



VENTILATOR BUNDLE CARE

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ABSTRACT

Background: Ventilator-associated pneumonia (VAP) is the most common infectious complication among the patients admitted in the intensive care units (ICUs), which is developed in the patients receiving mechanical ventilation; it is developing within 48 to 72 hours after the intubation of the tracheal tube. This study aimed to assess the effectiveness of structured teaching programme on knowledge regarding ventilator bundle care among staff nurses in RMMCH at Chidambaram with the objectives of assess the pre-test and post-test knowledge on ventilator bundle care before the intervention and to evaluate the effectiveness of educational intervention on knowledge on ventilator bundle care among the staff nurses working at RMMCH.

Methods: Quasi experimental – one group pre-test post-test design with a sample size of 45 using Convenience sampling technique. **Result:** The pre-test shows that, among the 45, 10 (22.22%) of them had inadequate knowledge, 21 (46.66%) of them had moderately adequate knowledge and 14 (31.11%) of them had adequate knowledge regarding care of patient with ventilator bundle. Whereas, in the post-test none of them had inadequate knowledge, 32 (71.1%) of them had adequate knowledge and 13 (28.9%) of them had moderately adequate knowledge on ventilator bundle. **Conclusion:** The study concluded that the video teaching programme was effective in improving the knowledge of nurses regarding care of patient with ventilator bundle. **Keywords:** Ventilator Bundle Care, Prevention of Ventilator Associated Pneumonia, Knowledge on Ventilator Bundle Care.

INTRODUCTION

There has been growing interest in bringing down the rates of Ventilator Associated Pneumonia (VAP) by applying the successful multi-disciplinary approach with Ventilator Bundle Care in Intensive Care Units (ICUs).

Ventilator Associated Tracheobronchitis (VAT) has also been independently associated with adverse outcomes and has been identified as an important source of PICU morbidity: it may in fact be more prevalent than VAP in children and is likely to be a clinically important nosocomial infection in its own right.

Care bundles

A bundle usually consists of three to five interventions which are grouped together into a single quality measure (**Aysha, M.S., et al., 2016**).

Bundles of care are evidenced-based practices that are grouped together to encourage the consistent delivery of these practices.

Modi, P., et al (2012) reported successful implementation of a care bundle to prevent VAT in a Pediatric ICU (PICU).

VAP represents a common nosocomial complication arising in the ICU, which affect about 8-20% of ICU patients, and up to 27% of the mechanically ventilated patients. It is one of the leading causes of hospital-acquired infections in ICUs. **Mukesh, D.M et al (2018)**.

Interventions to prevent VAP begin at the time of intubation and should be continued until extubation. Nurses need to understand the pathophysiology of VAP, risk factors and strategies that may prevent VAP.

METHODS

Quantitative approach, Quasi-experimental One group pre-test and post-test design was adopted for this study. The conceptual framework used for this study is based on the general systems theory of learning developed by Ludwing Von Bertalanffy (1968).

The study was carried out with the Staff nurses working at Rajah Muthiah Medical College & Hospital, Annamalai Nagar, Chidambaram using Convenient sampling technique with the sample size of 45.

Informed consent obtained orally from each study participant and they were explained about the purpose of the study. The staff nurses were gathered in different

wards, seated comfortably and the pre-test was conducted using self-administered questionnaire to assess the Knowledge on ventilator bundle.

After that, video-assisted teaching program was conducted for 45 minutes. After 7 days, post test was conducted for the same samples with the same questionnaire to assess the Knowledge on ventilator bundle.

The data were analysed based on the objectives of the study using descriptive and inferential statistics.

RESULTS

The pre-test shows that, among the 45 study participants, 10 (22.22%) of them had inadequate knowledge, 21 (46.66%) of them had moderately adequate knowledge and 14 (31.11%) of them had adequate knowledge regarding care of patient with ventilator bundle. Whereas, in the post-test none of them had inadequate knowledge, 13 (28.9%) of them had moderately adequate knowledge and 32 (71.1%) of them had adequate knowledge on ventilator bundle.

Table 1: comparison of pre-test and post-test knowledge on ventilator bundle care

N=45

S.No	Level of knowledge	Pre-test		Post-test	
		No.	(%)	No.	(%)
1.	Inadequate knowledge (<50%)	10	22.22	-	-
2.	Moderately adequate knowledge (51-75%)	21	46.67	13	28.9
3.	Adequate knowledge (76-100%)	14	31.11	32	71.1

DISCUSSION

The aim of the study was to assess the effectiveness of structured teaching programme on knowledge regarding ventilator bundle care among the staff nurses in RMMCH, Annamalai University, Chidambaram.

The six selected components of the ventilator bundle included head-of-bed elevation, daily interruptions of sedative infusions, daily spontaneous breathing trials, thromboembolism prophylaxis, stress ulcer prophylaxis and oral care with chlorhexidine gluconate. Interventions to prevent VAP aim either to prevent repeated micro aspiration, colonization of upper airway and GI tract with potentially pathogenic organisms, or contamination of ventilator/respiratory equipment. Bundles of care are evidenced-based practices that are grouped together to encourage the consistent delivery of these practices. These bundles are common in

the ICU and have been developed for the prevention of VAP. **Muzaffar, M et al (2017).**

CONCLUSION

The present study assessed the knowledge among the staff nurse regarding care of patients with ventilator bundle and found that staff nurse had inadequate knowledge related to care of patient with ventilator bundle. After the video teaching program on care of patients with ventilator bundle, there was a significant improvement on knowledge of staff nurse regarding nursing care of patients with ventilator bundle. Thus, the study concluded that the video teaching programme was effective in improving the knowledge of nurses regarding care of patient with ventilator bundle.

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