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REDUCING DRUG ERRORS IN NEONATAL UNIT BY IMPLEMENTATION OF A STANDARDISED CARE PATHWAY PROGRAM

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Background and aims: Drug errors cause significant morbidity, mortality and are associated with increased health care costs. Incorrect dosing is the most frequent prescribing error in the paediatric population. Introduction of Care Pathways standardises patient care and regular education updates may reduce errors.The incidence of drug-related errors in our neonatal unit (NICU) was higher. The aim of this observational study was to reduce drug-related errors by designing and implementing a Standardised Care Pathway.

Methods: Standardised Care Pathway was implemented during 2007 and 2008 in our NICU. This included dedicated pharmacy teaching at induction for all new staff followed by monthly updates for all staff, developing a unit specific Neonatal Formulary and web-based drug dose calculator.Drug error data were collected from clinical incident reports (CIR) for 14 months before Care Pathway implementation (2005 to 2006) and for 24 months after implementation (2009 to 2010). Differences between the groups were analysed using parametric tests.

Results: Before care pathway implementation there were 35 drug errors from 106 CIR compared to 20 drug errors from 176 CIR after care pathway implementation (c^2 test $p < 0.001$, Fisher's exact test $p < 0.001$); Odds Ratio 0.34 (95% CI 0.19 to 0.63, $p = 0.0005$).Incidence of drug errors was 4.36 per 1,000 cot days before care pathway implementation compared to 1.86 per 1,000 cot days after care pathway implementation; IRR (Incidence rate ratio) 0.43 (95% CI 0.23 to 0.76).

Conclusions: Implementation of a standardised care pathway can significantly reduce drug errors on a NICU.