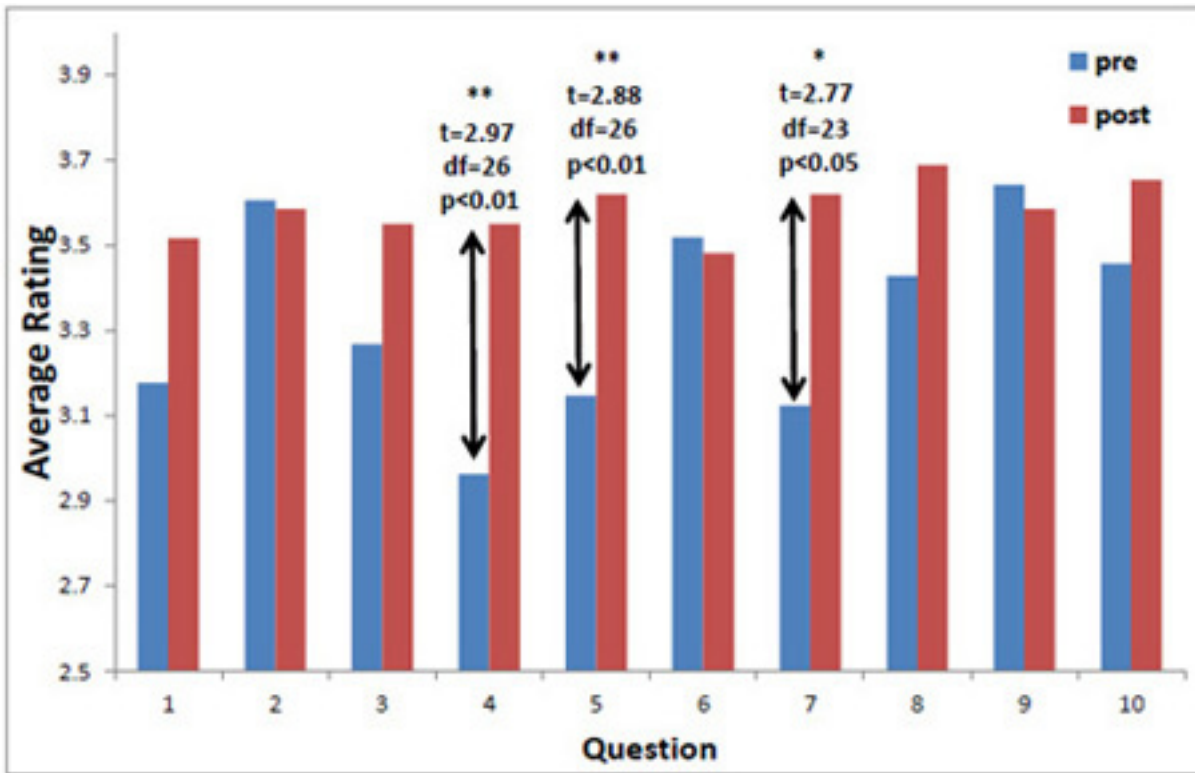


Figure 1: Distribution of Response Pre and Posttest

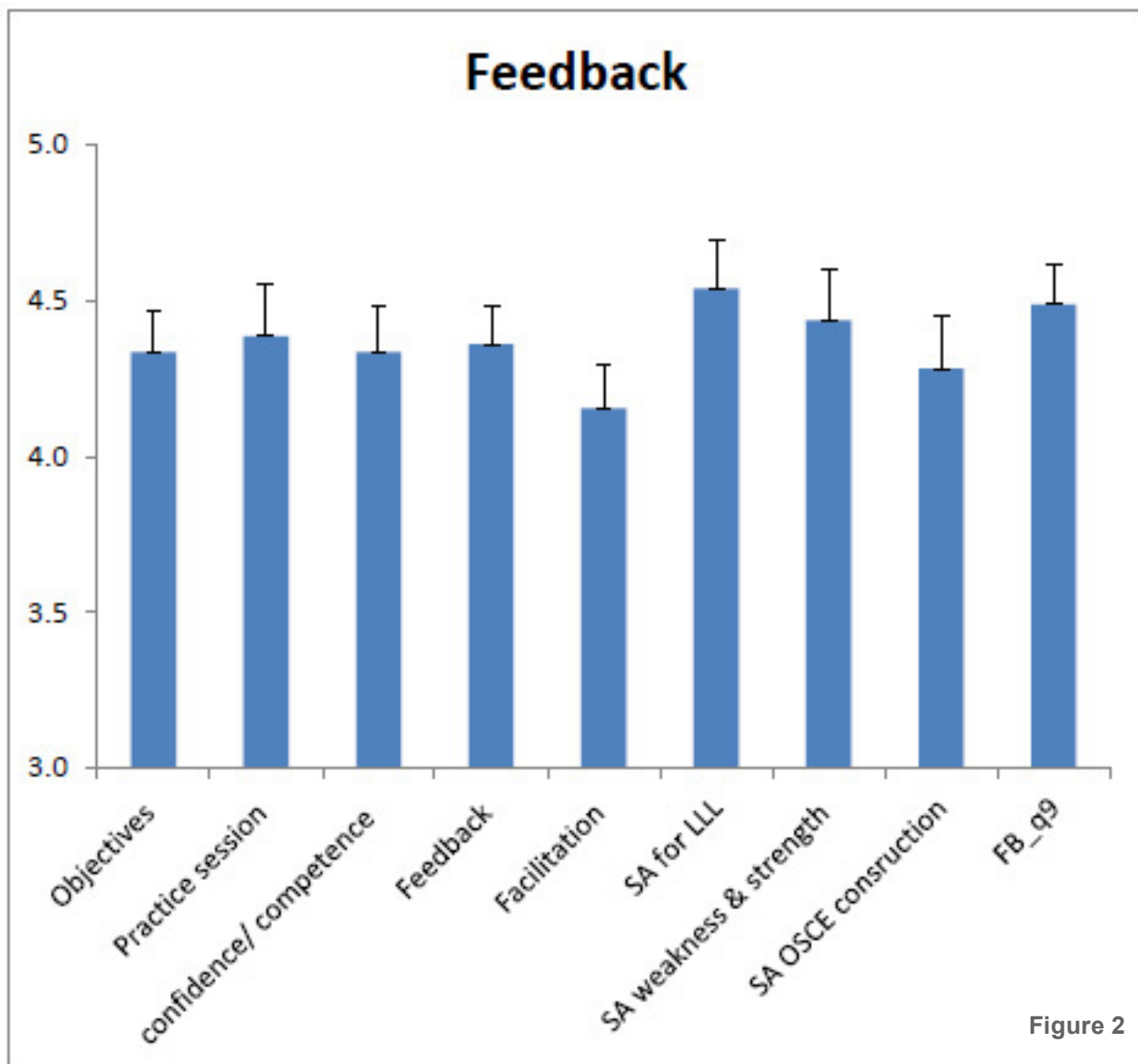


Figure 2

Feedback	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Mode
Objectives of this workshop was clear and achieved	0	2.5	7.5	42.5	45	Strongly Agree
Quality/Practice session with feedback helped in learning	0	7.5	5	27.5	57.5	Strongly Agree
This workshop increased your level of confidence/ competence in constructing OSCE	0	2.5	12.5	32.5	50	Strongly Agree
Feedback was constructive for each group presentation	0	2.5	2.5	50	42.5	Agree
Facilitation of work shop was appropriately done	0	5	7.5	52.5	32.5	Agree
Self-assessment is important mechanism for lifelong learning and self-improvement	2.5	2.5	0	27.5	65	Strongly Agree
Self-Assessment identifies your weakness and strength	2.5	2.5	2.5	32.5	57.5	Strongly Agree
Self-assessment of skills in constructing OSCE	2.5	2.5	7.5	37.5	47.5	Strongly Agree
<b>OVERALL</b>	0	0	10	30	57.5	Strongly Agree

rated all the items between agree and strongly agree. Most of the nurse educators were confident in quality and practice session which helped them learning, applicability of the OSCE test in terms of planning, organizing, and designing stations as a clinically useful new idea. In the simulation the trainers were very excited and felt how the simulators feel when they are examined by the students[22]. Their self-assessment was appropriate and honest and majority agreed this is important for lifelong learning which identify your strength and weaknesses[23].

In our workshop, the participants had the opportunity to demonstrate

their knowledge and skills by conducting a real OSCE. Benefit was noted during the practical application of the training and the ability to apply theoretical principles acquired early on in the workshop. Workshop participants were positive concerning their ability to conduct an OSCE in the future[24].

Besides providing learning skills and principles, clinical educators need to develop sound evaluation of what they teach. This workshop was conducted to help participants become trainers who can effectively assess clinical skills of their students and consequently single out any gaps in education. The positive

attitude toward adopting OSCE was observed and was reassuring as more than two thirds were inclined to conduct the OSCE in the future.

### Conclusions

Implementing to train the nurse educators workshops may be a feasible and effective way to enhance one's knowledge and skills in conducting OSCE. It would be reasonable to adopt an interactive, hands-on, exercise-rich methodology to implement such workshops, and our study serves as a guide in this respect. We suggest conducting a follow-up workshop to explore barriers and feedback from the participants' implementation.

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