



ORIGINAL: Nursing Students' Feedback from the Comprehensive Clinical Competency Exam at the End of the Undergraduate Course in 2019: A Cross-sectional Study

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ABSTRACT

Introduction: Objective Structured Clinical Examination (OSCE) is a valuable method in clinical evaluation of nursing students. The OSCE was first held in Nasibeh School of Nursing and Midwifery. The successful outcome of this exam encouraged other Nursing school to use the OSCE in evaluating the nursing students' clinical competency before their completion of undergraduate course. The aim of this study was to investigate the feedback of fourth year nursing students' feedback about OSCE as an assessment tool for their clinical competence and skills.

Material and Methods: This study has a cross-sectional descriptive design. All of the 36 undergraduate nursing students in the eighth semester who attended the OSCE Exam at the Nasibeh School of Nursing and Midwifery affiliated to Mazandaran University of Medical Sciences participated in this study. The questionnaire was designed and developed by the researchers. The questionnaire assesses nursing students' viewpoints of the OSCE characteristics.

Results: The results of this study show that OSCE has been accepted by most of undergraduate nursing students as an evaluation method for their clinical competency. For most students OSCE was reliable, covered a wide range of discipline and fair aspects. Having the OSCE was a positive practical experience for most students. However, several students felt that OSCE was not hold properly.

Conclusion: The feedback received regarding this evaluation method provides evidence that OSCE is a valuable method for evaluating undergraduate nursing students' competency. Such feedback is considered helpful for further development of OSCE.

Introduction

Nursing education is a process including: regular, continuous and planned actions that aims to change the knowledge, attitude and learning skills of

the students (1). Nursing is a practical discipline that clinical education forms the basis of the nursing education program (2). The emphasis of nursing education is on

training nurses to acquire knowledge, and clinical skills (3, 4). Educational evaluation is the most efficient method to improve the quality and effectiveness of education (5). Assessing students' clinical skills is a very difficult task (6). According to the curriculum of the Ministry of Health of Iran, conducting a practical exam after completing the field internship in the last year of education (in seventh or eighth semester), is the criterion for graduation of nursing students. Nursing and midwifery schools across the country are required to design and implement a comprehensive practical exam for incoming students (7). Different methods can be used in evaluating nursing students. One of these methods is Objective Structured Clinical Evaluation (OSCE) method. OSCE is a valuable method in clinical evaluation of nursing students (8, 9). The OSCE was developed for the training of medical students (10-12). This exam assessments have become a popular tool for assessing clinical competency in nursing (13). The OSCE, where students show their competence under the different simulated situations, has benefits in that an element of objectivity can be introduced by examiners (11). The OSCE is designed by arranging a number of stations in which a student performs an assigned skill using a standardized patient, while being watched by faculty members before moving on to the next station. Every station assess different clinical competency such as history taking, interpretation of clinical data, nursing diagnoses, giving injection and so on. The students are rotated through a number of stations and in each station they are allotted equal amount of time. The stations can be limited to two, five or more than 20 stations (13). In a study on the nursing students in the United States, researchers stated that OSCE should replace other clinical methods of evaluation (14). Berkenstad and colleagues evaluated the effect of the OSCE method on specialized anesthesia students, and they concluded that participants preferred this method to the verbal method (15). Haj Bagheri and colls, showed that OSCE has increased nursing

students learning. (10). The study of Abraham and others (2009) on practical evaluation with objective structure in physiology student and the study of Yaginuddin and colleagues (2012) also confirmed that practical evaluation with objective structure is effective and acceptable from the students' viewpoints (16, 17). As the OSCE was performed to evaluate nursing student competency in the eighth semester at Nasibeh School of Nursing and Midwifery, Sari, the students' feedback assessment can help the nursing teachers and officials improve the quality of this exam for future courses. Therefore, this study was conducted to investigate the satisfaction of nursing students with the competency practical exam at the end of the undergraduate course in Nasibeh School of Nursing and Midwifery in 2019.

Methods

Aim of Study

The aim of this study was to determine the feedback of fourth year (eight semester) nursing students' feedback about OSCE as an assessment tool for their clinical competence and skills.

Design

This study has a cross sectional descriptive design.

Sample

All of the undergraduate nursing students in the eighth semester who attended the OSCE Exam at the Nasibeh School of Nursing and Midwifery affiliated to Mazandaran University of Medical Sciences participated in this study. The sample consists of 36 of fourth year enrolled nursing students during the academic year 2018-2019. Inclusion Criteria for students entering the study included having a valid ID card to enter the session and being eligible to pass this exam by the Nasibeh School Department of Education. Exclusion criteria were being a transferred student from another nursing schools an unwilling to participate in

the study.

Data collection tools

The data were collected using a demographic information and a student feedback forms.

Demographic information questionnaire: it consists of some questions such as gender, course of study, history of academic probation, history of participating in the OSCE exam, Interest in the nursing profession and grade point average (GPA).

Student feedback questionnaire: This part was developed by researchers based on a literature review (13, 18-22). Then the opinion of five nursing experts were collected to confirm the questionnaire content validity. The final questionnaire consists of 14 questions. Options such as completely dissatisfied, dissatisfied, completely satisfied and satisfied were used to answer the questions in the form. The questionnaire was prepared in order to learn the opinions and feedback of the students about the quality of OSCE under taking. To determine the reliability, the questionnaire was distributed among 20 students and Cronbach's alpha coefficient was calculated to be 81%. The students were asked to complete the questionnaire forms at the end of the OSCE. The OSCE consisted of eight stations, the students were given maximum of six minutes to perform the exam while assessing by two experienced nursing teachers by using a valid and reliable checklist. The students were asked to complete the questionnaire forms at the end of the OSCE.

Ethical considerations

All participants signed their consent for participation in the study. They received the necessary information on the objectives, background, and methods of the intervention. They were also assured confidentiality for their personal information. The participants were informed that they were free to reject to participate in the study without negative consequences. The study was approved by the Research Ethics committee of Mazandaran University of Medical Sciences (Registration no. IR.MAZUMS.REC.1399-444).

Data analysis

The data were analyzed using SPSS Version 19 software. Descriptive statistics (percentage, mean, and standard deviation) were applied to participants' demographic characteristics and their answers to feedback questions, and paired t-test was used to compare occupational stress and resilience scores before and after the intervention. The significance level was $\alpha=0.05$. Frequencies and percentage. Chi-square and p value were also calculated for statistical significance.

Results

In the present study, 36 nursing students participated in the study and 58.3% (n=21) were female, 41.7% (n = 15) were male. The mean age of students was 21.77 ± 5.42 years. And their grade point average was 13.60 ± 6.98 . Also, 44.4 percent of the participants had a grade point average of more than 17. Only 5.6 percent of them had a history of academic probation and also 66.7 percent of students were interested in the nursing profession. Students with daily course were 81.6 percent.

The study of nursing students' feedback with the OSCE exam in 14 different areas is shown in **Table 2**. It should be noted that 94.4% of students did not have a history of participating in the OSCE exam. The highest level of satisfaction were in two areas of being welcomed during the entry process and

Table 1. Demographic characteristics of the participants

Variables		Percentage (No.)
Gender	Female	58.3 (21)
	Male	41.7 (15)
Course of study	Day	91.7 (33)
	Night	8.3 (3)
History of academic probation	No	88.9 (32)
	Yes	11.1 (4)
History of participating in the ski test	No	94.4 (34)
	Yes	5.6 (2)
Grade Point Average	More than 17	44.4(16)
	Less than 17	55.6(20)

Table 2. Students' feedback to the OSCE exam

	Questions	Completely satisfied or satisfied	Completely dissatisfied or dissatisfied
		Percentage (No.)	Percentage (No.)
1	Be welcomed when entering the exam process	100 (36)	0.0 (0)
2	Initial encounter with staff and faculty members during exam	41.7 (15)	58.3(21)
3	Reduce of anxiety in the initial encounter with staff and faculty members	44.4(16)	55.6(20)
4	Provide appropriate information about the steps of the exam	41.7(15)	58.3(21)
5	Provide necessary help and guidance	52.8(19)	47.2(17)
6	Exam time	63.9(23)	36.1(13)
7	Exam place	61.1(22)	38.9(14)
8	Allocated time for each station	55.6(20)	44.4(16)
9	Procedures dedicated to each station	63.9(23)	36.1(13)
10	Discipline when taking the exam	72.2(26)	27.8(10)
11	Examiners' behavior	61.1(22)	38.9(14)
12	Participation of examiners in the examination process	61.1(22)	38.9(14)
13	Exam process	55.6(20)	44.4(16)
14	Exam date in the eighth semester of the undergraduate course	58.3(21)	41.7(15)

discipline during the exam. the the highest level of dissatisfaction, were in the areas of initial encounter with staff and faculty during the exam and providing appropriate information about the steps of the exam.

The results of statistical analysis also showed that there was no significant difference between students' gender and their grade point average ($p = 0.07$). According to the results of the statistical test, people with high GPA were more dissatisfied with the help of staff and faculty ($P = 0.04$) and female students were more dissatisfied with the help of staff and faculty than that in the male students (0.0005).) And the students who were interested in the nursing profession were also satisfied with the location of the test.

Discussion

The objective of this study was to investigate the feedback undergraduate nursing students' feedback about OSCE. One of the appropriate assessment methods to evaluate students' clinical skills is the OSCE. Generally, the students were satisfied with the exam, which is consistent with the study of Mitchell and

coll., and Casey and Eldarir's research results (23-25). Sadeghi and coll. also used OSCE method in their study to evaluate the clinical skills of nursing students (26). In the present study, more than half of the students were satisfied with the exam. The results of Farrokhi and colleagues research also show that 80.6% of students had a positive attitude towards the comprehensive exam (19). In the Bahraini's study, medical students' dissatisfaction with the current evaluation method; In 46.6% of the cases, students reported the non-compliance of the final grade with the acquired abilities (27). In the present study, less than half of the students were generally dissatisfied with the way that the practical exam was held at the end of the eighth semester. In Mansourian's study, male students were more satisfied with OSCE exam, which is consistent with the present study (28). Salehi and colls. (2015) also emphasized on preparing the environment, instructors and students before holding the OSCE exam. Moreover, adequate exam equipment and facilities, suitable physical environment, correct choice of nursing processes and sufficient time allocated for

evaluation in each station are the factors that satisfy students (29). One of the important findings of the present study is dissatisfaction with the lack of appropriate information about the test procedures. In the study of Massey and others (2017) the OSCE exam was found to be highly stressful for the students (30). If students do not know how to go from one stations, to the other, then this will increase students' anxiety and stress. Lack of planning in in preparation OSCE causes results in a negative outlook (18). It is suggested that the managers of the departments in the nursing schools plan to reduce the anxiety and stress of the students. Holding rehearsal exams similar to the main exam at the end of the course, holding pre-exam question and answer sessions, making available OSCE videos can increase the students' satisfaction with the exam. Reducing students' anxiety, increasing self-confidence has a tremendous effect on students preparation for the exam (31, 32). Fidment (2013) showed that preparing students before the exam through providing accurate information about the exam steps and creating similar exam conditions are helpful (33).

Conclusion

Based on the findings of the study, The OSCE is a valuable method for evaluating undergraduate nursing students' competency. Performing OSCE at Nasibeh Faculty of Nursing, was a helpful experience for both students and teaches, and this exam is considered for more development and improvement by careful planning before the exam. Training programs for trainers can be designed in order to get acquainted with the principles of OSCE exam before the real condition.

Recommendations

As this study investigated undergraduate nursing students' feedback about OSCE, other research could be done to study nursing school teachers experience with the performing of OSCE. Moreover the effect of

developing nursing school OSCE committee on the quality of OSCE exam can be investigated.

Limitations

A limitation of this study is the low number of students in the last year of undergraduate course as the OSCE was held for the first time in Nasibeh School of Nursing and midwifery. As the study was done on nursing students of eighth semester in Iran, the findings should be generalized with caution in other settings and countries.

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Conflicts of interest

The authors declare no conflict of interest.

References

1. Abdolahyan M. Methods of teaching and learning in nursing education. Babel: Babel Medical Publishing. 2003.(Persian)
2. Haji-Agha-Jani S. A comparison and review of comments of academics and students about the criteria of good university teachers. J of Med and Purification. 2001;41-50.
3. Moghimi M, Mohammad Hossini S, Karimi Z, Moghimi M, Naimi E, Mohammadi S, et al. Obstacles of clinical education and strategies for the improvement of quality of education in Yasuj university of medical sciences. Journal of Research Development in Nursing and Midwifery. 2014;11(2):95-101.
4. Asadi S, Latifi SM, Sheini-Jaberi P. Effects of clinical education and evaluation with portfolio method on nursing students' satisfaction: a clinical trial. Journal of clinical nursing and midwifery. 2014;3.
5. Al-Zeftawy AM, Khaton SE. Student evaluation of an OSCE in community health

nursing clinical course at faculty of nursing, Tanta University. *IOSR J Nurs Health Sci (IOSR-JNHS)*. 2016;5(4):68-76.

6. Sadeghi T, Ravari A, Shahabinejad M, Hallakoei M, Shafiee M, Khodadadi H. Performing of OSCE method in nursing students of Rafsanjan University of medical science before entering to clinical field in year 2010: A process for quality improvement. *Community Health Journal*. 2017;6(1):1-8.

7. Mazlom SR. Design of the Structure of a Comprehensive Examination for Bachelor of Nursing: A Delphi Study. *The Journal of Medical Education and Development*. 2018;13(1):16-30.

8. Troncon LEdA. Clinical skills assessment: limitations to the introduction of an "OSCE"(Objective Structured Clinical Examination) in a traditional Brazilian medical school. *Sao Paulo Medical Journal*. 2004;122(1):12-7.

9. Furlong E, Fox P, Lavin M, Collins R. Oncology nursing students' views of a modified OSCE. *European Journal of Oncology Nursing*. 2005;9(4):351-9.

10. Adib-Hajbaghery M, Yazdani M. Effects of OSCE on learning, satisfaction and test anxiety of nursing students: a review study. *Iranian Journal of Medical Education*. 2018;18:70-83.

11. Watson R, Stimpson A, Topping A, Porock D. Clinical competence assessment in nursing: a systematic review of the literature. *Journal of advanced nursing*. 2002;39(5):421-31.

12. Harden RM, Stevenson M, Downie WW, Wilson G. Assessment of clinical competence using objective structured examination. *Br Med J*. 1975;1(5955):447-51.

13. Bakar RA, Ahmad N. Assessing nursing clinical skills performance using objective structured clinical examination (OSCE) for open distance learning students in Open University Malaysia. 2009.

14. Alinier G. Nursing students' and lecturers' perspectives of objective structured clinical examination incorporating simulation. *Nurse education today*. 2003;23(6):419-26.

15. Berkenstadt H, Ziv A, Gafni N, Sidi A. Incorporating simulation-based objective

structured clinical examination into the Israeli National Board Examination in Anesthesiology. *Anesthesia & Analgesia*. 2006;102(3):853-8.

16. Abraham RR, Raghavendra R, Surekha K, Asha K. A trial of the objective structured practical examination in physiology at Melaka Manipal Medical College, India. *Advances in physiology education*. 2009;33(1):21-3.

17. Yaqinuddin A, Zafar M, Ikram MF, Ganguly P. What is an objective structured practical examination in anatomy? *Anatomical sciences education*. 2013;6(2):125-33.

18. Bagheri M, Forotgheh MS, Fallah MS. The comparison of stressors in the assessment of basic clinical skills with traditional method and OSCE in nursing students. *Life Science Journal*. 2012;9(4):1748-52.

19. Farokhi F, Golmakani n, Tafazoli m. Attitude of Undergraduate Midwifery Students about Final Comprehensive Exam in Mashhad Nursing and Midwifery School. *Iranian Journal of Medical Education*. 2011;10(4):410-6.(eng)

20. Lee K-C, Ho C-H, Yu C-C, Chao Y-F. The development of a six-station OSCE for evaluating the clinical competency of the student nurses before graduation: A validity and reliability analysis. *Nurse education today*. 2020;84:104247.

21. Chongloi N, Thomas P, Ara M, Deepak K. Attitudes of undergraduate nursing students toward Objective Structure Practical Examination: An Exploratory study. *International journal of nursing sciences*. 2017;4(1):68-72.

22. El-Nemer A, Kandeel N. Using OSCE as an assessment tool for clinical skills: nursing students' feedback. *Australian Journal of basic and Applied sciences*. 2009;3(3):2465-72.

23. Mitchell ML, Henderson A, Groves M, Dalton M, Nulty D. The objective structured clinical examination (OSCE): optimising its value in the undergraduate nursing curriculum. *Nurse education today*. 2009;29(4):398-404.

24. Casey PM, Goepfert AR, Espey EL,

Hammoud MM, Kaczmarczyk JM, Katz NT, et al. To the point: reviews in medical education—the Objective Structured Clinical Examination. *American journal of obstetrics and gynecology*. 2009;200(1):25-34.

25. Eldarir SA, Nagwa A, Hamid A. Objective Structured Clinical Evaluation (OSCE) versus traditional clinical students achievement at maternity nursing: A comparative approach. *IOSR Journal of Dental and Medical Sciences*. 2013;4(3):63-8.

26. Sadeghi T, Shahabi M. Evaluation of Nursing Students Using Objective Structured Clinical Examination: A Strategy for Assessing Students' Competence. *Strides Dev Med Educ*. 2015;12(1):228-36.

27. Bahreini Toosi MH, Modabber Azizi MJ, Kaveh Tabatbaie MS, Ebrahimzadeh S, Bahreini Toosi V, Bahreini Toosi K. Medical students' viewpoints about the evaluation methods at internship stage (Mashad University 2001). *Iranian Journal of Medical Education*. 2002;2:19-.

28. Mansoorian MR, Hosseiny M, Khosravan S, Alami A. Comparing the effects of two methods of evaluation, objective structured Assessment of Technical Skills (OSATS) and traditional method, on

satisfaction of students and Evaluators. 2014.

29. Salehi K, Salehi Z, Shakour M, Haghani F. A review on OSCE for clinical evaluation of nursing and midwifery students in Iran. *Education Strategies in Medical Sciences*. 2018;11(2):73-82.

30. Massey D, Byrne J, Higgins N, Weeks B, Shuker M-A, Coyne E, et al. Enhancing OSCE preparedness with video exemplars in undergraduate nursing students. A mixed method study. *Nurse Education Today*. 2017;54:56-61.

31. Muldoon K, Biesty L, Smith V. 'I found the OSCE very stressful': Student midwives' attitudes towards an objective structured clinical examination (OSCE). *Nurse Education Today*. 2014;34(3):468-73.

32. Delavar M, Salmalian H, Faramarzi M, Pasha H, Bakhtiari A, Nikpour M, et al. Using the objective structured clinical examinations in undergraduate midwifery students. *Journal of medicine and life*. 2013;6(1):76.

33. Fidment S. The objective structured clinical exam (OSCE): A qualitative study exploring the healthcare student's experience. *Student engagement and experience journal*. 2012;1(1):1-18. .