Aim Only three UK studies have previously described the role of the paediatric clinical pharmacist in reducing risk to patients¹. These involved chart review, medication reconciliation and incident reporting to collect data. Pharmacists are recognised to make regular interventions to reduce or prevent medication errors but these are usually not documented due to time/workload constraints. We wished to describe contributions to patient care/safety made by pharmacists using direct observation to gain a comprehensive overview.

Method Fourteen pharmacists were shadowed during 197 ward visits (Jun 2012–Jul 2013) on 15 paediatric wards in two UK NHS Trusts, one secondary and one tertiary care hospital. No widely accepted classification system of pharmacists' interventions is available, therefore we used the following:

Interventions medication error was identified and pharmacist intervened to prevent further doses reaching patient. Definition adapted from the American Society of Hospital Pharmacists,² Pharmaceutical Care Network Europe Foundation³ and interventions from a previous systematic review.¹

Contributions other pharmacist activities to enhance patient care. Definitions were adapted from the hospital medicines codes, NHS careers website⁴ and from a previous systematic review.¹

Results Pharmacists were observed reviewing 6,034 prescriptions for 1,371 patients. They made 3311 contributions (54.8% of prescriptions overall) and 505 interventions (8.4% of prescriptions overall). Similar rates of interventions were identified in the two Trusts (8.7% vs 7.6% of all prescriptions). More pharmacists' contributions were identified in the secondary care than the tertiary care Trust (62.7% vs. 36.8% of all prescriptions). The acceptance rate of pharmacists' recommendations by doctors was 99.5%. The most common errors intercepted included:

Omission error (28% all errors), e.g. omission of medication on admission (15.2% new patients) and omission of dose.

Wrong dose (24% all errors) e.g. overdose (e.g. ten-fold error (1400 mg cefuroxime instead of 140 mg) and misplacing of numbers (gentamicin 210 mg instead of 120 mg)).

Illegible prescribing (19% all errors), e.g. unclear drug name or dose.

Wrong frequency (5.7% all errors), e.g. prescribing paracetamol five times daily instead of four times daily.

The most common contributions included: annotating prescriptions with information (19.2% all prescriptions), e.g. rate of administration for IV drug; drug history and allergy status checking in 97% and 100% of new patients respectively and supplying medications (10% all prescriptions), mostly ready to administer IV doses from aseptic units.

Conclusion To our knowledge this is the first study to observe paediatric clinical pharmacists in their daily activities to document their role. They were shown to play an important role in improving healthcare services provided to patients and intercepting medication errors. The acceptance rate of pharmacists' recommendations by doctors was high.

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