

**Abstract:**

**Background:** The use of indwelling central venous access devices (CVADs) in children can result in complications such as infection, occlusion, and dislodgement.

**Purpose:** To evaluate whether reinforcing CVAD care bundles by using a regular direct feedback system could reduce such complications in children.

**Methods:** The intervention in this retrospective interrupted time-series study was initiated in January 2019. The study was divided into the pre-intervention (October-December 2018), 3 months post-intervention (January-March 2019), and 6 months post-intervention (April-June 2019) phases. Risk difference and Poisson regression analyses were used to illustrate the effectiveness of the intervention.

**Results:** The hospital-wide central-line related bloodstream infection rate decreased from 10.0/1,000 catheter days to 4.5/1,000 catheter-days at 3 months post-intervention ( $P = 0.39$ ) and to 1.4/1,000 catheter-days at 6 months post-intervention ( $P = 0.047$ ). The central line occlusion rate significantly decreased from 30% to 12.8% ( $P = 0.04$ ) and 8.3% ( $P = 0.002$ ) at 3 and 6 months, respectively. Approximately 7% of CVADs became dislodged during the pre-intervention phase versus 8.5% ( $P = 0.364$ ) and 3.3% ( $P = 0.378$ ) at 3 and 6 months, respectively.

**Conclusion:** Reinforcing CVAD care bundles with direct feedback could significantly decrease CVAD-associated complications in terms of infection at 6 months post-intervention, and occlusion at 3 and 6 months post-intervention. Thus, reinforcement and regular direct feedback might improve care quality in children with CVADs.

**Reference:**

Chaiyakulsil C, Pharadornuwat O. Can central venous access device care bundles and regular feedback reduce central line-associated complications in pediatric patients? . Clin Exp Pediatr. 2020;10.3345/cep.2020.00143. doi:10.3345/cep.2020.00143