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Impact of Outcome and Process Surveillance on Device Associated Infection (DAI) Rates in a Hospital in Brazil. Findings of the International Nosocomial Infection Control Consortium (INICC).

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BACKGROUND:

To determine the effect of outcome surveillance (intervention) on the rate of device-associated infections (DAI) in one tertiary care- intensive care unit (ICU) member of the INICC, of Porto Alegre, Brazil.

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. An Infection Control nurse observed and collected health care workers behavior (Process surveillance). The overall DAI rate during baseline was compared to the one during an intervention period.

RESULTS:

From 06/2004 to 02/2006, 184 adult ICU patients were enrolled (121 in the baseline period and 63 in the intervention period). Patient's demographic characteristics and underlying diseases were similar over the two periods (Gender, RR= 1.06, 95% CI = 0.69 - 1.62, P = 0.8002; Age, P= 0.8160; Cardiac Surgery, RR = 1.28, 95% CI= 0.21 - 7.66, P = 0.7860; Trauma, RR = 0.55, 95% CI = 0.11 - 2.64, P = 0.4474). Compliance with hand hygiene (40.3% vs. 61.5% [RR = 1.53, 95% CI = 1.33 -1.75, P-value = 0.0001]) improved during the intervention period. The percentage of patients with DAI was significantly lower during the intervention period (19.8% [24 DAI and 121 patients] versus 4.8% [3 DAI and 63 patients], RR = 0.24, 95% CI = 0.07 - 0.80, P = 0.0113).

CONCLUSIONS:

Outcome and process surveillance resulted in a significant improvement on hand hygiene compliance and reduction of the overall DAI rate, which was reduced 76%.