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## Effect of quality improvement initiative on umbilical line associated blood stream infection in neonatal intensive care unit

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**Statement of the problem:** Umbilical Line Catheterisation is the most common healthcare associated infection in Neonatal Intensive Care Unit imposing significant burden on affected neonates and on healthcare system. Umbilical catheter insertion and stay introduces risk of infection, increased hospitalisation stay and costs. Due to many factors in low-resource countries, umbilical line associated blood stream infections (ULABSI) are unaddressed and under-reported. **Aim and Objectives:** To assess Effects of QI Initiative on umbilical line associated blood stream infection (ULABSI) in Neonatal Intensive Care Unit and factors causing ULABSI. **Materials & methods:** Prospective cohort study of neonates in whom umbilical line was inserted during NICU stay from March, 2021 to February, 2022. The study was conducted in 2 phases in which phase I was data collection (3 months). Phase II was intervention period of 9 months. Implementation and sustenance were ensured by Plan-Do-Study-Act cycles. **Results:** - Total of 101 neonates, 30 neonates in Phase I and 71 neonates in Phase II were enrolled in study. Significant improvement was seen in hand hygiene compliance improved from 90% to 94% and with adequate time 0 to 85.7% then to 100%, sterile field maintenance throughout procedure from 78.6% to 90.9%, compromise of sterile field during readjustment reduced (from 35.7% to 3.2%). SOP of intravenous line maintenance based on ANTT (aseptic non touch technique) could be implemented and sustained throughout for 9 months. Overall improvement in compliance to ANTT principles in intravenous line maintenance followed a gradual decrease in HCAI in the unit from 6.9 per 1000 patient days to 3.4 and subsequently to 0.0 per 1000 patient days (median) over 9 months. **Conclusion:** - This study demonstrates effectiveness of quality improvement initiative on ULABSI in neonatal ICU. The study concludes that such QI intervention program has capability to reduce the blood stream infections.

### Biography

Himani born and raised in India, fueled by a desire to make a difference in the lives of others, she embarked on a journey of academic excellence and professional growth that would shape her career in Pediatrics. Her work on Quality Improvement Initiative on ULABSI showcased her dedication to advancing patient care and safety through evidence-based practices. Through meticulous implementation of hand hygiene protocols, sterile field maintenance, and adherence to aseptic non-touch technique principles, Himani and her team achieved remarkable results. Her forward-thinking approach and proactive mindset position her as a dynamic and compassionate pediatrician dedicated to providing the highest standard of care to her patients.