

To assess the effectiveness of interventions applied to reduce the incidence and mortality associated with short peripheral venous catheter-related bloodstream infections (PVCR-BSI)” Saliba et al (2018).

Summary:

Background: Short-term peripheral venous catheters are a significant source of health-care acquired bloodstream infections and a preventable cause of death.

Aim: To assess the effectiveness of interventions applied to reduce the incidence and mortality associated with short peripheral venous catheter-related bloodstream infections (PVCR-BSI).

Methods: The intervention included continuous PVCR-BSI surveillance, implementation of preventive measures related to catheter insertion and maintenance in accordance with evidence-based recommendations and the hospital’s own data, front-line staff educational campaigns, and assessment of adherence to hospital guidelines by ward rounds. A Poisson regression model was used to estimate the trend of rate per year.

Findings: From January 2003 to December 2016, 227 episodes of PVCR-BSI were identified among hospitalized patients at a university hospital. Mean age: 67y (SD: +14y), 69% males and median Charlson Score: 3 (interquartile range: 2-5). Among all, *Staphylococcus aureus* caused 115 (50.7%) episodes. Thirty-day mortality was 13.2%. After the implementation of the intervention, incidence decreased significantly from 30 episodes (1.17 episodes/10,000 patient-days) in 2003 to eight (0.36/10,000 patient-days) in 2016. Episodes caused by *S. aureus* fell from 18 in 2003 (0.70/10,000 patient-days) to three in 2016 (0.14/10,000 patient-day) and mortality fell from seven cases in 2003 (0.27/10,000 patient-days) to zero in 2016 (0.00/10,000 patient-days).

Conclusions: Surveillance, implementation of a multimodal strategy and periodical assessment of healthcare personnel adherence to hospital guidelines led to a sustained reduction in PVCR-BSIs. This reduction had a major impact on *S. aureus*-BSI rates and associated mortality.

Reference:

Saliba, P., Hornero, A., Cuervo, G., Grau, I., Jimenez, E., Berbel, D., Martos, P., Verge, J.M., Tebe, C., Martínez-Sánchez, J.M., Shaw, E., Gavaldà, L., Carratalà, J. and Pujol, M. (2018) Interventions to decrease short-term peripheral venous catheter-related bloodstream infections. Impact on incidence and mortality. *The Journal of Hospital Infection*. June 18th. .

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