Reducing central catheter-associated infections in pediatric surgery clinic: Implementation of a care bundle

Dolgun E. 1,A,C,D,E,F, Okgün Alcan A.*2, A.C.D,E,F, İslamoğlu A. 3 A,B, Eroğlu B. 3 A,B, Polat M. 3 A,B, Yavuz van Giersbergen M. 1 A,D,E,F, Erdener H.A. 4 A,E,F

1. Department of Surgical Nursing, Ege University Nursing Faculty, Turkey
2. Department of Nursing, Izmir Bakircay University Faculty of Health Sciences, Turkey
3. Department of Pediatric Surgery, Ege University Hospital, Turkey
4. Department of Pediatric Surgery, Ege University Faculty of Medicine, Turkey

___________________________________________________________________________

A- Conception and study design; B - Collection of data; C - Data analysis; D - Writing the paper; E- Review article; F - Approval of the final version of the article

___________________________________________________________________________

ABSTRACT

Purpose: Central line care bundle comprises a few evidence-based interventions for improving patients' outcomes and recovery process. This semi-experimental study aimed to determine the effect of pediatric central line care bundle implementation on central line-associated bloodstream infections (CLABSI) rates.

Materials and methods: A central line care bundle was implemented for pediatric surgery patients (n=70). Baseline observations were made to determine the central line care bundle compliance of healthcare professionals for 435 catheter days. Subsequently, physicians and nurses were educated about the central line care bundle. After the implementation period, 722 catheter days were observed to determine post-implementation compliance. Baseline CLABSI rates were compared with post-implementation CLABSI rates.

Results: It was found that the entire central line care bundle compliance was 32.4% pre-implementation and 86.3% post-implementation. After education, the physicians' and nurses' central line care bundle compliance showed statistically significant improvement (p= 0.0001). There were five CLABSI events in the pre-implementation period and three CLABSI events in the post-implementation period. It was determined that the number of CLABSI decreased in the post-implementation period compared to the pre-implementation period, but this difference was not statistically significant (p= 0.207).

Conclusions: Central line care bundle implementation decreased the CLABSI rates. It is recommended the Implementation of a central line care bundle on the care of pediatric surgery patients with the central venous catheter.

Keywords: Central venous catheter, care bundle, infection

DOI: 10.5604/01.3001.0014.9281