"This study aimed to determine the incidence of HCAI in a tertiary NICU and identify the risk factors." Kilic et al (2019).

Abstract:
INTRODUCTION: Health care-associated infection (HCAI) is a serious problem of neonatal intensive care units (NICUs) which is related to morbidity, mortality and increased cost of medical care. This study aimed to determine the incidence of HCAI in a tertiary NICU and identify the risk factors.

METHODOLOGY: This prospective cohort study was conducted between July 1, 2011 and June 30, 2012. All newborns admitted to the NICU except for those who died or were discharged within 48 hours after admission were included. The definitions of Centers for Disease Control and Prevention (CDC) were used to diagnose specific types of infections. The incidence, causative organisms, risk factors and mortality of HCAIs were evaluated.

RESULTS: Among 352 newborns, a total of 60 HCAI episodes were evaluated in 37 (10.5%) of the patients over 5,212 patient-days. The overall incidence of HCAI was 17%, and the rate was 11.5/1,000 patient-days. Blood stream infection (BSI) was the most common HCAI (n = 42, 70%). In a multivariable logistic regression analysis, the presence of a central venous catheter/umbilical catheter (CVC/UC), the presence of a urinary catheter, and gestational age (< 32 weeks of gestation) were identified as significant independent risk factors. Gram-negative pathogens were the most common isolates. The overall mortality rate was 4%. The HCAI-related mortality rate was 10.8%.
CONCLUSIONS: Patient care quality can be improved with surveillance of HCAI. The incidence and rate of HCAI in our NICU were found to be higher than international reports with a direct impact on mortality of preterm infants.

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