

Intensive Care Nurses' Knowledge regarding Ventilator Associated Pneumonia

Dr. Thenmozhi.P¹ & Priyanka.J²

¹Associate Professor, Saveetha College of Nursing, SIMATS, Chennai Tamilnadu, India.

²B.Sc.(N) IV Year, Saveetha College of Nursing, SIMATS, Chennai, Tamilnadu, India.

Corresponding Author Email: thenmozhi.sethu@gmail.com

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ABSTRACT

Background: VAP is one of the most significant causes of morbidity and mortality in mechanically ventilated critically ill patients. Lack of knowledge on VAP is highly influenced on incidence of VAP. **Objective:** The objective of the study was to assess the level of knowledge regarding VAP among the staff nurses working in the intensive care unit. **Methods:** Non-experimental cross sectional research design was used with 50 samples at selected hospital. The tool used for the study to collect the data was demographic variables and structured multiple choice questionnaires regarding VAP. Data was collected by self-administered method. **Results:** Out of 50 samples, 38 (76%) had adequate knowledge, seven (14%) had moderately adequate knowledge and five (10%) had inadequate knowledge and there was no significant association with selected demographic variables. **Conclusion:** The findings of the present study concluded that there was no cent percent adequate knowledge on VAP. Organize regular and periodical continuing nursing education or on the job training on ventilator associated pneumonia for Staff nurses working in the intensive care unit to impart knowledge.

Keywords: Ventilator Associated Pneumonia, Mechanical Ventilation, Staff Nurses, Intensive Care Unit, Knowledge.

INTRODUCTION

One of the lifesaving interventions in the critical care unit for the patients with respiratory failure is Mechanical ventilation. Ventilator-associated pneumonia (VAP) is the second most common nosocomial infection in the intensive care unit and the most common in mechanically ventilated patients (1,2). VAP is a type of hospital-acquired pneumonia that occurs more than 48 hours after endotracheal intubation or tracheostomy. This can be further classified into early onset which is within the first 96 hours of mechanically ventilation and late onset if it occurs more than 96 hours after the initiation of mechanically ventilation (3). VAP is one of the most significant causes of morbidity and mortality in mechanically ventilated critically ill patients (4). VAP contributes to approximately half of all cases of hospital-acquired pneumonia (5,6). It is estimated to occur in 9-27 % of all mechanically ventilated patients, with the highest risk being early in the course of hospitalization (7).

A number of evidence based strategies have been developed for the prevention of ventilator associated pneumonia. An incidence of VAP can be reduced by adopting care bundle approach, well equipped ICU, good number of ICU experts, advanced medications and active infection control team. Nurses are the health care personnel in the ICU, who caring the patients round the clock. If nurses are familiar with knowledge of prevention of VAP, they can apply evidences based practices and thus reduce the morbidity and mortality rate associated with VAP. Lack of knowledge may be a potential barrier to adherence to evidence-based guidelines for the prevention of VAP. Nurses' knowledge regarding ventilator associated pneumonia is having high impact on reduction of VAP among intubated patients (8).

Several recent surveys reported that there is a substantial lack of knowledge among intensive care nurses concerning evidence-based strategies for preventing VAP (9). Hence the study was conducted with the aim to assess the level of knowledge regarding VAP among the staff nurses working in the intensive care unit.

METHODS AND MATERIALS

Quantitative approach by using non-experimental cross sectional research design was used to assess the level of knowledge on VAP with 50 samples at selected hospital. The samples who met the inclusion criteria were selected by convenient sampling technique from medical, surgical, cardiac, respiratory and pediatric intensive care unit and who were not interested to participate in the study were excluded. The tool used for the study to collect the data was demographic variables and structured multiple choice questionnaires regarding VAP. Formal permission was obtained from the hospital authority. The nurses who consented orally and willing to participate were informed about the purpose of the study and were assured about confidentiality and anonymity. Data was collected by self-administered method. The collected data prepared for analysis using Microsoft excel and were analyzed by using descriptive and inferential statistics. P values less than 0.05 were considered statistically significant.

RESULTS

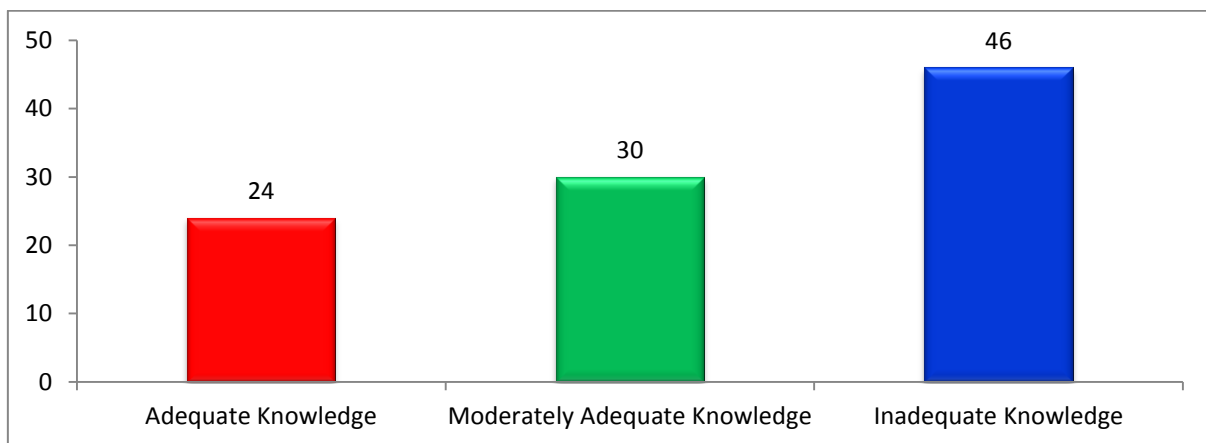
Table 1: Frequency and percentage distribution of demographic variables among staff nurses (n=50)

DEMOGRAPHIC VARIABLES	Frequency	Percentage
1.Age		
a) 21-25 years	16	32%
b) 26-30 years	24	48%
c) 31-35 years	10	20%
2. Gender		
a) Male	15	30%
b) Female	35	70%
3. Income		
a) 12000 -15000	31	62%
b) 15000-18000	13	26%
c) >18000	6	12%
4. Work Experience		
a)<1 year	15	30%
b) 1-3 years	21	42%
c) 3-5 years	14	28%
5. Educational Qualification		
a) GNM	24	48%

b) B.Sc(N)	26	52%
6. Working Ward		
a) Medical ICU	12	24%
b) Surgical ICU	13	26%
c) Respiratory ICU	7	14%
d) Cardiac ICU	12	24%
e) Pediatric ICU	6	12%

Table-I: Shows the distribution of various demographic variables among 50 intensive care unit nurses. that 32% of staff nurses are between the age group of 21-25 years, Majority 70% of the nurses were male, 28% had 3-5 years of experience, more than 50% were graduate nurses and majority of nurses are working in medical, surgical, and cardiac ICU.

Figure-I: Percentage distribution of level of knowledge on VAP



Out of 50 samples, 12(24%) had adequate knowledge, 15 (30%) had moderately adequate knowledge and 23 (46%) had inadequate Knowledge.

Table II. Mean and Standard Deviation of Level of Knowledge regarding VAP (n=50)

Level of Knowledge	Mean	Standard Deviation
Adequate Knowledge	17.6	1.36
Moderately Adequate Knowledge	13.2	2.75
Inadequate Knowledge	7.5	2.14

The mean value of adequate knowledge was 17.6 with 1.36 standard deviation, moderately adequate knowledge mean was 13.2 with 2.57 standard deviation and inadequate knowledge mean was 7.5 with 2.14 standard deviation as depicted in Table 2.

Chi square test reveals that there is no significant association between the level of knowledge and the selected demographic variables at the level of $p < 0.05$

DISCUSSION

Ventilator associated pneumonia is the second most common hospital acquired infection next to catheter associated urinary tract infection. Hence the main focus of this study was to assess the knowledge on VAP among intensive care nurses and it was interpreted as adequate knowledge, moderately adequate knowledge and inadequate knowledge. The current study findings revealed that 46% had inadequate knowledge. Staff nurses experience and educational qualification could have highly influenced their knowledge because 50% were diploma qualified and less than three years of experience. The present study findings consistent with the study conducted by Ankita sharma reported that no one have excellent knowledge regarding ventilator associated pneumonia, 6% has good knowledge, 28% has average knowledge and 66% has below average knowledge (10). Similarly another study by Faisal Younus et al, who stated that the knowledge of intensive care nurses' on VAP was unsatisfactory (11). In another study conducted by Masoumeh who found that nurses' knowledge of evidence- based guidelines for preventing ventilator-associated pneumonia in intensive care units preventive measures was 51.92% which was lower (12). The present also found that there was no significant association between the level of knowledge and their demographic variables. Hence the study can be recommended to conduct with large sample, and intervening with educational programme.

CONCLUSION

The findings of the present study concluded that there was no cent percent adequate knowledge on VAP. Since the level of knowledge on VAP is highly impact on preventing VAP, organize regular and periodical continuing nursing education or on the job training on ventilator associated pneumonia for the staff nurses working in the intensive care unit to impart the knowledge. Staff nurses are motivated to adhere the evidence based practice and care bundle approach to prevent the VAP.

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CONFLICT OF INTEREST

Author declares no conflict of interest.

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