In September 2010, a CLABSI prevention bundle was introduced in our NICU, consisting of simulation-based standardization and education of a peripherally inserted central catheter insertion technique" Steiner et al (2015).

Reference:

Steiner, M., Langgartner, M., Cardona, F., Waldhör, T., Schwindt, J., Haiden, N. and Berger, A. (2015) Significant Reduction of Catheter-Associated Blood Stream Infections in Preterm Neonates After Implementation of a Care Bundle Focusing on Simulation Training of Central Line Insertion. The Pediatric Infectious Disease Journal. July 16th. .

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Abstract:

BACKGROUND: Central-line associated blood stream infections (CLABSI) are common problems in neonatal intensive care units (NICUs). Implementation of catheter care bundles has been shown to reduce CLABSI rates. We developed a care bundle aiming at establishing a uniform central-line insertion technique and improving teaching practices focusing on simulation-based techniques. The purpose of this study was to assess the impact of this care bundle on CLABSI ratesin very low birth weight infants (VLBWI).

METHODS: In September 2010, a CLABSI prevention bundle was introduced in our NICU, consisting of simulation-based standardization and education of a peripherally inserted central catheter insertion technique. Data of all VLBWI admitted to our NICU during 2010-2012 were analysed. Diagnosis of CLABSI required a positive blood culture in the presence of a central venous catheter and clinical signs of infection.

RESULTS: 526 VLBWI admitted during the study period were included into analysis. CLABSI ratesdecreased significantly from 13.9 in 2010 to 9.5 in 2011 and 4.7 in 2012 ($p<0.0001$). This significant reduction was true for the overall population, as well as for subgroups separated by birth weight. Distribution of blood culture pathogens revealed a constant absolute and relative decline of infections with coagulase-negative staphylococci from 2010 (n=43/50, 86%) to 2012 (n=12/18, 67%), as opposed by a slight increase of Staphylococcus aureus infections (n=1/50, 2% 2010 versus n=2/18, 11% 2012).

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