

THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

A Descriptive Study to Assess the Knowledge Regarding Suctioning Techniques among the Staff Nurses

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Abstract:

Background: Maintaining a patent airway is vital to life. Coughing is the main mechanism for clearing the airway. Suctioning is a procedure done in order to assist in the removal of bronchial secretions that cannot be expectorated by the patient spontaneously. The suction is used to remove fluids from the airways, to facilitate breathing and prevent growth of microorganisms.

Statement of the Problem: A descriptive study to assess the knowledge regarding suctioning techniques among the staff nurses working in selected hospitals of Mangaluru.

Objectives of the Study: The objectives of this study were to:

- *assess the knowledge regarding suctioning techniques among staff nurses.*
- *find the association between knowledge score and selected demographic variables*

Method: A quantitative research approach with non experimental descriptive design was adopted to assess knowledge of staff nurses regarding suctioning techniques at selected hospitals of Mangaluru.

Content validity of the tool was established in consultation with 6 experts. The reliability of the tool was found to be $r(10) = 0.733$ which was statistically significant. The tool was found to be reliable.

Non probability convenient sampling was used to select the subjects for the study. Pilot study was conducted to find out the feasibility of the study. Data collected from the subjects were analyzed by descriptive and inferential statistics. The sample size was 100.

Significant findings of the study:

- *The findings of the study demonstrated that among 100 staff nurses, that maximum percentage (51%) were belongs to the age group of 21-25 years, majority (93%) of staff nurses were females (93%), most (56%) of staff nurses had academic qualification of BSc Nursing, maximum number of subjects (72%) had professional experience of 1-5-year experience, most of subjects (62%) didn't had other source of information*
- *The mean percentage of knowledge score was 53.43.*
- *There was significant association between knowledge and previous information ($\chi^2 = 5.09$, table value $\chi^2 = 3.84$) and sources ($\chi^2 = 23.36$, table value $\chi^2 = 7.8147$)*
- *There was no association between knowledge and other demographic variables.*

Conclusion: The findings of the study revealed that the staff nurses had average level of knowledge on suctioning techniques and there was significant association between knowledge and previous information and sources.

Keywords: Suctioning; staff nurses.

1. Introduction

Breath is essential to life. It is the first thing we do when we are born and the last thing we do when we leave.¹ Maintaining a patent airway is vital to life. Coughing is the main mechanism for clearing the airway. Suctioning is a procedure done in order to assist in the removal of bronchial secretions that cannot be expectorated by the patient spontaneously. The endotracheal suctioning is a method of clearing the secretions from the airway and is performed through an artificial airway either nasotracheally or orotracheally.² A recent report from the United Kingdom (U.K) noted that faulty hospital suction equipment is believed to have contributed to the deaths of

seven people over a five – year period.³ Suctioning is an essential for patient care. However, few health care professionals receive training on the principles of physics that govern the safe use of suctioning.⁴ Injuries and deaths have happened and unfortunately most likely will continue to occur. We can minimize the risks by increasing awareness and understanding.⁵

2. Objectives

The objectives of this study were to:

- assess the knowledge regarding suctioning techniques among staff nurses.
- find the association between knowledge score and selected demographic variables

3. Methodology

The Quantitative research approach with non-experimental descriptive design was selected for the study to assess the knowledge of staff nurses. A convenient sampling technique was used to select the samples. To determine the content validity, the prepared tool was given to 6 experts. The reliability co-efficient of the tool was calculated using spilt half method by Spearman 's Brown Prophecy Formula. The reliability of the tool was found to be $r(10)=0.733$ which was statistically significant. The tool was found to be reliable. The pilot study was conducted to find the feasibility of the study. The data were collected from 100 staff nurses by using demographic proforma and structured knowledge questionnaire.

3.1. The Score Has Categorized on Arbitrary Basis as Follows

Level of Knowledge	Score	Percentage
Poor	0-10	0-33
Average	11-20	34-67
Good	21-30	68-100

Table 1

4. Result

4.1. Demographic Variables of the Staff Nurses

Among 100 samples maximum percentage (51%) were in the age group of 21-25 years, majority of staff nurses were females (93%), most of staff nurses (56%) had academic qualification of BSc Nursing, maximum percentage (72%) had 1-5-year experience, majority of them (62%) did not had adequate source of information.

4.2. Distribution of Subjects According to Their Knowledge Score

Level of knowledge	Frequency (f)	Percentage (%)
Poor	24	24
Average	72	72
Good	4	4

Table 2

N= 100

Max Possible Score	Range	Mean	Median	Mean %	Standard Deviation
30	5-25	16.03	16	53.43	3.574

Table 3: Mean, median, mean percentage and standard deviation of knowledge score

N= 100

4.3. Association between Level of Knowledge and Selected Demographic Variables

In order to find out the association between knowledge and selected demographic variables, the following null hypothesis was stated.

- H_0 : There will be no significant association between knowledge and selected demographic variables

The study findings revealed that there was significant association between knowledge and previous information ($\chi^2= 5.09$, table value $\chi^2= 3.84$) and sources ($\chi^2= 23.36$, table value $\chi^2= 7.8147$).

There was no association between knowledge and other demographic variables such as age, gender, academic qualification, professional experience.

5. Discussion

5.1. Demographic Characteristic of the Sample

The findings of the study revealed that among 100 staff's nurses majority (51%) of staff nurses were belonged to the age group of 21-25 years, around 93% were females, majority (56%) of the samples had BSc Nursing academic qualification, maximum samples

(72%) had 1-5 years of experience, around 38% had previous information regarding suctioning techniques from continuing nursing education (14%), books (13%) and internet (11%).

5.2. The Knowledge of Staff Nurses Regarding Suctioning Techniques

The majority of the staff nurses (72%) had average knowledge, 24% had poor knowledge and 4% had good knowledge about suctioning techniques.

A descriptive study was conducted to evaluate the knowledge of 27 nursing professionals in the Intensive Care Unit (ICU) about endotracheal aspiration (ETA) for open system in two ICUs of a large university hospital in Mato Grosso do Sul, Brazil. The results showed that globally, the knowledge of professionals was qualified as fair (73.2% correct), but worryingly, it was considered poor in five areas with differing results among the professional categories. The study concluded that knowledge deficits in some aspects of ETA, a fact that deserves investment regarding teaching and nursing.⁶

A cross-sectional study was conducted to assess the knowledge and attitude of 148 ICU staff nurses about endotracheal suctioning of mechanically ventilated patients at Beijing Shijitan Hospital, China. The result revealed that average score of knowledge was 51.55 ± 18.21 and 73.7% nurses scores were lower than 60; The knowledge scores of the nurses who worked in ICU more than 5 years were obviously higher than those of nurses who worked in ICU less than 1 year ($P < 0.05$). The average score of knowledge was 88.08 ± 7.27 . The attitude scores of the nurses over 30 or who worked more than 10 years were obviously higher than those of others ($P < 0.05$). Hence study concluded that proper guidance to nurses active manner, strengthen their continuing education about endotracheal suctioning to ensure them obtain comprehensive knowledge and then reinforce their practice and promote nursing quality.⁷

5.3. The Association between Knowledge Score with Selected Demographic Variables

The findings of the study revealed that there was association between knowledge and source of information ($\chi^2 = 5.09$, table value $\chi^2 = 3.84$) and sources ($\chi^2 = 23.36$, table value $\chi^2 = 7.8147$) hence rejected null hypothesis for the same variables. There was no association between knowledge and other demographic variables.

6. Conclusion

The study findings showed that majority of the staff nurses (72%) had average knowledge on suctioning techniques and concludes that there is lack of knowledge regarding suctioning techniques among staff nurses. A regular teaching and training programme can be conducted in clinical set up to improve their knowledge regarding suctioning techniques. As a future perspective of the present study a similar study can be conducted on a large sample. The study can be conducted as an evaluative approach to assess knowledge and practice on suctioning techniques among staff nurses.

7. References

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