To determine the risk factors for acquiring central line-associated bloodstream infections (CLABSI) in pediatric intensive care units” Torre et al (2018).

Abstract:

OBJECTIVES: To determine the risk factors for acquiring central line-associated bloodstream infections (CLABSI) in pediatric intensive care units and to investigate the incidence and etiology of CLABSI in pediatric intensive care units with different profiles.

METHODS: The study was a prospective cohort study in three hospitals. One of the hospitals is a large metropolitan public hospital with two pediatric intensive care units and a total of nineteen pediatric intensive care unit beds, another is a regional hospital with eight pediatric intensive care unit beds, and the third is a private hospital with fifteen beds. Patients between the ages of 1 month old and 18 years old who used a central venous catheter for over 24 hours were included. We recorded patients’ daily progress. General patient and catheter-related data were collected and used as variables. All the data were analyzed using Statistical Package for Social Science (SPSS), version 13.0, to compare patients with CLABSI with or without risk factors.

RESULTS: A total of 728 patients were admitted to the pediatric intensive care units, and 170 had a central line in place for at least 24 hours. The median age was 32 months, and 97 (57%) of the patients were males. The CLABSI incidence rate was 3.9/1000 central venous
catheter-days. The incidence among hospitals varied from 1.6 to 6.6. The overall mortality rate was 11.1%, and the CLABSI and non-CLABSI mortality rates were 12.9% and 10.7%, respectively. In multivariate analysis, independent risk factors for CLABSI were a longer duration of central venous catheter use (OR: 1.07; 95%CI 1.00 – 1.14; p = 0.019) and the use of more than one central venous catheter at once (OR: 2.59; 95%CI 1.17 – 5.73; p = 0.048).

CONCLUSION: A longer duration of central venous catheter use and the use of more than one central venous catheter at once were the main risk factors for CLABSI in pediatric intensive care units.

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Reference: