Abstract

Analysis of drug administration by nurses in a health facility II

Author: Natalie Blizňáková

Tutor: doc. PharmDr. Josef Malý, Ph.D.

Consultant: Mgr. Ondřej Tesař

Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University

Introduction and aim: Medication errors are one of the main causes of adverse events that can lead to damage to health or death of the patient. The aim of this work was to analyze the administration of drugs by nurses to patients hospitalized in one health facility providing inpatient care in the South Bohemian region with emphasis on medication errors and their prevention.

Methodology: This diploma thesis is part of a long-term observation-intervention project, which takes place in the years 2020–2023. The surgical, internal medicine and aftercare departments were observed. Data collection for this work took place in the form of direct observation by a trained team of pharmacists and nurses, from June 28 to July 1 and from August 23 to August 26, 2021, for three consecutive days. The following data were collected: patient data (e.g., age; gender; all drugs used), data on the nurse administering the drugs (e.g., length of practice and education) and data on the actual administration of drugs (e.g., method of patient identification; nurse hygiene at drug administration, checking the originality of the drug, whether the right drug was administered to the right patient and at the right time, strength and dose, making a generic substitution; drink intake and the time lag from food). All data was anonymized and transferred to a web database and evaluated using descriptive statistics.

Results: In three selected wards, 1104 drug administrations were observed by 17 nurses (mean age 33,76 ± 9,69 years), 69 hospitalized patients, with an average age of 71,12 ± 14.24 years (median 72 years). The mean number of drugs per patient per day was 5,59 ± 4,25 and the mean number of doses per patient per day was 7,36 ± 6,34. Oral dosage forms accounted for the largest share, accounting for 969 administrations (87,77 %). Prior to drug administration, 65,92 % of nurses did not disinfect hands and 37,30 % of nurses did not identify the patient. The most commonly observed medication errors were: administration of the drug at the wrong time (4,08 %), generic substitution (1,81 %) and insufficient control of the patient's use of the drug (24,82 %). More than 25 % was administered at the wrong time interval from food.

Conclusion: Drug administration was often not performed in accordance with current recommendations and medication errors were observed that could affect patient safety. The findings were discussed with hospital management, doctors and nurses. Interventions have been proposed to correct the errors found.

Key words: drug administration, nurse, medication error.