To assess the impact of targeted interventions on trends in central line-associated bloodstream infection" Cho et al (2017).

Abstract:

Objective: To assess the impact of targeted interventions on trends in central line-associated bloodstream infection.

Design: A before-and-after study between January 2013 and September 2014.

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Setting: Tertiary hospital in the Republic of Korea.

Patients: All patients with central-line catheters in the hospital.

Interventions: In September 2013, interventions that targeted central line insertion practices were implemented in 10 ICUs, including compliance monitoring with a central line insertion practices bundle and use of an all-inclusive catheter kit. The impact of targeted interventions on trends in central line-associated bloodstream infection was evaluated by segmented

autoregression analysis of an interrupted time series.

Measurements and Main Results: The average hospital-wide central line-associated bloodstream infection rates in the baseline and intervention periods were 1.84 and 1.56 per 1,000 catheter-days, respectively. During the baseline period, there was an increase of central line-associated bloodstream infection rate of 0.12 per 1,000 catheter-days per month. In the intervention period, there was a decrease of central line-associated bloodstream infection rate of 0.16 per 1,000 catheter-days per month (change in slope, –0.28; 95% CI, –0.37 to –0.19; $p < 0.0001$). In ICUs, the average central line-associated bloodstream infection rates in the baseline and intervention periods were 1.92 and 1.64 per 1,000 catheter-days, respectively. During the baseline period, there was an increase of central line-associated bloodstream infection rate of 0.18 per 1,000 catheter-days per month in ICUs. After sequential-targeted interventions, there was a decrease of central line-associated bloodstream infection rate of 0.16 per 1,000 catheter-days per month (change in slope, –0.34; 95% CI, –0.50 to –0.18; $p = 0.0007$).

Conclusions: Targeted interventions were associated with significant changes in trends in the occurrence rate of central line-associated bloodstream infection in ICUs and the entire hospital.

Reference:

Cho, S.Y., Chung, D.R., Ryu, J.G., Choi, J.R., Ahn, N., Kim, S., Kim, M-J., Ha, Y.E., Kang, C-I., Peck, K.R. and Song, J-H.

Impact of Targeted Interventions on Trends in Central Line-Associated Bloodstream Infection: A Single-Center Experience From the Republic of Korea. Critical Care Medicine.
Critical Care Medicine. 45(6), p.e552–e558.

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