A STUDY TO ASSESS EFFECTIVENESS OF OBJECTIVE STRUCTURED CLINICAL EXAMINATION VERSUS TRADITIONAL PRACTICAL EXAMINATION ON BLOOD PRESSURE MEASUREMENT AMONG NURSING STUDENTS AT SELECTED NURSING COLLEGE, VADODARA

KSHATRIYA P[1*], PRAJAPATI S[2] AND RATHOD A[3]

1: Assistant Professor, Medical Surgical Nursing, Sumandeep Nursing College, Sumandeep Vidyapeeth An Institution Deemed To Be University, Vadodara, Gujrat

2: M.Sc. Nursing, Department Of Medical Surgical Nursing, Sumandeep Nursing College, Sumandeep Vidyapeeth An Institution Deemed To Be University, Vadodara, Gujrat

3: M.Ss. Tutor, Medical Surgical Nursing, Sumandeep Nursing College, Sumandeep Vidyapeeth An Institution Deemed To Be University, Vadodara, Gujrat

*Corresponding Author: Ms. Pooja Kshatriya: E Mail: pooja.kshatriya84@gmail.com

ABSTRACT

Background: Objective structured clinical examination (OSCE). Is a multi-system examination using real or simulated patients to evaluate clinical skills, attitudes, and cognitive abilities. It demonstrated reliability and validity for assessing clinical performance. The traditional practical examination (TPE) method of assessment of practical skills raises concerns about examiner variability, standardization, and uniformity of assessment. In the traditional method, the practical skills are not directly observed but are assessed based on questions asked at the end of the session. **Aim:** The aim of the study to assess effectiveness of OSCE versus TPE on blood pressure measurement among nursing students at selected nursing college of Vadodara. **Method & Material**: Quasi -experimental, two group pre-test, post-test, quantitative design was used to collect data from college, 100 nursing students were selected sample by using random sampling techniques. **Result:** Findings indicate that objective structured clinical examination was statistically effective as compared to traditional practical examination on blood pressure measurement among nursing students. Results showed that age, gender, type of nursing course, were found to be non-significant at p<0.05 with post-test weight of infants, previously any training

taken for objective structured clinical examination and traditional practical examination were found to be non- significant at p<0.05. **Conclusion:** The use of objective structured clinical examinations as a suitable method for assessing nursing clinical skills has a number of benefits, including raising student clinical performance, producing highly qualified and competent graduates, improving decision-making skills, and raising teaching standards. The use of objective structured clinical examinations as a suitable method for assessing nursing clinical skills has a number of benefits, including raising student clinical performance, producing highly qualified and competent graduates, improving decision-making skills, and raising teaching standards.

Keywords: Traditional practical examination, objective structured clinical examination, effectiveness, blood pressure, nursing students, assess

INTRODUCTION

"Getting the right result and making the right judgement depends significantly on choosing the appropriate method of evaluation," The major components of training diverse groups are clinical skills and practise; to some part, the performance of trainees in these disciplines depends on what they can remember. All nursing faculties and clinical instructors should be concerned with efficient and accurate clinical evaluation [1]. Evaluation should be unbiased, equitable, detailed, and supported by documentation. Students also need to be made very clear about the precise criteria by which they will be graded. A performance-based assessment is one sort of evaluation that satisfies these requirements. The OSCE is one instance of a performance-based evaluation. Since its creation, OSCE has been utilised extensively and more frequently [2]. Two methods of clinical assessment have been identified by nurse educators as means of practical evaluation. These are the Objective

Structured Clinical Examination (OSCE) and the traditional clinical practical examination. Nurse educators have always used the traditional clinical practical examination for clinical examinations but only recently they have adopted the OSCE as a average rating in the general nursing specialty. This evaluation technique, which was just recently introduced to mental nursing education, has not been quickly adopted by psychiatric nursing [5]. This was also the case with College of Nursing, University of Dammam, Saudi Arabian, where OSCE was first introduced in College of Nursing by the Psychiatry and Mental Health Nursing unit during the academic year 2015-2016 [3]. Clinical examination that is objectively structured (OSCE). is a multi-system assessment that evaluates clinical talents, attitudes, and competencies using actual or simulated patients. It showed validity and reliability for evaluating clinical performance [4]. Byrne and Smyth (2008)

agree that OSCE is a method of assessing students that pays particular attention to the objectivity of the assessment process while evaluating various areas of clinical competence [4]. Examinations influence learning strategies of students. Realising the skills the domain is difficult to test with in either written or oral examination format. It was figured that in order to provide useful information on the student abilities as compared with the competencies being measured and in order to be consistent with curriculum goals and objectives, so new format of examination is adopted as OSCE/OSPE employing Standardized Patient (SP) who can offer the best tool for assessing skills even in the basic sciences. An assessment tool known as a "objective structured clinical examination" or "objective structured practical examination" involves rotating students among a variety of stations, some of which have observers with tick lists, to test the students' clinical competence in areas such as history taking, physical examinations, straightforward procedures, interpreting lab results, patient management issues, communication, and attitude [5]. The OSCE aids in assessing the student's demonstrated clinical competence and supporting knowledge in simulated circumstances. The study's conclusions show that students considered the OSCE was a respectable test [6]. The core of nursing practise is clinical nursing education, which is essential to a nurse's education and gives students the chance to apply their academic learning in the real world. Clinical nursing education also helps students develop the nursing and clinical skills necessary to provide patient- centered [7]. A study with 40 students from semester 2 and another 40 from semester 8 (a total of 80 participants) of a University Nursing College was conducted in an effort to gather justifiable information based on students' discussion feedback on prior OSCEs. There was observable adherence to ethical standards and secrecy [8]. In 1988, Harden stated that the Objective Structured Clinical Examination (OSCE) is a method for evaluating clinical competence in which the many components of competence are evaluated in a planned or structured manner with consideration given to the examination's objectivity. The OSCE test covers a broad variety of competencies, considerably lowering sampling error [9]. The traditional practical examination (TPE) method of assessment of practical skills raises concerns about examiner variability, standardization, and uniformity of assessment. In the traditional method, the practical skills are not directly observed but are assessed based on questions asked at the end of the session. Therefore, there is a need for an organised method to practical skill assessment in order to equip faculty with ideas to improve skill performance and

boost training effectiveness. The purpose of this study was to compare the effectiveness of ospe to other assessment tools for evaluating practical biochemistry skills. The study also sought to learn more about how staff and students viewed OSCE in an effort to open up possibilities for improving the department's assessment process and making it more impartial, trustworthy, and valid **[10]**. The Objective Structured Practical Examination (OSPE) is the most recommended method for doing this more consistently, despite the fact that there are numerous alternatives. This approach is based on Harden and Gleeson's Objective Structured Clinical Examination (OSCE). Through direct observation of the student's performance during scheduled clinical test stations, the OSPE evaluates practical competencies in an objective and structured manner **[11]**. Since its creation, OSCE has been utilised extensively and more frequently. It is a useful instrument for evaluating practical skills, according to studies. The OSCE procedure has frequently been modified to examine candidates from various healthcare-related areas **[12]**.

MATERIAL AND METHODS

Research Approach: The research approach adopted for present study is quantitative approach. **Research Design**: The research design selected in this study Quasi -experimental, two group pretest post-test design. **Source of Data**: Nursing students of Sumandeep nursing collage in II-year BSc student**. Sample Description Population:** all the students who are studying II-year BSc Nursing in Sumandeep Nursing College, Vadodara district. **Sample Size**: The sample size of this study consisted of 100 nursing students of II-year BSc Nursing. **Selection Criteria Inclusion Criteria** Students of nursing college. Students who are studying in II-year BSc Nursing students. Willing to participate in the study. **Exclusion Criteria** Students of nursing college. Not available during the time of data collection.

Material and equipment for the study

Section A: Assessment of demographic variables Demographic variable consists of age, sex, educational status of father, educational status of mother, occupation of father, occupation of mother, residence, academic performance in last year, any previous knowledge regarding OSCE: NO, Yes; If yes, from Where? **Section B**: OSCE Checklist for blood pressure measurement **Section C**: Evaluation form for traditional clinical examination and objective structured clinical examination. It consists of evaluation form to evaluate the students by traditional method.

SECTION – I

Table 1 depicts the frequency and percentage distribution of demographic variables of nursing students. According to the age in OSCE group, majority 40(80%)

were in 17-21 years of age and 10(20%) were in 22-26 years of age. In TPE group maximum 43(86%) were in 17-21 years of age and 7(14%) were in 22-26 years of age Regarding gender of nursing students, maximum in OSCE group 29(58%) were male and 21(42%) were female. In TPE group maximum in OSCE group 35(70%) were male and 15(30%) were female.

As per type of nursing course, all 50(100%) in OSCE group and 50(100%) in TPE group were pursuing B.SC Nursing.

With regard to Previously any training taken for OSCE and TPE, in OSCE group majority 39(78%) had taken training and 11(22%) had not taken training for OSCE and TPE. In TPE group majority 41(82%) had taken training and 9(18%) had not taken training for OSCE and TPE.

SECTION – II

Table 2 depicts that level of score on OSCE on blood pressure measurement among nursing students revealed that during pre test majority of 38(76%) of nursing students have average students and 12(24%) had poor score while OSCE on blood pressure measurement in pre test and post test majority of 31(62%) of nursing students have average students and 19(38%) had poor score while TPE on blood pressure measurement in pre test.

SECTION – III

Table 3 depicts that level of scores on OSCE on blood pressure measurement among

nursing students revealed that during pre-test majority 38(78%) of nursing students had average score and 12(24%) had poor score while OSCE examination on blood pressure in post-test majority 34(68%) of nursing students had average score and 17(34%) had good score on OSCE examination on blood pressure measurement.

Table 4 depicts that level of scores on TPE on blood pressure measurement among nursing students revealed that During pre-test majority 31(62%) of nursing students had average students and 19(38%) had poor score while TPE on blood pressure measurement in post test majority 50(100%) of nursing students had average score on TPE examination on blood pressure measurement.

Table 5 depicts the effectiveness of objective structured clinical examination on blood pressure among nursing students which was tested by using paired t test. Mean pretest score was 8.36 ± 1.141 and in posttest mean score was 14.24 ± 1.20 with mean difference of 5.88 and calculated value (t=22.91 df=49, p=0.001) was found highly significant at $p < 0.05$.

Table 6 depicts the effectiveness of traditional practical examination on blood pressure among nursing students which was tested by using paired t test. Mean pretest score was 7.86 ± 1.08 and in posttest mean score was 12.62 ± 0.90 with mean difference

of 4.76 and calculated value (t=24.41 df=49, p=0.001) was found highly significant at p<0.05.

SECTION – IV

Table 7 illustrates the comparison of objective structured clinical examination and traditional practical examination on blood pressure among nursing students which was tested by using unpaired t test. Mean post-test score in objective structured clinical examination score was 14.24±1.20 and in posttest mean in traditional practical examination score was 12.62± 0.92 with mean difference of 1.62 and calculated value (t=7.614 df=98, p=0.001) was found highly significant at p<0.05.

SECTION – V

Table 8 depicts the association between post-test scores by objective structured clinical examination among nursing students with their selected demographic variables with selected demographic variables which was tested by using independent t test. Results showed that age, gender, type of nursing course, were found to be non-significant at p<0.05 with post-test weight of infants, previously any training taken for OSCE method were found to be non-significant at p<0.05.

Table 9 depicts the association between post-test scores by traditional practical examination among nursing students with their selected demographic variables with selected demographic variables which was tested by using independent t test. Results showed that age, gender, type of nursing course, were found to be non-significant at p<0.05 with post-test weight of infants, previously any training taken for OSCE and TPE were found to be non- significant at p<0.05.

Table 1: Frequency and Percentage Distribution of Demographic Variables (N=50)

Socio- Demographic Variables	Objective structured clinical examination		Traditional practical examination	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age a. 17-21 years b. 22-26 years	46 04	92 08	48 02	96 04
Gender a. Male b. Female	29 21	58 42	35 15	70 30
Type of nursing course a. B.SC Nursing b. GNM	50 0	100 0	50 0	100 0
Previously any training taken for OSCE and TPE on Blood Pressure Measurement a. Yes b. No	39 11	78 22	41 9	82 18

Table 2: Distribution practice score of Intervention on objective structured clinical examination and traditional practical examination on blood pressure measurement among nursing students before and after intervention (N=100)

Score of practice	Experiment Group-I Pre-Test		Experiment Group-II Pre-Test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor score	12	24	19	38
Average Score	38	76	31	62
Good Score	0	00	00	00

Table 3: Distribution practice score of Intervention on objective structured clinical examination on blood pressure measurement among nursing students before and after intervention (N=50)

Score of practice	Experiment Group-I Pre Test		Experiment Group-I Post Test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor score	12	24	0	00
Average Score	38	76	34	68
Good Score	0	00	17	34

Table 4: Distribution practice score on traditional practical examination on blood pressure measurement among nursing students before and after intervention (N=100)

Score of score of practice	Experimental Group-II Pre-Test		Experiment Group-II Post -Test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor score	19	38	00	00
Average Score	31	62	50	100
Good Score	00	00	00	00

Table 5: Effectiveness of objective structured clinical examination score on blood pressure measurement among nursing students (N=50)

OSCE	Mean	SD	Mean D	t value	Df	P value
Pre-test	8.36	1.41	5.88	22.91	49	0.001*
Post-test	14.24	1.20				

*p<0.05 level of significance

Table 6: Effectiveness of traditional practical examination practice score on blood pressure among nursing students (N=50)

Traditional practical examination	Mean	SD	Mean D	t value	Df	P value
Pre-test	7.86	1.08	4.76	24.41	49	0.001*
Post-test	12.62	0.90				

*p<0.05 level of significance

Table 7: Comparison of post-test scores of objective structured clinical examination and traditional practical examination on blood pressure among nursing students (N=100)

Comparison Post-test	Mean	SD	Mean D	t value	Df	P value
Objective structured clinical examination	14.24	1.20				
Traditional practical examination	12.62	0.90	1.62	7.614	98	0.001*

*p<0.05 level of significance

Table 8: Association between post-test scores by objective structured clinical examination among nursing students with their selected demographic variables (N=50)

S. No	Demographic Variables	Mean	SD	t value	Df	P value
1	Age 17-21 years 22-26 years	14.40 13.60	1.08 1.50	1.930	98	0.060[NS]
2	Gender Male Female	14.07 14.48	1.13 1.28	1.185	98	0.242[NS]
3	Type of nursing course B.SC Nursing GNM	14.24 --	1.20 --	NA	98	NA
4	Previously any training taken for OSCE and TPE Yes No	14.28 14.09	1.14 1.44	0.461	98	0.647[NS]

*p value < 0.05 level of significance   NS-Non-Significant

Table 9: Association between post-test scores by traditional practical examination among nursing students with their selected demographic variables (N=50)

S. No	Demographic Variables	Mean	SD	t value	Df	P value
1	Age a. 17-21 years b. 22-26 years	12.53 13.14	0.88 0.90	1.686	98	0.098^{NS}
2	Gender a. Male b. Female	12.51 12.87	0.85 0.99	1.275	98	0.208^{NS}
3	Type of nursing course a. B.SC Nursing b. GNM	12.62 --	0.90 --	NA	NA	NA
4	Previously any training taken for OSCE and TPE a. Yes b. No	12.61 12.67	0.89 1.0	0.170	98	0.866^{NS}

*p value < 0.05 level of significance   NS-Non-Significant

DISCUSSION

In this study a quantitative research approach with quasi- experimental research design was used. Data was collected from 100 bsc nursing students in Sumandeep nursing college of Vadodara in that 50 sample were assigned to the experimental group 1 and 50 sample were assigned to the experimental group 2. Consent from was signed by each participant prior before conducting the study. The tool was prepared by the investigator, after an extensive study of the related literature and with the guidance of experts. The tool consists of two sections. Demographic tool include demographic variable like age, sex, type of course, previously taking training taken. The baseline data were collected by using lottery method. Section two in checklist for assess the score. Average score 38(78%) and poor score 12(24%) of nursing students in OSCE, Average score 34(68%) and good score

17(34%) of nursing students in TPE examination.

The statistical chi square test was use to find out the association between pretest level for level of objective structured examination and traditional practical examination with demographic variables in the experimental group tables and diagrams were used to represent the demographic variables. The results of the analysis shows that some of them were associated with the demographic variables too.

CONCLUSION

The objective structured clinical examination can be utilised as a suitable approach for assessing nursing clinical skills since it has a number of benefits, including raising teaching standards, preparing graduates who are highly prepared and competent, and enhancing student clinical performance. In the end, the data showed that students did noticeably better in the objective structured clinical examination

than the traditional practical examination. The study also showed that the majority of students. According to the survey participants, objective structured clinical examination scores are more objective than traditional practical examination results.

Conflict of Interest: The authors declare that there is no any conflict of interest

REFERENCES

[1] Abumasoudi SR. The Objective Structured Clinical Exam (OSCE): A Qualitative Study evaluating Nursing Student. International Journal of Science and Research (IJSR). 2016; 5(3):399. doi:10.21275/v5i3.nov161593.

[2] Tincy Thomas P, Latha Dr. Indira SB. Kavitha, Knowledge regarding INC norms for post basic B. Sc nursing programe among faculty in Sree Narayana Nursing, Nellore, Andhra Pradesh, International Journal of Academic Research and Development. 2017; 2(4):338-340.

[3] Mohamed, A., Al-Dean, G., Lachine, O. A., Kamel, N. F., Al Showkan, A., & Helmy Mohamed, N. (n.d.). Students' perception of objective structured clinical evaluation (OSCE) versus clinical practical evaluation (CPE) and their achievement. Noveltyjournals.com. Retrieved June 1, 2023, from https://www.noveltyjournals.com/u pload/paper/Students%E2%80%99 %20Perception%20of%20Objective -1899.pdf.

[4] Mondal R,1 Sarkar S, *et al*. Clinical Examination (OSCE) and Conventional Examination (CE) As a Formative Evaluation Tool in Pediatrics in Semester Examination for Final MBBS Students.

[5] KATOWA P. -MUKWATO *et al*. Implementation of Objective Structured Clinical Examination for Assessing Nursing Students" Clinical Competencies: Lessons and Implications* Creative Education.2013;4(10) 48-53 (http://www.scirp.org/journal/ce)

[6] Malcare. 2022. *WP-Content: A Beginner's Guide To WordPress' Most Important Directory*. [online] Available at: <https://www.malcare.com/blog/wp -content-uploads/> [Accessed 28 July 2022].

[7] Kshirsagar SS. A Study to Evaluate the Effect of Objective Structure Clinical Examination on Nursing Trainees under the Subject of Midwifery and Obstetrical Nursing.

[8] Nafee HM, Ahmed AE, Hussien AM. Objective structured clinical examination versus traditional clinical examination among nursing students: A comparative approach.

Journal of Nursing Education and Practice. 2019;9(2):42-52.

[9] Bahari TB. Objective Structured Clinical Examination (OSCE)-Does it Measure The Real Performance? Students Perception. International Journal of Novel Research in Healthcare and Nursing. 2015;2:11-6.

[10] Kshirsagar SS. A Study to Assess the Experience of Nursing Supervisors and Students about Objective Structured Clinical Examination as New Method of Clinical Teaching in Selected Hospital of Metropolitan City.

[11] Jaswal S, Chattwal J, Kaur J, Gupta S, Singh T. Assessment for learning with objectively structured practical examination in biochemistry. International Journal of Applied and Basic Medical Research. 2015 Aug;5(Suppl 1):S71.

[12] Wani P, Dalvi V. Objective Structured Practical Examination vs Traditional Clinical Examination in Human Physiology: Student's perception. Int J Med Sci Public Health. 2013 Jul 1;2(3):522-47.