A Study to Assess the Effectiveness of a Structured Teaching Program on the Knowledge and Attitude Regarding OSCE, Rubrics, and Simulation-Based Learning among 2nd and 3rd semester B.Sc. Nursing Students at St. Francis Hospital and College of Nursing, Ajmer District

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I.INTRODUCTION

In today's dynamic healthcare environment, nursing education must evolve to prepare students for real-life clinical challenges. Innovative teaching strategies such as Objective Structured Clinical Examination (OSCE), the use of rubrics, and simulation-based learning have become essential tools in nursing education. OSCE provides objective assessment through standardized clinical scenarios, rubrics offer transparent grading criteria, and simulation enables practical experience without patient risk. Despite their value, students often lack awareness and show varied attitudes towards these modern methods. Structured teaching programs can bridge this gap by improving understanding and shaping positive perceptions. Therefore, it is important to assess the impact of such programs on student learning.

Il. STATEMENT OF THE PROBLEM

A study to assess the effectiveness of a structured teaching program on the knowledge and attitude regarding OSCE, rubrics, and simulation-based learning among 2nd and 3rd semester B.Sc. Nursing students at St. Francis Hospital and College of Nursing, Ajmer District.

III.OBJECTIVES

1. To assess the pre-test level of knowledge and attitude regarding OSCE, rubrics assessment and simulation-based learning.
2. To implement a structured teaching program on these topics.
3. To assess the post-test level of knowledge and attitude after the program.
4. To evaluate the effectiveness of the structured teaching program by comparing pre- and post-test scores.
5. To determine the association between post-test scores and selected demographic variables such as age, year of study, and previous exposure.

IV. HYPOTHESES

Null Hypothesis (H_0): There is no significant difference between pre-test and post-test knowledge and attitude scores regarding OSCE, rubrics, and simulation-based learning among B.Sc. Nursing students.

Alternative Hypotheses:

H_1: There is a significant increase in knowledge scores after the structured teaching program.

H_2: There is a significant improvement in attitude scores after the structured teaching program.

H_3: There is a significant association between post-test scores and selected demographic variables.

V. MATERIALS AND METHODS

This study adopted a quantitative evaluative approach using a one-group pre-test and post-test design to assess the effectiveness of a structured teaching program. The setting of the study was St. Francis Hospital and College of Nursing, Ajmer District, and the population included B.Sc. Nursing students from the 3rd and 4th Semester. A total of 60 students were selected through non-probability purposive sampling based on their availability and willingness to participate. Prior to data collection, ethical clearance was obtained from the Institutional Ethical Committee, and informed consent was taken from all participants, ensuring confidentiality and anonymity throughout the process.

The structured teaching program focused on enhancing knowledge and attitude regarding OSCE, rubrics, and simulation-based learning. Data was collected in three phases: pre-test, intervention, and post-test. Initially, students completed a pre-test to assess baseline knowledge and attitude using a structured questionnaire and attitude scale. This was followed by a structured teaching program, which included lectures, PowerPoint presentations, videos, and demonstration-based learning methods. After a gap of seven days, a post-test was conducted using the same tools to measure the effectiveness of the intervention. The collected data was then analyzed using descriptive and inferential statistics, including paired t-tests and chi-square tests, with a significance level set at $p < 0.05$.

VI. ETHICAL CONSIDERATION

Ethical approval was obtained from the Institutional Ethics Committee, and informed consent was collected from all participants. Confidentiality and anonymity were maintained.

VII.TOOLS FOR DATA COLLECTION

For this study, three main tools were used to gather data. The first tool was a structured knowledge questionnaire designed by the researcher, consisting of 30 multiple-choice questions focused on concepts related to OSCE, rubrics, and simulation-based learning. Each correct response was awarded one mark, making the maximum possible score 30. The second tool was a 5-point Likert attitude scale containing 10 statements to assess students' attitudes toward the same topics. Responses ranged from "Strongly Agree" to "Strongly Disagree," with higher total scores (maximum of 50) indicating a more positive attitude. The third tool was a demographic data sheet used to collect background information such as age, gender, year of study, and any prior exposure to OSCE or simulation practices. These tools were validated by experts in nursing education and research to ensure their relevance, clarity, and appropriateness for the target population.

VIII. DATA COLLECTION PROCEDURE

The data collection for this study was carried out in a structured and systematic manner. Initially, permission was obtained from the concerned institutional authorities, and informed consent was taken from each participant. On the first day, the students were gathered in a classroom setting and administered the pre-test using the structured knowledge questionnaire and attitude scale to assess their baseline understanding and perception of OSCE, rubrics, and simulation-based learning. Following the pre-test, a structured teaching program was conducted. The program included interactive lectures, audiovisual presentations, demonstrations, and discussions, all designed to enhance students' comprehension of the topics. After an interval of seven days, the same participants were given the post-test using the same tools to measure the change in knowledge and attitude. Throughout the process, a calm and non-threatening environment was maintained to encourage honest responses and active participation.

IX. DATA ANALYSIS

Descriptive Statistics

Used to summarize demographic data and calculate mean, standard deviation, and percentages for knowledge and attitude scores.

Inferential Statistics

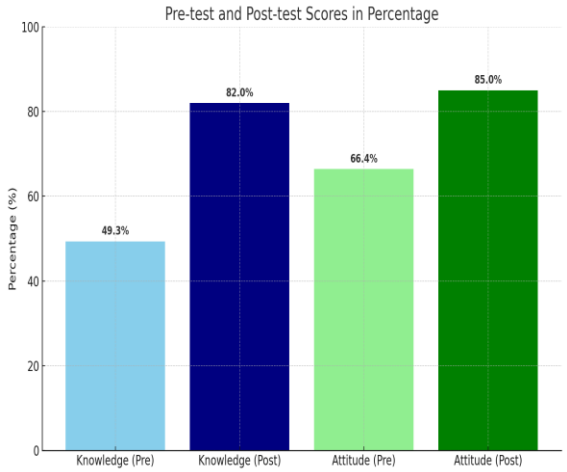
Paired t-test: Used to compare pre- and post-test scores.

Chi-square test: Used to find associations between post-test scores and demographic variables.

Table;1.1 shows that Difference in pretest and posttest score

Variables	Pre-test Mean ± SD	Post-test Mean ± SD	Mean Difference	t-value	p-value
Knowledge Score (out of 30)	14.8 ± 3.7	24.6 ± 2.9	9.8	15.21	0.00001
Attitude Score (out of 50)	33.2 ± 5.2	42.5 ± 4.3	9.3	11.35	0.00001

Level of Significance: Set at $p < 0.05$



The above graph shows that there was a notable improvement in both knowledge and attitude scores of B.Sc. Nursing students following the structured teaching program. The knowledge score increased from 49.3% in the pre-test to 82.0% in the post-test, indicating a substantial gain in understanding of OSCE, rubrics, and simulation-based learning. Similarly, the attitude score rose from 66.4% to 85.0%, reflecting a significant shift toward a more positive perception of these modern educational strategies. This visual representation clearly supports the effectiveness of the teaching intervention in enhancing both cognitive and affective learning domains among the participants.

X. EXPECTED OUTCOME

This study is expected to show a clear improvement in the knowledge and attitude of nursing students following the structured teaching program. Students will likely perform better in the post-test due to increased awareness and understanding of OSCE, rubrics, and simulation-based learning. The study may also reveal a more positive attitude toward these modern tools. These results can support the integration of structured teaching into nursing education to build clinical competence. It is also anticipated that demographic factors such as previous exposure and year of study may influence learning outcomes.

XI. CONCLUSION

The study will help in understanding the role of structured teaching in nursing education. The expected outcome is a significant improvement in students' knowledge and attitude regarding OSCE, rubrics, and simulation-based learning. These methods are essential for preparing competent and confident nurses for clinical practice. The teaching program is a practical strategy to address the learning gap in new assessment and learning techniques. Findings from the study may support curriculum changes and encourage the use of simulation and rubrics for both teaching and evaluation. Overall, the study promotes the use of innovative tools in nursing education for better outcomes.

REFERENCES

[1] Berman, A., Snyder, S. J., & Frandsen, G. (2016). Kozier and Erb's Fundamentals of Nursing (10th ed.). Pearson Education.
[2] Jeffries, P. R. (2005). A framework for designing and evaluating simulations used as teaching strategies in nursing. Nursing Education Perspectives, 26(2), 96-103.
[3] Harden, R. M., & Gleeson, F. A. (1979). Assessment of clinical competence using an objective structured clinical examination (OSCE). Medical Education, 13(1), 41–54.
[4] Gormley, G. (2011). Summative OSCEs in undergraduate medical education. Ulster Medical Journal, 80(3), 127–132.
[5] Adamson, K. A. (2015). A systematic review of the literature related to the NLN/Jeffries Simulation Framework. Nursing Education Perspectives, 36(5), 281–291.