

Abstract

Analysis of drug administration by nurses in a health facility X

Author: Kateřina Blažková

Tutor: PharmDr. Martin Doseděl, Ph.D.

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

Introduction and aims: Currently, patients are treated primarily through pharmacotherapy. As a consequence of this fact, an ever-increasing incidence of medication errors can be expected. Medication errors and the resulting adverse events can have adverse consequences for the patient and, consequently, for the entire healthcare system. The aim of this study was to analyse the whole process of drug administration by nurses in inpatient wards in a South Bohemian hospital.

Methods: This thesis is part of an ongoing research project involving the Faculty of Pharmacy of Charles University. The first data collection took place in 2021, followed by interventions towards nurses, doctors and hospital management. The data collection for this work was similarly conducted using the direct observation method for three consecutive days from 2 to 5 May 2022. Using a trained multidisciplinary team consisting of a pharmacist and a nurse, the internal medicine, surgery and aftercare departments were observed. Morning, midday and evening medication administration was observed in each ward. The accuracy of the entire process of drug administration was examined. In particular, the focus was on administering the right drug, at the right dose and at the right time. All dosage forms were observed, except for infusions. At the same time, selected procedural errors were also observed: correct execution of patient identification, compliance with hygiene procedures or execution of generic substitution. The observed parameters were filled in pre-printed standardized forms and subsequently transferred to an electronic database. The resulting data were evaluated using descriptive statistics, statistical dependencies were assessed using parametric and non-parametric tests. The final output of this work was a comparison of the resulting data with the previous stage of data collection and an evaluation of the impact of the interventions.

Results: A total of 1,323 drug administrations were observed, administered by 12 nurses, to 89 hospitalized patients. The mean age of the patients was 76.1 years (median 81 years). The most common errors were failure to identify the patient (59.9 %) and failure to perform hand hygiene (41.8 %). However, in contrast to the 1st data collection, there was an improvement in both of these errors. Other errors observed were not checking the use of medication (24.9 %) and performing generic substitution (12.9 %), which the nurse is not competent to do. Drug substitution occurred in 0.7 % of cases, the wrong dose of the drug was administered in 1.1 % and the wrong drug was administered at the wrong time in 0.4 % of cases.

Conclusions: The analysis confirmed a high prevalence of MAE (medication administration errors). The interventions implemented in most of the monitored parameters helped to improve the safety of the drug administration process. Apart from the interventions provided, digitization of some procedural tasks, such as computerization of prescription, digitization of patient identification and control of administered drugs, could be beneficial.

Key words: drug administration, nurse, medication error