

Frequency of peripheral iv catheter in neonates with prolong stay in emergency of low-income country

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Background:

Peripheral intra venous catheter-the usual route for administrating iv antibiotics, nutrition, and other medications. It is secured by splints and adhesive dressings to the skin. However, prolong stay in the ED, and other factors result in frequent IV cannulation which increases the risk of infection and is always a painful procedure. Multiple dressings used to secure the cannula may also result in skin injury and further increase risk for infection.

Objective:

The present study aims to establish a relationship between length of stay of neonates and the number of peripheral IV catheter lines placed.

Material and Method:

This is a retrospective chart review of neonates admitted through the emergency room of a public sector hospital supported by Child life foundation, their length of stay, and the number of IV catheters used during their stay with the help of EMR data from doctors, staff, and pharmacists for each patient.

Results:

1641 neonates admitted in ED between JAN-JUN 2023.

827(50.3%) neonates stayed in ED for less than 12 hours, with 1.7 average IV cannulations per neonate.

463(28.2%) neonates with length of stay between 12–24 hours had 2.08 IV cannulations per neonate.

239(14.56%) neonates stayed for 24–48 hours, with 2.3 IV cannulations per neonate.

78 (4.75%) neonates with length of stay between 48–72 had 2.76 IV cannulations per neonate.

34(2.07%) neonates stayed for more than 72hrs, with 3.17 IV cannulations per neonate.

We established that as the need for IV medication and nutrition prolongs, so does the frequency of IV cannulations at new sites. The neonates were discharged on IV medication for a further 3–6 days, hence further increasing the need and number of peripheral IV cannulations per neonate. The frequency of change in cannulations is more in pre term as compared to term babies.

Conclusion:

Increase length of stay is directly related to increase frequency of change in IV cannulation. Umbilical vein and peripherally inserted central catheter (PICC) can be utilized for IV antibiotics, nutrition, and other medications in ED. This will help in decreasing the risk of infection and painful stimulus to the neonates.

Key words:

Peripheral intra venous catheterization, Infection, Neonates, cannulation, ED, length of stay.