Impact of a multidimensional International Nosocomial Infection Control Consortium (INICC) approach on ventilator-associated pneumonia rates and mortality in Intensive Care Units in a Malaysian hospital.

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Abstract: Background: To analyze the impact of a multidimensional infection control approach and the use of the International Nosocomial Infection Control Consortium (INICC) Surveillance Online System (INSS) on the rates of ventilator-associated pneumonia (VAP) and morbidity in Malaysia from November 2011 to July 2015. Methods: Prospective, before-after study of 1,532 patients all adult intensive care unit (ICU) and 1 pediatric ICU. During baseline, we performed outcome surveillance of VAP applying the COIN/INSS definitions. During intervention, we implemented the INICC multidimensional approach and INSS, including: 1) an infection prevention intervention, 2) education. To outcome surveillance, intervention surveillance, 3) feedback on VAP rates and consequences, and 4) performance feedback on process surveillance. Baseline and multivariate regression analyses were performed using a logistic regression model to estimate the effects of intervention on VAP. Results: The baseline VAP rate of 27.2 per 1000 mechanical ventilation (MV) days — with 95% CI of 21.7 to 32.6, P < 0.001. The mortality rate of 18.9% was reduced to 11.2% (OR 0.60, 95% CI 0.41-0.86, P < 0.005). Conclusions: Implementing the INICC multidimensional infection control approach for VAP prevention was associated with a significant reduction in the rate of VAP and mortality in ICU of Malaysia.

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