KPJ KAJANG SPECIALIST HOSPITAL

KNOWLEDGE AND PRACTICES ON CARE BUNDLE COMPLIANCE FOR PREVENTION OF VENTILATOR ACQUIRED PNEUMONIA (VAP) AMONG REGISTERED NURSES

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ABSTRACT

Mechanical ventilation is one of the major supportive modalities in the Intensive Care Unit (ICU) but it carries a lot of risks and complications, the most common one is Ventilator Associated Pneumonia (VAP). It is the most common infectious complication among patients admitted to ICU. VAP is a problem in intensive care units worldwide which contributes to increased morbidity and mortality rates on mechanically ventilated patients. Knowledge of ICU nurses on ventilator care bundles and adherence to it would reduce the risk of occurrence of VAP. VAP can happen within 48 to 72 hours in intubated ventilated patients. Prevention of VAP, is a major clinical challenge such that critical care nurses need to understand the risk factor for developing VAP and nurses are in the best position to put their known evidence-based knowledge into practice in preventing VAP. Bundled practices approach is composed of individual preventive measures for preventing the incidence and prevalence of VAP and improving outcomes of patients. The main bundle items were infection control measure, patient positioning, endotracheal suctioning care, peptic ulcer prophylaxis, oral care, waning & extubation trials and ventilator care measures. Therefore, improving measures for infection prevention are important for decreasing hospital-acquired infections.

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INTRODUCTION

This study focuses on the level of knowledge and practices on ventilator care bundle for prevention of VAP among ICU Registered Nurse at KPJ Klang Valley Hospital. Ventilator associated pneumonia (VAP) is defined as a typeof pneumonia in a patient receiving mechanical ventilation that was not present at the time of admission to hospital or that occurs 48 hours after intubation and mechanical ventilation (Said, 2012). Among all of the hospital-acquired infections, VAP has the highest mortality rate of up to 60% (Soh, 2012) and is the leading cause of high morbidity and mortality worldwide that prolongs the ICU length of stay, ultimately increasing hospital stays and the risk of death. The general objective of the study is identifying the knowledge and practices compliance to care bundle on prevention of VAP among registered nurses at ICU in KPJ Klang Valley hospitals.

METHODS AND MATERIALS

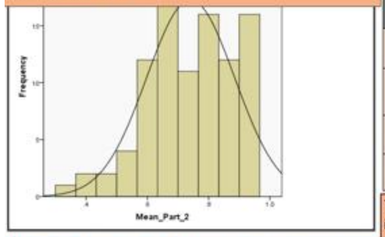
A quantitative cross-sectional survey is used in this study to determine the knowledge and practice compliance among the Registered Nurses working in ICU regarding care bundle compliance on preventing VAP in KPJ Klang Valley Hospital. Total of 103 staff including 10% of the sample population participate as calculated. A purposive sampling was done among 93 Registered Nurses. The Cronbach's Alpha value for the questionnaires selected was 0.89. A descriptive statistics were used for all variables collected and statistical analyses were performed using the Social Packages for the Social Sciences (SPSS) software version 26 for windows. .The researcher has obtained the approval from hospital ethical committee and KPJ Headquarters prior to data collection in all the KPJ Klang Valley Hospitals.

RESULTS

The variables were tested statistically by using SPSS version 26. All the variables were tested for normality distribution by normality curve on histogram. P-value of the relationship between level of knowledge with socio demographic showed that all the variable had no relation as p-value were more than 0.05 except for age (p-0.010) and qualification (0.003). However, relationship for practices on care bundle with socio demographic there were no association as all the p-value were more than 0.05. For the relationship between knowledge and practices on care bundle were also showed no association as the p-value were more than 0.05 which is 0.770.

GRAPHS AND TABLES

Graph 1: Normality Test for level of knowledge by Histogram: The data is not normally distributed; skewed to the right. The mean is 0.74 and the standard deviation is 0.143.



Graph 2: Normality Test for practices compliance by Histogram: The data is not normally distributed; skewed to the right. The mean is 0.97 and the standard

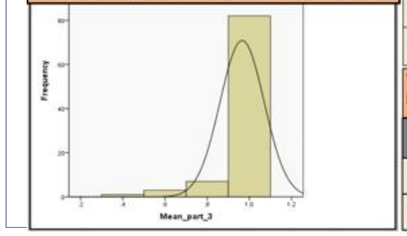


Table 1: Analysis on Level of Knowledge on Care Bundle Items with Scoring Level (n=93)

Level of Knowledge/Score	Mean Score n (%)
Excellent (81-100%)	89 (95.7)
Good (61-80)	2 (2.1)
Average (41-60)	1 (1.1)
Poor (0-40)	1 (1.1)

Table 2: Analysis on practices compliance on care bundle items (n=93)

Practices on care bundle	Mean Score n (%)
Good	92 (98.9)
Poor	1 (1.1)

Table 3:Relationship between Level of Knowledge with Practices Compliance

Variable	p-value
Level of Knowledge	0.770
Practices on care bundle	

DISCUSSION

Nurses are having good knowledge regarding prevention of ventilator associated pneumonia which showed that more than a half of the critical care nurses had a good level of knowledge on VAP. (Selamat, 2021).
ICU nurses had good practices on preventing VAP. It also stated that it is very important for the hospital to regularly monitor the adherence on ventilator care bundles checklist on prevention of VAP. (Dumbre, 2019).
They are experienced registered nurses with good knowledge that work in ICU according to Selamat et al., (2021) However, Aziz et al., (2020) said knowledge of recommendations does not necessarily reflect practice.
Aziz et al., (2020), stated that nurses with more experience and proper intensive care training had better practices of VAP prevention.

CONCLUSIONS

The study reveals that the majority of ICU Registered Nurses at KPJ Klang valley hospital have good knowledge on care bundle items for prevention of VAP. Besides that, this study also proved that the majority of ICU registered nurses at KPJ Klang valley hospital had good compliance on care bundle practices for prevention of VAP. From these initial results, concentrated in education based on a need assessment of nurses, leadership support to encourage clinical practice and continuous monitoring and educating the nurses by evaluating using competency checklist. This is to confirm that infection prevention policy and procedure are agreed and correctly implemented.

REFERENCES

Aziz, Z., Kausar, S., Zahid, S., Farooqi, S., Aziz, Z. and Ahmad, R.A. (2020). Knowledge and practice of ventilator care bundle for preventing ventilator associated pneumonia by ICU nurses of tertiary care hospitals of Lahore.
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