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Effectiveness of Outcome Surveillance for Reducing Central Vascular Catheter-associated Blood Stream Infection in a Hospital in Morocco. Findings of the International Nosocomial Infection Control Consortium (INICC).

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OBJECTIVE:

To determine the effect of outcome surveillance (intervention) on the rate of central vascular catheter associated blood stream infection (CVC-BSI) in one intensive care unit (ICUs) of Rabat, Morocco.

METHODS:

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

RESULTS:

From 12/04 to 10/06, 826 adult ICU patients were enrolled (377 in the baseline period from 12/04 to 1/05 and 449 in the intervention period from 11/05 to 10/06). Patient's demographic characteristics and underlying diseases were similar over the two periods (Gender, RR= 1.11, 95% CI = 0.91 - 1.34, P = 0.2950; Age, P= 0.8602; Endocrine disease, RR = 0.87, 95% CI = 0.61 - 1.23, P = 0.4271; Cardiac Failure, RR = 0.84, 95% CI = 0.41 - 1.72, P = 0.6317; Angina pectoris, RR = 0.67, 95% CI = 0.18 - 2.50, P = 0.5504; Cardiac surgery, RR = 2.52, 95% CI = 0.26 - 24.22, P = 0.4072; COPD, RR = 0.70, 95% CI = 0.42 - 1.19, P = 0.1850; Cancer, RR = 0.99, 95% CI = 0.44 - 2.21, P = 0.9849; Renal impairment, RR = 1.14, 95% CI = 0.57 - 2.27, P = 0.7105; Hepatic failure, RR = 0.54, 95% CI = 0.25 - 1.16, P = 0.1093; Abdominal surgery, RR = 1.01, 95% CI = 0.51 - 2.00, P = 0.9827; Thoracic surgery, RR = 1.68, 95% CI = 0.15 - 18.52, P = 0.6686; Trauma, RR = 0.84, 95% CI = 0.32 - 2.24, P = 0.7263; Previous infections, RR = 1.18, 95% CI = 0.85 - 1.64, P = 0.3129; Stroke, RR = 1.68, 95% CI = 0.63 - 4.47, P = 0.2944; and Immunocompromise, RR = 1.56, 95% CI = 0.62 - 3.91, P = 0.3393).

The incidence of CVC-BSI rate during the intervention period was significantly lower than during the baseline period (22.9 [12 CVC-BSI and 525 CVC days] versus 8.3 [6 CVC-BSI and 727 CVC days] CVC-BSI per 1000 CVC days, RR = 0.36, 95% CI = 0.14 - 0.96, P = 0.0334).

CONCLUSION:

Outcome surveillance and infection control measures resulted in a significant reduction of CVC-BSI rate.