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PROCESS AND OUTCOME SURVEILLANCE PLUS EDUCATION AND FEEDBACK EFFECT ON BLOODSTREAM INFECTIONS IN ONE TURKISH INTENSIVE CARE UNIT

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Background:

To ascertain the effect of Process and Outcome Surveillance plus education and performance feedback on intensive care unit (ICU) rates of intravascular device (IVD)-associated bloodstream infection (BSI).

Methods:

We studied one Level III adult intensive care unit of a Turkish University hospital. A prospective before/after trial in which rates of IVD-associated BSI were determined during a period of active process and outcome surveillance without education and performance feedback (phase 1) were compared to rates of IVD-associated BSI after implementation of process and outcome surveillance plus education and feedback (phase 2). Phase one was developed from 01/04 to 12/04, phase two from 01/05 to 10/05.

Results:

1,338 IVD-days were accumulated during phase one and 1,079 during phase two. Patients during each study phase were similar with respect to gender (P value, 0.7656), severity-of-illness score (P value, 0.6182), Angina pectoris (P.value, 0.7483), Cardiac Surgery (P value, 0.2898), COPD (P.value, 0.5296), Cancer (P.value, 0.1493), Renal impairment (P.value, 0.8573), Hepatic failure (P.value, 0.2898), Abdominal Surgery (P.value, 0.1745), Stroke (P.value, 0.3447) and Immunocompromise (P.value, 0.1815). Compliance with hand-washing (69.0% vs. 82.9% [RR = 1.20, 95% CI = 1.07 – 1.35, P-value = 0.0017]) and CVC site care improved from baseline during the study period (Date on IVD administration set, 9.9% vs. 21.2% [RR = 2.14, 95% CI = 1.79 – 2.57, P-value = 0.0000]). IVD-associated BSI rates were significantly lowered from baseline rates after implementation of education and performance feedback: 29.1 BSI per 1000 CVC days in phase I (39/1338) versus 13.0 BSI per 1000 CVC days in Phase 2 (14/1079), RR = 0.45, 95% CI = 0.24 – 0.82, P-value = 0.0076). The BSI rate reduction was 55.5%.

Conclusion:

Implementation of an infection control program, using process and outcome surveillance plus education and performance feedback resulted in significant reductions of IVD-associated BSI rates.