PHARMACIST’S ROLE IN MANAGEMENT OF HIGH-ALERT MEDICATIONS IN PEDIATRIC INTENSIVE CARE UNIT, RAMATHIBODI HOSPITAL

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ABSTRACT

The purpose of this study was to develop the role of the pharmacist in the management of high-alert medications in the pediatric intensive care unit (PICU), Ramathibodi Hospital. All patients who were admitted into PICU during March and May 2007, were prospectively detected by the pharmacist with drug therapy problems (DTPs) and medication errors (MEs) using the daily medical chart review and during ward rounds with the health care team. All identified DTPs and MEs were categorized into the types of DTPs, medication use processes, and severity. Pharmacist’s interventions were provided and those acceptances were recorded. The specific high-alert medications management protocol was developed according to the nature of the DTPs, MEs, and pharmacist’s interventions.

An average patient age was 61.8 ± 54.6 months in 43 patients. Twenty four (55.8%) patients were female. The patients received 182 medication items by order of 674 medication orders. A total of 216 DTPs were identified in 37 patients (86%). An average DTP per patient was 5.1. Common DTP types consisted of 192 drug interactions (88.9%), 13 with a dosage too high (6.0%) and 6 adverse drug reactions (2.8%). The severities of the DTPs were classified into category E (harm), D and C with 3, 183 and 24 events, respectively. Of those 216 DTPs were justified as 19 MEs. The MEs were categorized by medication use process errors being 16 prescribing errors, 2 administration errors and 1 transcribing error. A total of 216 pharmacist’s interventions were provided based on 216 DTPs. A total of 210 of them were accepted by the health care team. A high alert medication management protocol for phenobarbital injections was chosen and developed according to the failure mode and effects analysis, because phenobarbital injections frequently resulted in MEs and patient’s harm, although most DTPs were drug interactions.

Although most DTPs did not cause harm to the patient, the pharmacist had a role to play in the management of DTPs and MEs. In addition, the success of implementation of the protocol was not completely investigated however the protocol seemed to improve the quality of patient’s care.

KEY WORDS: CLINICAL PHARMACY/ PEDIATRIC INTENSIVE CARE/ HIGH ALERT MEDICATION

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Abstract

This study aimed to evaluate the role of pharmacists in managing high-alert medications in the Pediatric Intensive Care Unit, Ramathibodi Hospital, between March and May 2550. Pharmacists reviewed medication orders and identified drug errors and discrepancies in drug administration processes and drug interactions. They provided recommendations to the care team and documented them according to the type of drug error. A total of 37 patients (86%) had a median of 5.1 drug errors per patient, with 192 (88.9%) adverse drug reactions, 13 (6%) drug dose errors, and 6 (2.8%) adverse drug reactions. The severity of drug errors was classified as group D (likely to cause harm), C and B, with 3, 183 and 24 drug errors, respectively. The drug phenobarbital was selected for high-risk drug management due to its high frequency of drug errors and potential for harm. Although most drug errors did not cause harm, pharmacists played a role in managing drug errors and improving patient care.

Age of patients: 43 patients, mean age 61.8 ± 54.6 months (range 24 months to 84 months).