Implementation of second-tier preventive practices was protective against CLABSI. Use of more practices was correlated with lower rates” Ben-David et al (2019).

Abstract:

BACKGROUND: Prevention of central-line-associated bloodstream infection (CLABSI) represents a complex challenge for the teams involved in device insertion and maintenance. First-tier practices for CLABSI prevention are well established.

OBJECTIVE: We describe second-tier prevention practices in Israeli medical-surgical ICUs and assess their association with CLABSI rates.

METHODS: In June 2017, an online survey assessing infection prevention practices in general ICUs was sent to all Israeli acute-care hospitals. The survey comprised 14 prevention measures supplementary to the established measures that are standard of care for CLABSI prevention. These measures fall into 2 domains: technology and implementation. The association between the number of prevention measures and CLABSI rate during the first 6 months of 2017 was assessed using Spearman’s correlation. We used negative binomial regression to calculate the incidence rate ratio (IRR) associated with the overall number of prevention measures and with each measure individually.

RESULTS: The CLABSI rates in 24 general ICUs varied between 0.0 and 17.0 per 1,000
central-line days. Greater use of preventive measures was associated with lower CLABSI rates ($\rho, -0.70; P < .001$). For each additional measure, the incidence of CLABSI decreased by 19% (IRR, 0.81; 95% CI, 0.73-0.89). Specific measures associated with lower rates were involvement of ward champions (IRR, 0.47; 95% CI, 0.31-0.71), auditing of insertions by infection control staff (IRR, 0.35; 95% CI, 0.19-0.64), and simulation-based training (IRR, 0.38; 95% CI, 0.22-0.64).

CONCLUSION: Implementation of second-tier preventive practices was protective against CLABSI. Use of more practices was correlated with lower rates.

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Reference: