Aside from prescribing via a computerized physician order entry system (CPOE), we evaluated the effect of cross-checking by a clinical pharmacist to prevent harm from PN order errors in a neonatal and pediatric intensive care unit (NICU/PICU).”


Abstract:

OBJECTIVES: Pediatric inpatients are particularly vulnerable to medication errors (MEs), especially in highly individualized preparations like parenteral nutrition (PN). Aside from prescribing via a computerized physician order entry system (CPOE), we evaluated the effect of cross-checking by a clinical pharmacist to prevent harm from PN order errors in a neonatal and pediatric intensive care unit (NICU/PICU).

METHODS: The incidence of prescribing errors in PN in a tertiary level NICU/PICU was surveyed prospectively between March 2012 and July 2013 (n = 3,012 orders). A pharmacist cross-checked all PN orders prior to preparation. Errors were assigned to seven different error-type categories. Three independent experts from different academic tertiary level
NICUs judged the severity of each error according to the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) Index (categories A-I).

RESULTS: The error rate was 3.9% for all 3,012 orders (118 prescribing errors in 111 orders). 77 (6.0%, 1,277 orders) errors occurred in the category concentration range, all concerning a relative overdose of calcium gluconate for peripheral infusion. The majority of all events (60%) were assigned to categories C and D (without major harmful consequences) while 28% could not be assigned due to missing majority decision. Potential harmful consequences requiring interventions (category E) could have occurred in 12% of assessments.

CONCLUSION: Next to systematic application of clinical guidelines and prescribing via CPOE, order review by a clinical pharmacist is still required to effectively reduce MEs and thus to prevent minor and major adverse drug events with the aim to enhance medication safety.

Reference:


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