Implementing multimodal interventions focusing on CL bundle improvement was effective in reducing the incidence rates of CLABSI and CRBSI in Taiwan’s adult ICUs” Lin et al (2017).

Abstract:

BACKGROUND: Central line (CL)-associated bloodstream infection (CLABSI) poses a major threat to patient safety and is associated with additional cost. This study investigated the sustained effect of multimodal interventions focusing on CL bundle improvement in the adult intensive care units (ICUs) of a teaching hospital in Taiwan.

METHODS: A before-after prospective study was conducted in 17 adult ICUs of a medical center in northern Taiwan from January 2009 to December 2013. Many interventions that aimed to facilitate CL bundle implementation were initiated in January 2011. The incidence rates of CLABSI and catheter-related bloodstream infection (CRBSI) were compared between the baseline and intervention periods. Catheter utilization ratios and microbiological characteristics were also analyzed.

RESULTS: The incidence rates of both CLABSI and CRBSI decreased significantly from the baseline to the intervention periods (from 9.27 to 7.66 per 1000 CL-days and from 1.51 to 0.89 per 1000 CL-days, respectively). The yearly incidence rate decreased by up to 31% (incidence rate ratio, 0.69; 95% confidence interval [CI], 0.59-0.81) for CLABSI and 59% (IRR, 0.41; 95% CI, 0.26-0.65) for CRBSI since the initiation of the interventions. The catheter utilization ratio also decreased from 0.71 to 0.63 (p < 0.001). Microbiological analysis showed that among all CLABSI isolates, the proportion of coagulase-negative staphylococci significantly decreased during the intervention period.

CONCLUSION: Implementing multimodal interventions focusing on CL bundle improvement was effective in reducing the incidence rates of CLABSI and CRBSI in Taiwan’s adult ICUs.
Reference:


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