International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge and Practice Regarding Endotracheal Suctioning among Staff Nurses Working in the ICU in Selected Hospital of New Delhi

Aarti Mayavan

Email: *aartimayavan93[at]gmail.com*

Abstract: ***Background: Endotracheal suctioning becomes an essential component of care for these patients. Due to the frequency and risks associated with endotracheal suctioning, there is a need to examine clinical practice critically and identify clinical research to guide practice. Correct technique and preparation by the clinicians can assist to reduce the risks of adverse events and the level of discomfort for the patients. Objectives: Study conducted to develop a planned teaching programme on endotracheal suctioning among staff nurses in selected hospital of New Delhi, to assess the effectiveness of planned teaching programme in terms of knowledge and practice regarding endotracheal suctioning among staff nurses in selected hospital of New Delhi, to seek relationship between knowledge and practice regarding endotracheal suctioning among staff nurses in selected hospital of New Delhi, to find the association between the pre- test knowledge and practice scores of the staff nurses regarding endotracheal suctioning with selected demographic variables. Method: A Quantitative research approach was used. The setting of the study was at Holy Family Hospital, New Delhi. Total 40 ICU staff were selected using purposive sampling technique. The tool used were demographic profile sheet, a structured knowledge questionnaire to assess knowledge and observation checklists to assess the practice. The data was analyzed using descriptive and inferential statistics. Result: The findings revealed that the mean post-test knowledge score (15.7) was higher than their mean pre-test knowledge score (10.525) with a mean difference of 5.175. The post- practice score of staff nurses regarding endotracheal suctioning was (15.025) was higher than their pre- practice score (13.13). There was a negative correlation with 'r' value -0.0895 between post- test knowledge and post- test practice regarding endotracheal suctioning. Non-Significant association was found between pre-test knowledge and pre-test practice scores with selected demographic variables and significant association was found between post- test knowledge and post-test practice scores with selected demographic variables. Conclusion: The study concluded that the knowledge was not effective but practice was effective in improving the knowledge and practice regarding endotracheal suctioning among staff nurses working in the ICU in selected hospital of New Delhi.***

Keywords: Effectiveness, Planned Teaching Programme, Knowledge, Practice, Endotracheal Suctioning, Staff Nurses

1. Introduction

Endotracheal suctioning becomes an essential component of care for these patients. Due to the frequency and risks associated with endotracheal suctioning, there is a need to examine clinical practice critically and identify clinical research to guide practice. Correct technique and preparation by the clinicians can assist to reduce the risks of adverse events and the level of discomfort for the patients [1]

In acute-care situations, suctioning is always performed as a sterile procedure to prevent hospital-acquired pneumonia.[2]

The aim of the present study was to evaluate critical- care nurses performance in relation to current recommendations in their daily practices during endotracheal suctioning. [5] It is hoped that this review will increase nurses awareness of the potential hazards surrounding endotracheal suctioning, and enable them to question their practices regarding their ability to assess individual patient needs and determine the frequency with which endotracheal suctioning should be performed.[6]

Statement

"A study to assess the effectiveness of planned teaching programme on knowledge and practice regarding endotracheal suctioning among staff nurses working in the ICU in selected hospital of New Delhi.

Objectives

1) To develop a planned teaching programme on endotracheal suctioning among staff nurses in selected hospital of New Delhi.
2) To assess the effectiveness of planned teaching programme in terms of knowledge and practice regarding endotracheal suctioning among staff nurses in selected hospital of New Delhi.
3) To seek the relationship between knowledge and practice regarding endotracheal suctioning among staff nurses in selected hospital of New Delhi.
4) To find the association between the pre-test knowledge and practice scores of the staff nurses regarding endotracheal suctioning with selected demographic variables.

2. Methodology

Research approach: Quantitative
Research design: Pre-experimental research design (One group pre- test post- test design).

Setting of the study: Holy Family Hospital, New Delhi.
Sampling technique: Purposive sampling technique.
Sample: Staff nurses working in the ICU.
Sample size: 40

Development of the tool: Demographic profile sheet was used. A structured knowledge questionnaire was developed to assess the knowledge regarding endotracheal suctioning and observation checklist regarding endotracheal suctioning to assess the practice level of the staff nurses working in the ICU.

Procedure for data collection:
After obtaining the Ethical clearance the data collection was done from 28th December to 15th January 2023. A sample of 40 staff nurses working in the ICU who were assigned to the patients with endotracheal tube had met the sampling criteria were selected. Samples were taken using purposive sampling technique, pre-test was done using structuredknowledge questionnaire regarding endotracheal suctioning. Post test regarding practice of staff nurses regarding endotracheal suctioning was assessed using observation checklist.

3. Major Findings

Section 1: Findings on Demographic characteristics of ICU staff nurses.

- Out of 40 samples majority of the samples were in age group of 20-25 year old (90%) followed by 26-30 year old (10%), no one in age group of 31-35 year and 35 and above age group.
- Majority of the sample were educational qualification of B.Sc. Nursing (50%), G.N.M(General Nursing and Midwifery) (40%), Post Basic B.Sc. Nursing (10%) and no one from M.Sc. Nursing.
- Majority of staff nurses had experience of less than 1 year or equal to 1 year (57.50%), 1-2 years (40%), 2-3 years (2.50%) and no one had 3 years and above working experience.
- Majority of the samples were having previous knowledge regarding endotracheal suctioning, yes option 39 (97.50% and those who answered no were 1 (2.50%).
- Majority of the samples who cared patient with endotracheal suctioning 38(97.50%) who answered no was 1 (2.50%) and who answered yes and specified the clinical area was 1 (1%).
- Majority of the sample who have done endotracheal suctioning before were 38 (95%) and who have not done endotracheal suctioning were 2 (5%).
- The samples who were confident in performing endotracheal suctioning were 37 (92.50%) and who are not confident were 3 (7.50%).
- Majority of the samples had underwent training regarding endotracheal suctioning were 38 (95%) and who did not undergo training were 2 (5%).

Section 2: Findings related to effectiveness of planned teaching programme on endotracheal suctioning.

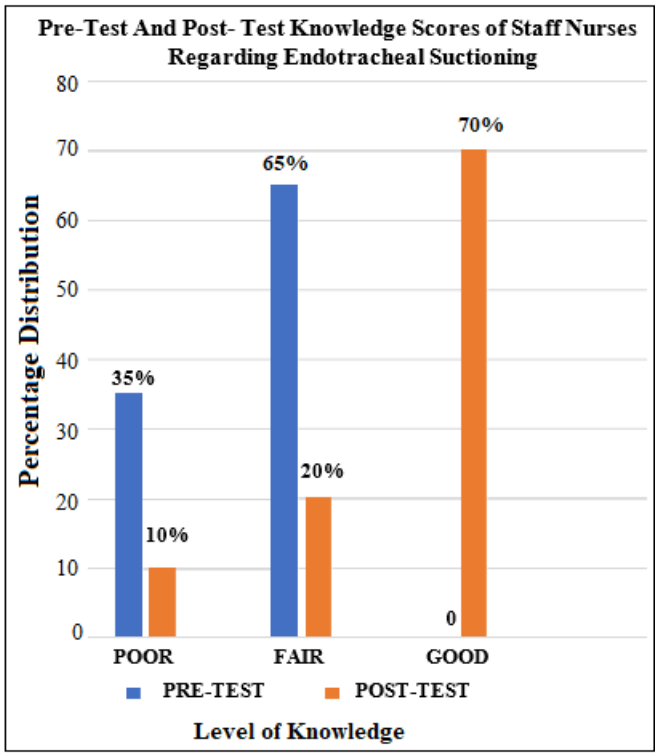

Figure 1: A Bar graph showing Frequency and percentage distribution of pre-test and post- test knowledge score of ICU staff nurses regarding endotracheal suctioning.

- In the pre-test majority of the sample 26 (65%) had fair knowledge, 14 (35%) had poor knowledge and no one had good knowledge regarding endotracheal suctioning.
- In the post-test, majority of the sample 28 (70%) had good knowledge, 8(20%) had fair knowledge and 4(10%) had poor knowledge regarding endotracheal suctioning.

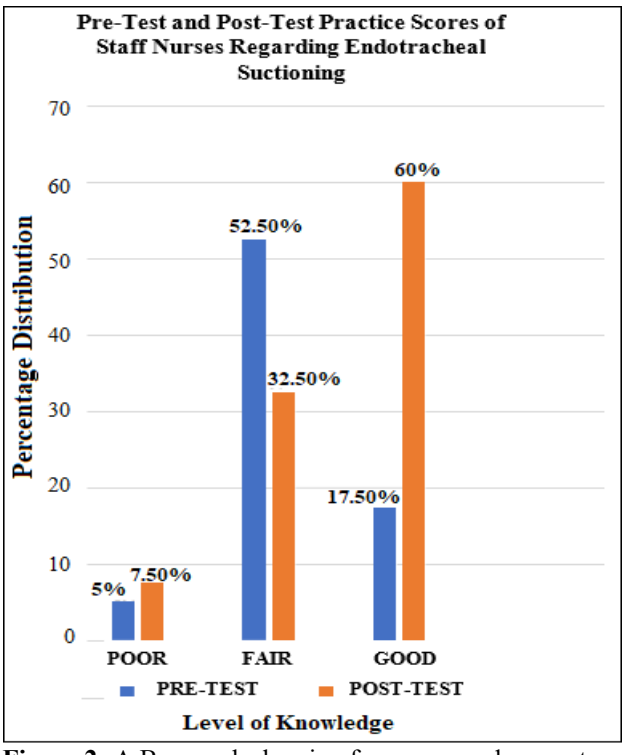

Figure 2: A Bar graph showing frequency and percentage distribution of pre- test and post-test practice scores of ICU staff nurses regarding endotracheal suctioning.

- The mean post-test knowledge score (15.7) was higher than the mean pre-test knowledge score (10.525) with a mean difference of 5.175.
- The computed mean difference (5.175) was found to be statistically significant as evident from "t" value of (7.02). Since the paired 't' value is higher than table value (i.e.,2.021) at 0.05 level of significance.

Table 1: Showing mean, mean difference, standard deviation and paired t-test scores of knowledge and practice of staff nurses regarding endotracheal suctioning.

Tools questionnaire	Mean	Mean difference	Standard deviation	Paired t-test score	Table value
Knowledge					
Pre- test	10.525	5.175	2.3857	7.02	2.021
Post – test	15.7		3.7017		
Observational checklists					
Pre- test	13.13	1.895	2.311	2.674	2.021
Post- test	15.025		3.69		

Section 3: Findings related to persons correlation between the pos-test knowledge and practice scores of staff nurses working in the ICU regarding endotracheal suctioning.

Table 2: Pearson coefficient correlation between the post-test knowledge score and practice score of the staff nurses working in the ICU regarding endotracheal suctioning, n = 40

Variables	Mean	Standard Deviation	'r' Value
Post- test knowledge	15.7	5.175	-0.0895
Post- test practice	15.025	1.895	

***= Negative Correlation**

It was found that there was a negative correlation (-0.0895) between post-test knowledge and post- test practice scores of staff nurses working in the ICU regarding endotracheal suctioning. Thus, null hypothesis H03 was not accepted and research hypothesis H3 was not accepted that there exist a negative correlation between the post-test knowledge and post-test practice scores of staff nurses working in the ICU regarding endotracheal suctioning.

Section 4: Findings related to the association between pre-test knowledge and pre-test scores of staff nurses regarding endotracheal suctioning with their selected demographic variables.

- The computed chi-square value of pre-test knowledge scores with selected demographic variables to establish the association between age, educational course, experience, previous knowledge, cared patient with endotracheal suctioning, done endotracheal suctioning, confident in performing endotracheal suctioning, underwent training regarding endotracheal suctioning. was found to be statistically non- significant at 0.05 level of significant for degrees of freedom.
- The computed chi-square value of 4.744 to establish the association between experience of the staff nurses in pre- test practice score, was found to be statistically significant at 0.05 level of significant for degrees of freedom 4 (9.488).
- The computed chi-square value of 8.609 to establish the association between underwent training regarding endotracheal suctioning in pre-test practice score, was found to be statistically significant at 0.05 level of significant for degrees of freedom 2 (5.991).

4. Summary

The present study was conducted to assess the effectiveness of knowledge and practice regarding endotracheal suctioning among staff nurses working in the ICU in selected hospital of New Delhi. A purposive sampling technique was used for the sample selection. Pilot study was conducted from 1st to 8th December 2022. This procedure was done to ensure the reliability of tool and feasibility of the study. The actual data collection procedure was carried out from28th December to 15th January 2023. 40 ICU staff nurses who were assigned to patients with endotracheal tube were selected from Holy Family Hospital. Before collecting data ethical clearance and consent from the sample were obtained. The findings show there was a deficit in practice among the staff nurses regarding the endotracheal suctioning. The planned teaching programme was found to be effective in improving the practice of staff nurses regarding endotracheal suctioning, there was a negative correlation between post- test knowledge scores and post-test practice scores, suggesting that planned teaching programme has not improved the practice of staff nurses regarding endotracheal suctioning and selected demographic variables (experience, underwent training regarding endotracheal suctioning) have an influence on practice of staff nurses regarding endotracheal suctioning.

5. Nursing Education

Nurse requires on job training and education to keep them updated with the knowledge and refine their skill in performing endotracheal suctioning.

- There should be an adequate and a regular guidance, supervision and evaluation of staff nurses in the clinical areas while doing endotracheal suctioning.

Nursing Practice:

- The findings of the study shows that there is need for continuous and distinct effort to ensure that staff nurses gain adequate knowledge and practice to provide care in order to achieve maximum patient safety while doing endotracheal suctioning in the ICU.
- Periodic evaluation of the knowledge and practice of the staff nurses regarding the endotracheal suctioning.

Nursing Administration:

- Nursing administration should take the initiative in

organizing and preparation of standard operating protocol on endotracheal suctioning.
- Regular supervision and medication management and usage audits need to be conducted in the clinical setting.
- A manual on endotracheal suctioning needs to be prepared and made available for the nurses.
- In- service education and continuing nursing education on endotracheal suctioning needs to be planned from time to time for all staff nurses working in the hospital.

Nursing Research:
- Nursing research should be conducted to prepare various educational materials related to endotracheal suctioning.
- Nursing research should be directed to explore further and update knowledge and practice related endotracheal suctioning.

6. Recommendations

The current findings of the present study and from the personal experience of the researcher, the following recommendations were put forth:
- The study can be reconstructed on a greater scale, thereby the findings can be generalized to a larger population.
- The study can done using methods like self-instructional module, simulation.
- A similar study can be done to standardize the present tool.
- A similar study can be done with experimental and control group.
- A similar study can be done on the nursing students.

References

[1] Halite J Pinto, Fatima, D Silva, and Thankappan S Sonil sharma suresh K. Nursing Research and Statistics, ! ed. India: Reed Elsevier India Private Ltd; 2011.
[2] Journal of nursing education and practice ISSN 1925-4040 (print) ISSN 1925- 4059 (online)
[3] American association for respiratory care AARC clinical practice guidelines, endotracheal suctioning of mechanically ventilated patients with artificial airways 2010. Respir care 2010 June; 55 (6); 758-64.