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Knowledge And Compliance On The Ventilator-Associated Pneumonia (VAP) Care Bundles Of Medical-Surgical Nurses

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Abstract

This study investigated the knowledge and compliance of medical-surgical nurses regarding Ventilator-Associated Pneumonia care bundles in private hospitals in Naga City, Philippines. Using a descriptive-correlational research design, the study involved 172 nurses assigned in areas where mechanically ventilated patients are commonly managed, including intensive care units, emergency departments, and medical-surgical wards. A structured questionnaire was used to determine nurses' level of knowledge and extent of compliance with key VAP care bundle components, including head-of-bed elevation, oral care, deep vein thrombosis prophylaxis, sedation assessment with spontaneous breathing trials, and stress ulcer prophylaxis. Findings revealed that nurses generally demonstrated moderate knowledge and varied compliance, with stronger performance in head-of-bed elevation, oral care, and stress ulcer prophylaxis, but lower knowledge and compliance in sedation assessment, spontaneous breathing trials, and DVT prophylaxis. A significant positive relationship was found between knowledge and compliance, indicating that higher knowledge levels were associated with better adherence to VAP prevention practices. The study concluded that targeted health training, policy reinforcement, and interprofessional collaboration are necessary to strengthen compliance with VAP care bundles and reduce VAP incidence.

Keywords: *Ventilator-Associated Pneumonia, VAP Care Bundle, Medical-Surgical Nurses, Knowledge, Compliance, Infection Prevention, Mechanical Ventilation, Oral Care, Sedation Assessment, Health Training Program.*

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Introduction

Ventilator-Associated Pneumonia (VAP) is a leading healthcare-associated infection (HAI), particularly among mechanically ventilated patients. Despite global and local guidelines, VAP continues to pose clinical and economic challenges due to inconsistent adherence to preventive measures. This study investigated the knowledge and compliance of medical-surgical nurses regarding VAP care bundles, which include head-of-bed elevation, oral care, DVT prophylaxis, sedation assessment with spontaneous breathing trials, and stress ulcer prophylaxis. The rationale was rooted in the observed high incidence of VAP in local healthcare settings, especially in critical care units.

Methodology

A descriptive-correlational research design was employed. The study included 172 medical-surgical nurses from private hospitals in Naga City, Philippines. Respondents were selected from areas where mechanically ventilated patients are commonly managed in ICUs, emergency departments, and medical-surgical wards. The study utilized a structured questionnaire to measure both the level of knowledge and extent of compliance with VAP care bundles. Nurses who had no experience managing ventilated patients and those from non-relevant units were excluded. Data were statistically analyzed to identify relationships and differences among knowledge and compliance levels.

Results

- Most nurses demonstrated moderate knowledge of VAP care bundles, with particularly strong understanding of head-of-bed elevation and oral care.

-However, the lowest knowledge scores were observed in daily sedation assessment and spontaneous breathing trials, revealing a significant gap in understanding this component.

-Compliance was similarly varied, with oral care and stress ulcer prophylaxis frequently performed, but sedation assessment and DVT prophylaxis less consistently implemented.

-A significant positive relationship was found between nurses' knowledge and their compliance levels.

-There were statistically significant differences across bundle components in both knowledge and compliance.

-Based on findings, a comprehensive health training program focusing on poorly understood and implemented practices was proposed.

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Discussion

The study emphasizes the critical role of nurse knowledge and systemic support in ensuring compliance with VAP prevention protocols. While basic interventions like head-of-bed elevation are well understood and practiced, more complex or collaborative tasks such as sedation trials and DVT prophylaxis suffer from inconsistent application. The findings reinforce the need for ongoing education, policy refinement, and interprofessional collaboration to strengthen adherence to care bundles and ultimately reduce VAP incidence.