

Prescribing Errors in Paediatric Inpatients

MAISOON ABDULLAH GHALEB^{1,2}, NICK BARBER²,
BRYONY DEAN FRANKLIN^{2,3}, IAN CHI KEI WONG^{1,2}

¹Centre for Paediatric Pharmacy Research, the School of Pharmacy, University of London & the Institute of Child Health, University College London, UK.

²The Department of Practice and Policy, the School of Pharmacy, University of London, UK.

³Academic Pharmacy Unit, Hammersmith Hospitals NHS Trust, UK.

Background

In recent years, governments and researchers in different countries have spent a great deal of resource in the study of medication errors¹⁻² and have shown that they cause a worrying amount of harm. Medication errors are probably the most common type of medical error. By far the majority of medication error studies have been carried out in adults. The literature available shows that medication errors are not uncommon in children, particularly dosing errors which have led to serious consequences³. No drug chart/case note review study of paediatric prescribing errors has been carried out in the UK. Consequently, the aim is to establish the feasibility of a multi-centre study investigating the incidence and nature of paediatric prescribing errors.

Methods

A review of drug charts was undertaken for 2 weeks by the senior pharmacists in each of the paediatric intensive care unit (PICU), surgical and medical wards at a large paediatric hospital. The researcher accompanied the senior pharmacists during their ward visits to these wards and recorded any prescribing errors identified. The pharmacists were given a list of events that might trigger an investigation of whether a prescribing error was involved.

Results

The pharmacists for all of the three wards have reviewed a total of 1066 medication orders. Table 1 shows the demographic details of the patients involved and the number of medication orders reviewed in each ward. Various types of prescribing errors were identified. In the surgical, medical and PICU wards, 58, 34 and 70 errors were identified respectively. 50.6% of these errors involved the use of abbreviations. If these were excluded, the most common type was illegibility and incomplete prescriptions. The latter includes not indicating the dose, route, frequency and duration of the drug, and not signing the prescription. Dosing errors were the second most frequent type and accounted for 5 (31%), 2 (15%) errors in the surgical and medical ward respectively and 6 (12%) errors in the PICU. There

was one tenfold error in the PICU involving phenytoin, of which the first dose was given to the patient; therefore patient had sufficient "buffer" to cope with the overdose and no harm was caused.

Table 1: Demographics of study participants & error rate and types of errors

Ward	Surgical ward	Medical ward	PICU ward
Male	14	10	16
Female	15	13	14
Median age (years)	2.2	6.7	3.3
Median weight (kg)	11.7	17.9	15.0
Median number of drugs prescribed	8	11	13.5
Length of stay (days)	3	5	3.5
Number medication orders written	202	193	671
Prescribing error rate (per 100 medication orders)	7.9	8.0	7.6
Illegible & incomplete prescriptions per 100 medication order	3.5	5.2	3.7
Dosing errors (per 100 medication orders)	2.5	1.2	0.9

Discussion

The results have demonstrated that data collection method is feasible to use in a multicentre study to investigate prescribing errors in paediatrics. Various types of prescribing errors were identified, and their incidences were larger than those reported in similar studies in the USA, which⁴⁻⁵ ranged from 0.47 – 2.7 per 100 medication orders. Errors related to illegible and incomplete prescriptions could be reduced by electronic prescribing.

Conclusion

There is a need to reduce medication errors in children, particularly dosing errors.

References

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