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Impact of Outcome and Process Surveillance on Ventilator Associated Pneumonia Rates in 8 ICUs from Colombia: Findings of the International Nosocomial Infection Control Consortium (INICC)

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Objective:
To determine the effect of outcome and process surveillance (intervention) on the rate of Ventilator Associated Pneumonia (VAP) infection in 8 intensive care units (ICU) from 2 cities from Colombia.

Methods:
An open label, prospective cohort, active VAP surveillance, sequential study was conducted on adult and pediatric patients admitted to tertiary-care ICUs. Rates of VAP were recorded through applying the definitions provided by CDC-NHSN system. The protocol, forms, and outcome and process surveillance methodology implemented were developed by the INICC. The data collection was performed in the participating ICUs. Data uploading and data analysis were conducted at the INICC headquarters on proprietary software. The hand hygiene compliance and VAP rates during baseline were compared to the rate during an intervention period.

Results:
The baseline period included the first eight months of each medical center in the study, the intervention period lasted a mean of 20 months (range 8-38 months).
During the baseline period, 1,308 ICU patients were enrolled, and 2,990 during the intervention period. Patient's characteristics were similar over the two periods (Patient gender, P: 0.4059; Diabetes, P: 0.9927; Cardiac Surgery, P: 0.8737; Cancer, P: 0.0839; Abdominal Surgery, P: 0.0746; Thoracic Surgery, P: 0.5074; Trauma; P: 0.5453).
The rate of VAP per 1,000 ventilator days during the intervention period was significantly lower than during the baseline period, 11.3 (45/3,996) vs 7.4 (74/99,888) VAP per 1000 ventilator days (RR, 0.66; 95% CI, 0.45-0.95; P: 0.02).

Conclusion:
Outcome and process surveillance resulted in a significant reduction of the VAP rate.