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Effectiveness of Outcome Surveillance for Reducing Ventilator-Associated Pneumonia and Mortality in a Hospital in India. 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) and mortality in one ICU of New Delhi, India.

METHODS:

Prospective cohort surveillance of DAI was conducted on adult patients. The protocol and forms design; data uploading and data analysis was in charge of INICC. Data collection was performed in the participant ICU (Outcome Surveillance), and CDC-NNIS definitions were applied. Infection Control measures were applied based on CDC guidelines. The VAP rate and crude mortality rate during baseline was compared to the one during an intervention period.

RESULTS:

From 07/04 to 07/05; 3052 adult ICU patients were enrolled (1,169 in the baseline period and 1,883 in the intervention period). Patient's demographic characteristics were similar over the two periods (Patient gender, $P = 0.3203$; Age, $P = 0.7478$).

The incidence of VAP rate during the intervention period was significantly lower than during the baseline period (26.3 [45 VAP and 1,709 mechanical ventilator days] vs 10.9 [21 VAP and 1,923 mechanical ventilator days] VAP per 1000 MV days, $RR = 0.41$, 95% $CI = 0.25 - 0.70$, $P = 0.0005$).

The percentage of patients with VAP during the intervention period was significantly lower than during the baseline period (3.8% [45/1,169] versus 1.1% [21/1,883]; $P = < 0.0001$).

The crude unadjusted mortality rate was also significantly lower during the intervention period (1.7% [20/1,169] versus 0.5% [10/1,883]; $RR = 0.31$, 95% $CI = 0.15 - 0.66$ $P = 0.0013$).

CONCLUSION:

Outcome surveillance and infection control measures resulted in a significant reduction of VAP rate and crude mortality.