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Impact of International Nosocomial Infection Control Consortium (INICC) Strategy on Pneumonia Rates in Neonatal ICUs in 7 Developing Countries

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Objective

We report a time-sequence analysis of the effectiveness of outcome and process surveillance, plus performance feedback designed and implemented by the International Nosocomial Infection Control Consortium (INICC) on ventilator-associated pneumonia (VAP) rates in 9 neonatal intensive care units (NICUs) from Argentina, Colombia, El Salvador, Mexico, Peru, Philippines, and Turkey.

Methods

Centers for Diseases Control (CDC)-National Healthcare Safety Network (NHSN)'s definitions were applied to identify VAPs.

Data collection was conducted at the participating ICUs, using outcome and process surveillance methods of the International Nosocomial Infection Control Consortium (INICC).

VAP rates and process surveillance for hand hygiene during baseline period were compared with the rates at intervention period.

Statistical analysis was performed using Chi-square test.

Results

The baseline period (874 ICU patients) included the first three months; the intervention period (2,981 ICU patients) included a mean of 17 months (range 3-60 months).

Patient's characteristics were similar in both periods (Gender, P: 0.3762; Weight, P: 0.8296).

Hand-hygiene compliance improved from 44.3% to 63.1% (RR, 1.42;95%CI,1.25-1.62;P< 0.01).

VAP rate was reduced from 11.1 per 1000 device-days (22/1,982) to 5.6 per 1000 device-days (42/7,518) (RR, 0.50; 95%CI, 0.30-0.84;P 0.0078).

Conclusions

Ongoing VAP outcome and process surveillance, plus feedback of surveillance data designed and implemented by INICC, improved compliance with hand hygiene and were associated with a 50% reduction in the VAP incidence.

While the magnitude of the reduction achieved to date is gratifying, rates of VAP in the range of 5.6 per 1000 device-days are still too high, and we believe greater reductions are imminently achievable. Our immediate goals are to enhance and strengthen the simple surveillance and performance feedback program that has proven effective to date and to find ways to assure such maximal compliance.