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Impact of Medication Reconciliation on Patient Safety in the Cardiology Unit of a Tertiary Hospital

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ABSTRACT

Introduction: Medication errors are preventable events that can result in the improper use of medications, patient injury, and treatment failure, as well as increased costs and prolonged hospital stays. Medication reconciliation is the process of comparing a patient's medication orders with all medications the patient has been taking. This process offers several advantages, including the avoidance of drug interactions and enhancement of patient records. Patients with cardiovascular diseases often take multiple medications, which heightens the risk of medication errors. Therefore, medication reconciliation may provide significant benefits for these patients.

Methods and Materials: This study was cross-sectional and conducted in 1401, involving 97 patients from the cardiology unit of Imam Reza Hospital in Mashhad over a period of three months. All patients admitted to the ward had at least one underlying condition and were taking two or more medications at home. Within the first 24 hours of hospitalization, the patient's demographic information and medical history were recorded using a medication reconciliation form. This information was then compared and evaluated against the medication instructions provided by the treating physician. After completing the medication reconciliation process, the outcome for the medications were determined, including whether to continue the current regimen without any changes, to cease use (either consciously or unconsciously), or to continue with a modified dosage. Finally, the prevalence of medication discrepancies and the relationship between different types of discrepancies and other variables were analyzed using SPSS software version 22.

Results: Among the patients included in the study, 95.9% had experienced at least one instance of medical discrepancies, with 58.9% having at least one case of intentional drug discontinuation. Of 659 drugs registered, 399 cases (60.54%) exhibited discrepancies. Among these, 161 cases (40.35%) involved patients who stopped taking the drug, 123 cases (30.82%) involved patients who unknowingly skipped doses, and 115 cases (28.82%) involved patients who continued using the drug but altered the dosage. Furthermore, there was no significant relationship between the incidence of medical discrepancies and factors such as age, ward, date of visit, underlying disease, and source of data collection ($p = 0.13$). Conversely, a significant relationship was found between the total number of drug items consumed and the incidence of discrepancies ($p = 0.037$). The results showed that over 90% of patients experienced at least one type of discrepancies, highlighting the high prevalence of medical interactions in the cardiology unit. Notably, the most common type of discrepancy was intentional drug discontinuation, which occurred after informing the treating physician.

Conclusion and Discussion: The majority of medical discrepancies were observed in cardiovascular medications. Therefore, the medication reconciliation process has significant potential for identifying and correcting various medical discrepancies and adverse drug events. This outcome can lead to faster patient recovery and improved adherence to prescribe medications.

Keywords: Health policy, Medication reconciliation, Pharmacy

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