To identify, describe, and evaluate interventions to reduce unnecessary central venous catheter (CVC) use to prevent central-line-associated bloodstream infections (CLABSIs) in adults” Xiong and Chen (2018).

Abstract:

OBJECTIVE: To identify, describe, and evaluate interventions to reduce unnecessary central venous catheter (CVC) use to prevent central-line-associated bloodstream infections (CLABSIs) in adults.

DESIGN: Systematic review.

METHODS: The review has been registered in PROSPERO, an international prospective register of systematic reviews. We searched PubMed, EMBASE, the Cochrane Central Register of Controlled Trials (CENTRAL), and the Cumulative Index to Nursing and Allied Health (CINAHL) from inception until August 28, 2018, to collect experimental and observational studies. We included all studies that implemented interventions to reduce unnecessary CVC use, defined as interventions aimed at improving appropriateness, awareness of device presence, or prompt removal of devices.

RESULTS: In total, 1,892 unique citations were identified. Among them, 1 study (7.1%) was a randomized controlled trial, 9 studies (64.3%) were quasi-experimental studies, and 4 studies
(28.6%) were cohort studies. Furthermore, 13 studies (92.9%) demonstrated a decrease in CVC use after intervention despite different reporting methods, and the reduction rate varied from 6.8% to 85%. Also, 7 studies (50.0%) that reported the incidence of CLABSI described a reduction in CLABSIs ranging from 24.4% to 100.0%. Data on secondary outcomes were limited, and results of the descriptive analysis showed 70%-84% compliance with these interventions, less catheter occlusion, shorter duration of hospitalization, and cost savings.

CONCLUSIONS: Interventions to reduce unnecessary CVC use significantly decrease the rate of CLABSI. Healthcare providers should strongly consider implementing these interventions for prevention of CLABSI in adults.

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