

MEDICATION SAFETY IN NEONATAL CARE: ANALYSIS OF HIGH-ALERT MEDICATIONS

Background:

Medication errors are common in neonatal units. Errors with potential to cause harm are more likely to occur here due to vulnerability of this population and complexity of calculations for prescribing and preparing their medications. Errors with high-alert medications (HAM) in neonatal units have been reported. These errors bear a heightened risk of causing significant patient harm. Errors incidence is variable among studies. Having knowledge of your own HAM utilization rate could help organizations to prioritize safe medication practices.

Objective:

To analyse the use of high-alert medications in a neonatal unit as a tool to prioritize patient safety practices.

Materials and methods:

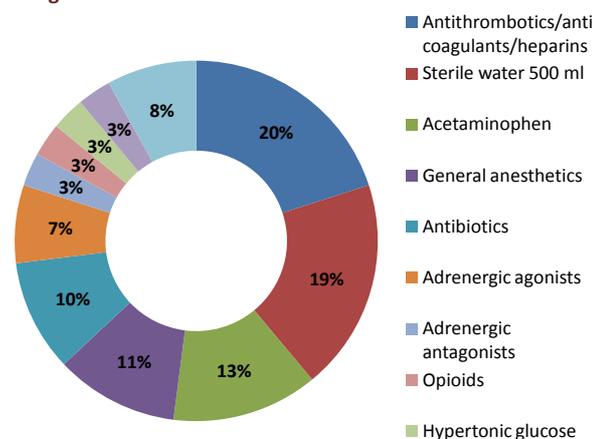
An observational retrospective study was conducted in 2015 (12 months) in the neonatal unit of a university tertiary hospital. Recorded data of admissions, hospital stays and high-alert medications consumption were analysed. The classification for HAM was according to the ISMP list and high-risk drug list adapted to the neonatal or paediatric population (Cotrina et al, 2013).

Results:

During the study period the main HAM detected were: antithrombotics/anticoagulants/heparins (20%), sterile water 500 ml (19%), acetaminophen (13%), general anesthetics (11%, mainly fentanyl), antibiotics (10%, mainly vancomycin), adrenergic agonists (7%), adrenergic antagonists (3%), opioids (3%), hypertonic glucose (3%) and antiepileptic drugs (3%). The remaining 8% corresponded to: antihypertensives, neuromuscular blocking, inotropic, sedatives, electrolytes, antiarrhythmics and insulin (Figure 1). All these drugs are frequently involved in published medication errors. General safe practices were already implemented in our hospital: protocols, training sessions and courses, summary charts for drug preparation, a dose calculator and a patient safety multidisciplinary group. Specific additional safe practices should be implemented for the HAM most frequently used.

Total admissions: 1,470 Total registered stays: 21,611 (14.7 stays per patient)
Total different drugs used: 311 High-alert medications (HAM): 72 (23.2%)
Total units consumed: 214,607 Total HAM units consumed: 23,550 (11%)

Figure 1. HIGH-ALERT MEDICATIONS



Conclusion:

Specific strategies in the safe use of antithrombotics, anticoagulants and heparins, sterile water, acetaminophen, fentanyl and vancomycin must be implemented. This is critical in neonatal units, where the use of these HAM is more common and the harm risk is higher.

References:

- J.Cotrina Luque, M.D Guerrero Aznar, C. Álvarez del Vayo Benito, E. Jiménez Mesa, K.P. Guzman Laura y L. Fernández Fernández. Lista modelo de medicamentos de alto riesgo. AnPediatr. 2013; 2079(6):360-366.
- ISMP's List of High-alert medications. Institute for Safe Medication Practices [consultado Mayo 2012]. Disponible en: <http://www.ismp.org/tools/highalertmedications.pdf>.