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Effectiveness of Outcome and Process Surveillance for Reducing Device-Associated Infection Rates in a Hospital of Colombia. Findings of the INICC.

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OBJECTIVE:

To determine the effect of outcome and process surveillance (intervention) on the device-associated infection (DAI) rate in one neonatal intensive care unit (ICU) of Bogotá, Colombia.

METHODS:

Prospective cohort surveillance of DAI was conducted on neonatal 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 based on CDC guidelines 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 10/04 to 11/05, 128 neonatal ICU patients were enrolled (47 in the baseline period from 10/04 to 02/05 and 81 in the intervention period from 03/05 to 11/05). Patient's demographic characteristics were similar over the two periods (Patient gender, RR= 0.89, 95% CI = 0.55 - 1.43, P = 0.6347; Mother's Age, P = 0.3656).

Compliance with hand-washing was higher in the intervention period (75.1% vs. 85.5% [RR = 1.14, 95% CI = 0.99 - 1.30, P-value = 0.0610]), although the difference was not significant.

The percentage of patients with DAI was significantly lower during the intervention period (21.3% [10 DAI and 47 patients] versus 6.2% [5 DAI and 81 patients] overall DAI percentage, RR = 0.29, 95% CI = 0.10 - 0.85, P = 0.0161).

CONCLUSION:

Outcome and Process surveillance, plus infection control measures resulted in a significant reduction of the overall DAI rate, which was 71%.