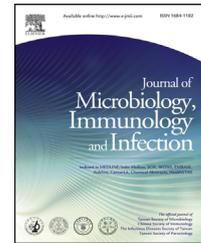




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LETTER TO THE EDITOR

A multidisciplinary team care bundle for reducing ventilator-associated pneumonia at a hospital in southern Taiwan

Sir,

We read with great interest the article in the *Journal of Microbiology, Immunology and Infection* by Wu et al,¹ reporting a decreasing incidence of catheter-related bloodstream infections (CRBSIs) after the introduction of standardization of the process of center venous catheter implantation in an intensive care unit (ICU) in a medical center in center Taiwan. In addition to CRBSIs, ventilator-associated pneumonia (VAP) is another common type of healthcare-associated infections, and is the leading cause of mortality for device-associated infections.^{2,3} Therefore, we feel this issue needs to be addressed, in addition to CRBSI. However, study on the impact of bundle-care interventions on the development of VAP in Taiwan is lacking.

This project was carried out in a medical-surgical ICU with 63 beds at the Chi Mei Medical Center, Liouying branch, located in southern Taiwan. VAP was identified according to the Centers for Disease Control/National Healthcare Safety Network standard definitions.⁴ The numbers of patient-days, device-days, and VAP cases have been collected monthly from the infection-control practitioner. We compared the rates of VAP, from April 2010 to October 2010, for a 7-month period prior to the initiation of the VAP prevention bundles, with the VAP rates after intervention from November 2010 to December 2011 (a 14-month period). The bundle-care interventions for prevention of VAP included: (1) maintenance of patients in a semi-recumbent position, 30–45° elevation of the head to the bed; (2) daily interruption of sedation and assessment for continuation; (3) daily spontaneous breathing trials; (4) performance of oral care three times a day with an antiseptic solution (0.2% chlorhexidine gluconate); (5)

maintenance of endotracheal tube cuff pressure above 20 cm H₂O; and (6) assessment on the reduction of prophylactic use of histamine receptor 2-blocking agent or proton pump inhibitor for stress ulcers in high risk patients. Additionally, educational programs were arranged in November 2010 for the staff in all ICUs, including attending physicians, respiratory therapists, and nurse practitioners.

The implementation of the VAP prevention bundle resulted in the reduction of the VAP rate from a mean of 11.05 cases/1000 ventilator-days in the preintervention period to 2.81 cases/1000 ventilator-days in the post-intervention period ($p < 0.0001$). The surveillance showed a significant decreasing incidence of VAP after the introduction of intervention.

In the present work, we have one major finding. Similar to Wu et al's study,¹ which showed a decreasing incidence of CRBSI after the introduction of standardization of the process of center venous catheter implantation, we demonstrated that the introduction of bundle-care interventions with a multidisciplinary team approach can effectively prevent the development of VAP. It suggests that this effective preventive strategy should be implemented in the ICU to reduce the occurrence of VAP.

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