A quality improvement approach to reduce infections in neonatal intensive care

Outcomes in neonatology has improved dramatically in the last 3 decades
Improved survival- associated with increasing short term and long term morbidity
Infections- important cause of morbidity and mortality
Majority of infections are potentially preventable
Early onset sepsis related to maternal and perinatal factors
NICU professionals have little control!
Late- 72 hrs / 7 days
Late onset usually HAI and linked to infection control measures
Controllable and potentially preventable

Reported Incidence – 15-50% depending on location and gestation
25% of VLBW in the NICHD network
Incidence falling in developed economies- eg:15% in Canada (2010/11) and drop from 38/1000 admissions to 20/1000 admissions in the UK 2006-2014
Gulf region – (2013-15) 56/1000 admissions
Seasonal variations have been described
To reduce the infection, we need to have policies in place.
  • Hand hygiene policy
  • Central line policy and bundles
  • Isolation policies
  • Antibiotic policies
  • Cleaning and waste

We might have Disjoint between policy and care delivery
The metrics being used were nor accurate/fit for purpose
If we look at hand hygiene policy , it may happen:
  • Policy in place
• IC team audits showing high compliance
• But fly on the wall observation revealed a different story
• Non-compliance widespread
• Accessibility of hand gel at bedside was an issue
• Turnover of new staff – eg. Residents who were poorly Oriented
• Hand hygiene of parents not monitored or enforced
• Mobile phone use in the clinical area
• Publicity poor

So we need to work on the missing gap and improve the compliance.

Similarly, for central line bundle it may have issues in any of the following.
• Bundles in place
• IC team reporting high compliance- Wrong metric being used
• Was a tick box exercise with no empowerment of nurses
• No standardisation
• Application of antiseptic and adherence to aseptic technique suspect
• Type of antiseptic used
• Multiple breaks in to the line
• Indefinite line duration

When we do quality improvement then we can have infection free NICU.

Biography
Monika Kaushal has completed her MBBS, MD Pediatrics, DM Neonatology from FRCPCH. This year faculty of Royal College of pediatrics and child health UK granted her the honor of status of Fellow of Royal Collage of Pediatrics and child health UK (FRCPCH). She is currently pursuing her MSC in Neonatology from Southampton University, UK.