
Education And Performance Feedback Effect On Rates Of Central Vascular Catheter - Associated Bloodstream Infections In Adult Intensive Care Units of One Turkish Hospital

Asu Özgültekin¹, Victor D. Rosenthal², Güldem Turan¹, Nur Akgün¹.

1- Haydarpasa Hospital, Istanbul, Turkey.

2- Medical College of Buenos Aires, Buenos Aires, Argentina.

Background:

To ascertain the effect of an infection control program utilizing 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 Public hospital in Turkey. All adult patients admitted to the study had a central vascular catheter (CVC) in place for at least 24 hours. A prospective before/after trial in which rates of IVD-associated BSI were determined during a period of active surveillance without education and performance feedback (phase 1) were compared to rates of IVD-associated BSI after implementation of an infection control program utilizing education and performance feedback (phase 2). Phase one was from October 2003 to October 2004, and phase two was from November 2004 to September 2005.

Results:

2203 IVD-days were accumulated during phase one and 1670 IVD-days during phase two. Compliance with hand-washing (13.8% vs. 37.3% [RR = 2.70, 95% CI = 2.28 – 3.21, P-value = 0.0000]) and CVC site care improved from baseline during the study period (Presence of gauze on IVD site, 48.6% vs. 99.5% [RR = 2.05, 95% CI = 1.94 – 2.15, P-value = 0.0000]; Proper placement of gauze at IVD site, 45.3% vs. 98.9% [RR = 2.19, 95% CI = 2.07 – 2.30, P-value = 0.0000]; Date on IVD administration set, 15.2% vs. 73.9% [RR = 4.87, 95% CI = 4.51 – 5.25, P-value = 0.0000]). Overall rates of IVD-associated BSI were significantly lowered from baseline rates after implementation of education and performance feedback: 10.0 BSI per 1000 CVC days in phase I (22/2203) versus 1.8 BSI per 1000 CVC days in Phase 2 (3/1670), RR = 0.18, 95% CI = 0.05 – 0.60, P-value = 0.0016). The BSI rate reduction was 82%.

Conclusion:

Implementation of an infection control program, utilizing education and performance feedback resulted in significant reductions in rates of IVD-associated BSI.