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Effectiveness of a structured teaching programme on knowledge regarding ET tube suctioning among nicu staff nurses

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Abstract
Endotracheal tubes tend to reduce effective cough and ciliary clearance due to the need for a closed glottis for truly effective cough to be maintained. This all makes periodical endotracheal suctioning very much necessary. A Study conducted in India in April 2009 among 98neonates, shows that VAP rates are 37.2% per 1000 mechanical ventilation days. VAP developed in nearly one third of intubated neonates having gram negative organisms. The findings related to pre test and post test knowledge score of NICU staff nurse regarding ET tube suctioning. In pre-test, 6(10%) are had poor knowledge score, 11(18.3%) are had average knowledge score, 43(71.7%) are had good knowledge score. In pre test poor knowledge score mean is 8.5, mean score percentage is 14.1%, SD(0.9), in average knowledge score mean is 17.3, mean score percentage is 28.8, SD(3.5), in good knowledge score mean is 16.1, mean score percentage is 26.8, SD(6.6). Whereas in post test 60(100%) nursing staffs are having good knowledge score in post test good knowledge score mean is 24.7, mean score percentage is 41.4%, SD (2.1).

Keywords: Structured teaching, knowledge, ET tube suctioning, NICU staff nurse

Introduction
Endotracheal suctioning is defined as process of removal of secretions from tracheobronchial tree through an endotracheal tube with the help of a mechanical suction device. Suctioning of an artificial airway (ET Tube) clears the airway by removing pulmonary secretions, blood, vomitus, and saliva or other foreign material, potentially improving oxygenation and ventilation. The main indications of ET tube suctioning are, excessive secretions, if the Childs oxygen saturation is low i.e. 92% in child without cyanotic heart lesion, any obstruction in the respiratory tract and in the children who are having decreased effectiveness of the cough mechanism. There are some conditions also that can cause over production of mucus like cystic fibrosis, tracheo-esophageal fistula before surgery. After ENT and oral surgery child may bleed postoperatively may required ET tube suctioning.

Objectives
1. To assess the pre test and post test knowledge regarding ET tube suctioning among NICU staff nurses.
2. To assess the effectiveness of structured teaching programme on knowledge regarding ET tube suctioning among NICU staff nurses
3. To find out the association between pre test knowledge on ET tube suctioning among NICU staff nurses with their selected demographic variables.

Methodology
The research design used for the study was Pre-experimental research design with one group pre-test post test design. The study was conducted among NICU staff nurses who were working at selected Hospital Bhopal. The analysis, interpretation and discussion of data collected from 60 subjects, NICU staff nurses at selected hospitals of Bhopal (MP). Descriptive and inferential statistics were adopted for the analysis and interpretation of the data.

Findings and Discussion

Section-I: Description of demographic variables

- It shows that majority of nurses 22 (36.6%) belonged to age group 23-25 years of age, 18(30%) were belongs to age group 19-22years of age, 20(33.3%) were belongs to above 25 years of age.
- It shows majority of subjects 38(63.4%) were belongs to nuclear family, and 22(36.6%) minimum were belongs to joint family.
- It shows that majority of staff nurses 34(56.6%) were Christian, 12(20%) were Hindu 9(15%) were Muslim and 5(8.34%) were others.
- It shows majority of staff nurse 40(66.6%) were female, and 20(33.4%) minimum were male.
- It shows majority of staffs 34(56.6%) were having GNM education, 12(20%) were having B.sc Nursing education, 9(15%) were having Post basic B.Sc. nursing education, and 5(8.3%) were having M.sc Nursing education.
- It shows majority of staffs 34(56.6%) were doing duty less than 1year, 12(20%) were doing duty in NICU for 1-3years, 9(15%) were doing duty for more than 5year in NICU, and 5(8.3%) were doing duty for 3-5year in NICU.
- It shows majority of subjects 41(68.3%) was done ET tube suctioning, and 19(31.6%) was not done ET tube suctioning.
- It shows majority of subjects 39(65%) are not having previous knowledge, where as 21(35%) are having previous knowledge
- It shows majority of subjects 9(42.8%) were exposed from journals, 7(33.3%) were exposed from staff nurse, and 5(23.8%) were exposed from mass media.

Section- II: Analysis of the effectiveness of structured teaching programme on knowledge regarding ET tube suctioning among NICU staff nurses by using "t" test. N=60

	Mean	SD	Df	Paired "t" test	Table value
Pre test	2.8	2.0	59	7.5	2.00
Post test	3.5	0.7	59		

*** $p< 0.05$

The data in the table depicts that the mean post-test knowledge score (11.3) is apparently higher than the mean pre-test knowledge score (5.96) as evidence by the statistical significance between pre and post-test knowledge score 't' (22.59) 2.07, $P< 0.05$ showed that there was increase in the knowledge level of nurses after administration of video assisted teaching module regarding knowledge on neonatal resuscitation among nurses.

Section- III: Chi-square analysis to find out association between pre test knowledge scores with their selected socio-demographic variables

The association between pre test level of knowledge of NICU staff nurse with their socio demographic characteristics such as age, type of family, gender, religion, educational qualification, duration of work, have you done ET tube suctioning, previous knowledge, source of information The calculated value of chi square for have you done ET tube suctioning (23.7)were significant were as age (3.35), type of family (2.14), gender (1.36), religion (7.27), educational qualification (7.78), previous knowledge (3.14). and source of information (2.45) were not significant.

Conclusion

Investigators have assessed the technique of endotracheal tube suctioning; the issue is how to assess the need of ET suctioning revealed that the decision to do suction is a complex one. It is a concern that many nurses rely on a deterioration in the patient's condition to indicate when suctioning is required. A policy of suctioning is necessary to give clarity in guidelines and for education of all staff.

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