

SCOPING REVIEW ON AN EVALUATIVE STUDY TO ASSESS THE KNOWLEDGE AND SKILLS OF OSCE (OBJECTIVE STRUCTURED CLINICAL EXAMINATION) BASED PROCEDURES AMONG NURSING STUDENTS

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ABSTRACT

Background: The objective of OSCE is to assess the student's performance without any bias of examiners and assess the student's knowledge, skills, attitude and applications of knowledge. This scoping review aimed to assess the knowledge and skills on OSCE method among nursing students. Methods: A scoping review model inspired by the Arkey and O'Malley was used to search for the synthesis studies published between 2009 to 2022. The databases searched were the cumulative Index to Nursing and PUBMED, GOOGLE SCOLAR. Result: A Total of 100 articles were identified 20 out of these were duplicates. And a further 80 were screened and 30 were excluded. In that 80 review are screened by the topics. The assessment via scoring individual articles on parameters such as level of errors and other problems. Relevant information extracted from the articles includes objectives, study population, research question, method and research. Total 20 articles are included in review many of the study used descriptive studied such as participant's demographics. Conclusion: The high fidelity simulation did enhance scores on knowledge and skill exams but its contribution to OSCE performance was mixed.

Keywords: Knowledge, Skills, OSCE, Nursing Students.

INTRODUCTION

The Objective Structured Clinical Examination (OSCE) is a practical system for clinical skills and knowledge assessment in simulated environment and for over 40 years has been considered as a gold standard in this area of evaluation. OSCE is widely used in assessing skills not only in medical education, but also in dentistry, nursing and midwifery, physiotherapy, dietetics and pharmacy.

The objective of OSCE is to assess the student's performance without any bias of examiners and assess the student's knowledge, skills, attitude and applications of knowledge. It ensures the evaluation of set of predetermined clinical competencies. The method is more objective because each clinical competency is divided into different segments and the marks are allotted.

Successful nursing assessment tools are required to ensure high-quality teaching and learning and to promote the role of the nursing as a profession with the purpose of improves care and preserve the public. In addition, in the absence of consensus on the exact explanation for competence, deciding on an appropriate strategy to assess clinical competence has long been central to nursing. The traditional OSCE include rotating the students through a system of stations simulating a clinical reality. Every station, the student must perform a particular skill using a standardized patient, manikin, task trainer and/or a written scenario. Each station is assembled to assess a particular skill, such as history-taking, physical assessment, identifying a diagnosis, decision-making, client education or the performance of a technical procedure. The skills performed are assessed against a pre-established detailed checklist developed by a panel of clinical education experts. The construction and application of the OSCE process vary in relation to the number of stations and the length of time allowed at each station, depending on the learning outcomes and objectives being assessed.¹

MATERIALS AND METHODS

The present study is a scoping review of published articles regarding on OSCE nursing student. It includes both knowledge and skills on OSCE. I preferred reporting items for systematic and meta-analysis PRISMA checklist was used for the study.

Scoping review help to summarize vital evidence on topic without necessarily going through the process of a formal systematic review. I used google scholar for the review of the study.

Inclusive criteria: in inclusive criteria includes the Nursing students. Exclusive criteria: the exclusive criteria based on the study participants. Time frame included studied published between 2014 and 2022 discussions were eligible for inclusion. Scoping review help to

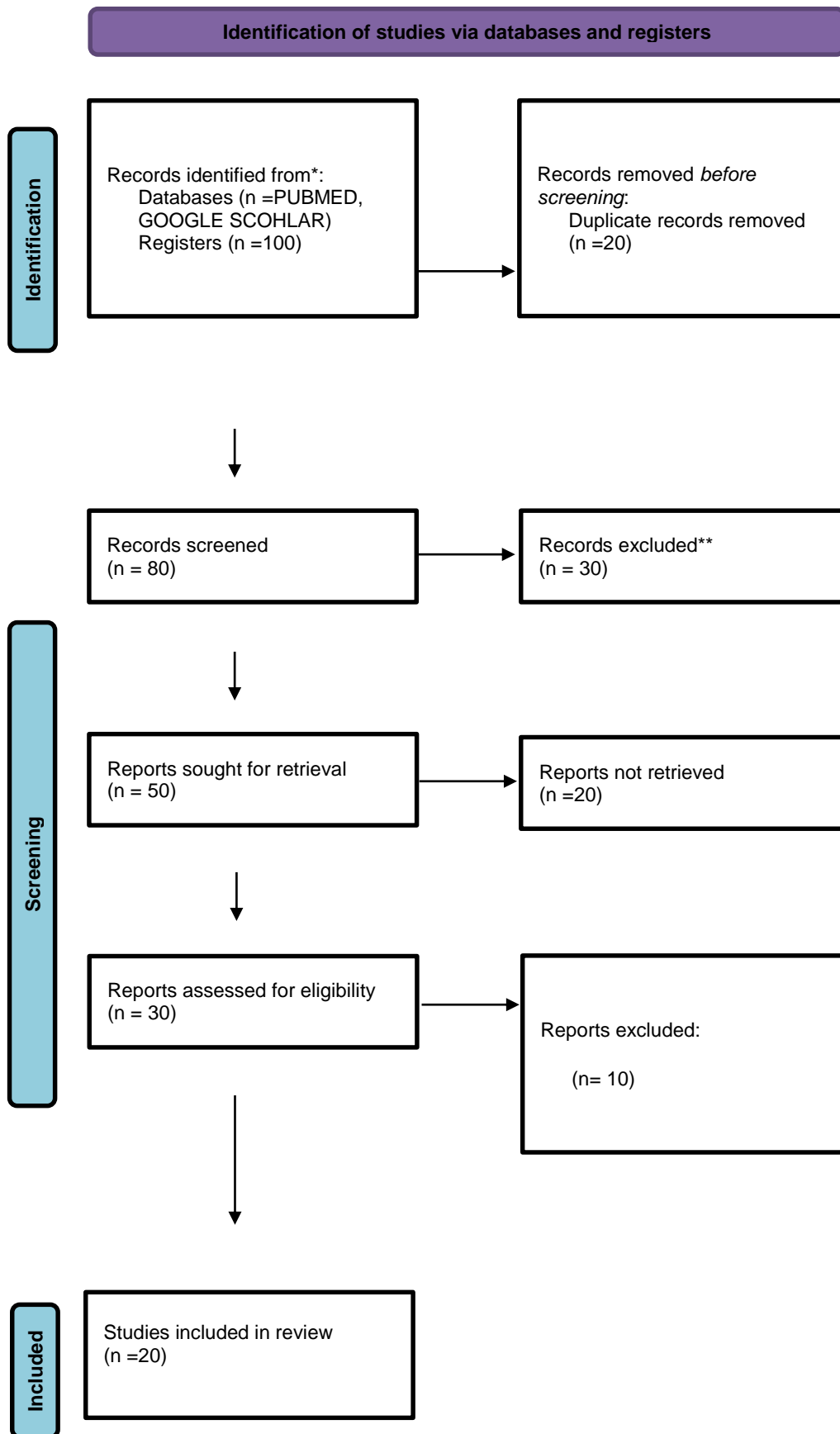
summarize vital evidence on topic without necessarily going through the process of formal systematic review. The study's scoping review model is inspired by Arksey and O'Malley (2005) and involves six stages: identifying the research question; searching for relevant studies; charting the data; collecting; summarizing; and reporting the result.

RESULT:

A Total of 100 articles were identified 20 out of these were duplicates. And a further 80 were screened and 30 were excluded. In that 80 review are screened by the topics. The assessment via scoring individual articles on parameters such as level of errors and other problems. Relevant information extracted from the articles includes objectives, study population, research question, method and research.

Total 20 articles are included in review many of the study used descriptive studied such as participant's demographics. For study quasi experimental design in that knowledge questionnaire and checklist for clinical performance used in reviews. The articles were from the so many country involved. The method used like quasi experimental study, cross sectional descriptive, descriptive design.

PRISMA:



SUMMARY OF THE STUDIES INCLUDED IN THE REVIEW:

Author(year)	Study location	Aim	Study design	Participants
Ritu Soni (2017)	Delhi	To assess and compare the opinion and level of satisfaction of student nurses regarding objective structured clinical examination (OSCE) and traditional method of clinical skills assessment.	Comparative Descriptive Design	68 students
Sarate Siddaram (2018)	India	To evaluate the effectiveness of objective structured clinical examination as compare to conventional examination as formative assessment tool in Nursing.	A cross sectional comparative study	M.sc.nursing students
Eman Ali Moselhi Mate (2014)	Princess Nora Bint Abdul Rahman University, Saudi Arabia	The study was to compare between the performance of students regarding to their scores and grads by using objective structured clinical examination (OSCE) and traditional clinical examination (TCE) and to investigate	A quasi-experimental study	

		student's perception about OSCE.		
Shadia A. Eldarir (2013)	Cairo University, Egypt	the aim of the study was to compare the effectiveness of OSCE versus traditional clinical student's achievement at maternity nursing	quasi experimental deign	190 students
Heba Abdel Mowla Ahmed (2018)	University of Alexandria, Egypt	the aim of the study was to evaluate the effect of implementing OSCE for mandatory training among large numbers of undergraduate medical surgical nursing students on their clinical competencies in the Faculty of Nursing	quasi experimental deign	100 students
Amira Mohammed Saed (2016)	Tanta University, Egypt.	The current study was undertaken to evaluate the performance and feedback of undergraduate nursing students about OSPE	A cross sectional study design	100 students
Shaikha Alamri (2022)	Sultan Qaboos University, Muscat, Oman.	This study aimed to explore undergraduate nursing students' perception and attitude towards the Objective Structured	cross-sectional descriptive study	160 students

		Clinical Examination (OSCE).		
Sally Fouad (2019)	Suez Canal University	To assess the clinical performance of medical and health profession students.	semi-structured interviews	83 students
Lamia A. Awad (2017)	Minia University, Egypt	To investigate the students' response related to objective structured clinical examination as a method of assessment for their clinical skills.	cross sectional descriptive design	132 students
Manal Zeinhom Ahmed Higazee1(2017)	Jordan.	Evaluate nursing students' satisfaction with clinical education in both clinical field placement and nursing laboratories.	A descriptive correlational research design	293 students
Hoda Mohamed Nafee(2018)	Immam Abdulrahman Bin Faisal University (IABU), kingdom of Saudi Arabia	To compare nursing students' opinions, feedback and clinical achievements grades in the Objective Structured Clinical Examination (OSCE) and the Traditional Clinical Examination (TCE) methods	A descriptive research design	96 undergraduate student
Eman Ali Moselhi Mate(2014),	Princess Nora Bint Abdul	To compare between the performance of students regarding to	A quasi-experimental study	100 students

	Rahman University	their scores and grads by using objective structured clinical examination (OSCE) and traditional clinical examination (TCE) and to investigate student's perception about OSCE.		
Mary Idowu Edward1 ,(2016)	south west Nigeria	To compare the nursing students' performances scores in TPE and OSCE in the selected Schools and Departments of Nursing in the study settings.To assess the perception and preference of nursing students towards the use of OSCE and TPE.	Purposive sampling technique	157 participants
Hala M. M. Bayoumy(2012)	Saudi Arabia	The present study set out to explore, evaluate and analyze the perception of students as well as clinical instructors about Objective Structured Clinical Examination (OSCE) as well as exploring the strengths and	survey design	83 participants

		weaknesses of this assessment tool as perceived by study subjects		
Afaf AbdAlla(2013)	Alneelain University	Objective Structured Clinical Examination (OSCE) becomes an integral evaluation method in nursing fields. Because the OSCE is a new experience for most students, it is important as educators, that we explore this assessment from perspective of the student.	. A descriptive design	60 students
Getu Ataro1(2020)	Jimma university	To explore the experience and challenges of OSCE implementation from the perspective of clinical year-II medical students and their examiners in Ob-Gyn Department of Jimma University	descriptive analysis	56 participant
Md Anwarul Azim Majumder1Alok Kumar(2019)	the West Indies	To determine the final year MBBS students ‘and OSCE	cross-sectional survey approach	74 participant

		examiners ‘perception on the attributes, quality, validity, reliability and organization of the Medicine		
Khin Thandar Aung1 (2016)	Malaysia.	To identify nursing students’ perceptions on OSCE.	A cross sectional study	91 nursing students
Bindu John (2020)	Bahrain	To identifying the experiences of students with OSCE as an assessment tool and exploring their feedback for quality improvement.	A Mixed Methods	122 nursing students
Moattari M, PhD1 ; Abdollah-zargar S(2009)	Iran	To determine the reliability and validity of OSCE in evaluating clinical skills of nursing students	Descriptive evaluative study	37 nursing students

DISCUSSION

Our findings show that despite the diverse study contexts of the studies included in this scoping review. There was evidence that high fidelity simulation enhanced scores in knowledge and skills exam. When working with simulated scenarios, students are allowed to administer inappropriate nursing care. They are able to appreciate the effects of their unsafe care in realistic manner, gaining valuable understanding of the importance of the provision of safe patient care.

CONCLUSIONS

The high fidelity simulation did enhance scores on knowledge and skill exams but its contribution to OSCE performance was mixed. The Assessment of knowledge and skills



important part in student nurses because they need to demonstrate competency and confidence in the performance of Clinical skills.

AUTHOR CONTRIBUTION

Findings: no external findings.

Institutional Consent Statement: not applicable

Informed consent statement: not applicable

Data availability: Not applicable

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Conflict of interest: No any

REFERENCES

- 1) Elbilgahy, Amal Ahmed, Fatma Abdou Eltaib, and Rasha Kamal Mohamed. 'Implementation of Objective Structured Clinical Examination (OSCE): Perceiving Nursing Students and Teachers Attitude & Satisfaction.' *American Journal of Nursing Research* 8.2 (2020): 220-226.
- 2) Elbilgahy, Amal Ahmed, Fatma Abdou Eltaib, and Rasha Kamal Mohamed. 'Implementation of Objective Structured Clinical Examination (OSCE): Perceiving Nursing Students and Teachers Attitude & Satisfaction.' *American Journal of Nursing Research* 8.2 (2020): 220-226.
- 3) Siddaram, S., & Anil, S. (2018). A comparative analysis between objective structured clinical examination (OSCE) and conventional examination (CE) as Formative Evaluation Tool. *Int J Nurs Educ*, 10, 102-5.
- 4) Mater, E. A. M., Ahmed, E. I., ElSayed, A. A., Shaikh, M. A. E., & Farag, M. K. (2014). The impact of the objective structured clinical examination approach for clinical evaluation skills on the student's performance in nursing college. *World J Med Sci*, 11(4), 609-613.
- 5) Eldarir, S. A., Nagwa, A., & Hamid, A. (2013). Objective structured clinical evaluation (OSCE) versus traditional clinical students achievement at maternity nursing: A comparative approach. *IOSR Journal of Dental and Medical Sciences*, 4(3), 63-68.
- 6) Abdel, H., Ahmed, M., Abdel, E., Ahmed, A., Aljaber, N. Y., & Ahmed, A. M. (2018). The Effect of Implementing OSCE Mandatory Training among Large Numbers of Undergraduate Medical Surgical Nursing Student on their Clinical Competencies. *IOSR J Nurs Heal Sci*, 7, 46-59.
- 7) Saed, A. M., & Abbas, N. I. (2017). Feedback of undergraduate nursing students about objective structured practical examination. *Journal of Nursing Education and Practice*, 7(3), 123-135.
- 8) Alamri, S., Al Hashmi, I., Shrubha, K., Jamaan, S., Alrahbi, Z., & Al Kaabi, T. (2022). Nursing Students' Perception and Attitude towards Objective Structured Clinical Examination in Oman. *Sultan Qaboos University Medical Journal*, 22(3), 343.
- 9) Fouad, S., Gouda, E., Nasser, A. A., & Kamal, D. (2019). Perception of Students, Staff and Simulated Patients towards Objective Structured Clinical Examination (OSCE). *Education in Medicine Journal*, 11(2).

- 10) Awad, L. A., Ahmed, S., Alshamandy, A. A., & Abolwafa, N. F. (2017). Perception of undergraduate nursing students towards objective structured clinical examination (OSCE). *IOSR Journal of Nursing and Health Science Ver*, 7(6), 5.
- 11) Higazee, M. Z. A., Rayan, A., Ades, M. A., & Alrawashdeh, F. (2017). Nursing students' satisfaction with their clinical experiences. *International Journal of Nursing and Health Science*, 4(2), 16-21.
- 12) Nafee, H. M., Ahmed, A. E. S., & Hussien, A. M. (2019). Objective structured clinical examination versus traditional clinical examination among nursing students: A comparative approach. *Journal of Nursing Education and Practice*, 9(2), 42-52.
- 13) Mater, E. A. M., Ahmed, E. I., ElSayed, A. A., Shaikh, M. A. E., & Farag, M. K. (2014). The impact of the objective structured clinical examination approach for clinical evaluation skills on the student's performance in nursing college. *World J Med Sci*, 11(4), 609-613.
- 14) Edward, M. I., & Okanlawon, F. (2016). Perception of objective structured clinical examination and traditional practical examination in assessment of nursing students clinical competencies by nursing students in south west Nigeria. *International Journal of Medical Research and Review*, 4(8), 1340-1350.
- 15) Bayoumy, H. M., & Yousri, H. (2012). Objective Structured Clinical Examination (OSCE)–Based Assessment In Nursing: Students' And Clinical Instructors' Perception. *J Am Sci*, 8, 523-40.
- 16) AbdAlla, A., & Mohammed, K. (2016). The Objective Structured Clinical Exam (OSCE): A Qualitative Study evaluating Nursing Student" s Experience. *International Journal of Science and Research (IJSR) ISSN (Online)*, 5(3), 399-402.
- 17) Ataro, G., Worku, S., & Asaminew, T. (2020). Experience and challenges of objective structured clinical examination (OSCE): perspective of students and examiners in a clinical department of Ethiopian University. *Ethiopian Journal of Health Sciences*, 30(3).
- 18) Majumder, M. A. A., Kumar, A., Krishnamurthy, K., Ojeh, N., Adams, O. P., & Sa, B. (2019). An evaluative study of objective structured clinical examination (OSCE): students and examiners perspectives. *Advances in medical education and practice*, 387-397.
- 19) Aung, K. T., & binti Zakaria, A. N. A. B. (2016). Nursing students' perceptions on objective structured clinical examination (OSCE). *perception*, 3(96.7), 100-0.



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- 20) John, B. (2020). Exploring Nursing Students Experience with Objective Structured Clinical Examination (OSCE) as an Assessment Tool: A Mixed Methods Research. *JRL J Sci Technol*.
- 21) Moattari, M., Abdollah-Zargar, S., Mousavinasab, M., Zare, N., & Marvdast, P. B. (2009). Reliability and validity of OSCE in evaluating clinical skills of nursing students. *Journal of Medical Education*, 13(3).