



Medication Reconciliation and Evaluation of Drug Discrepancies by a Pharmacist in Omid Hospital, Lali, Khuzestan

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ABSTRACT

Background: Medication discrepancies occur at the time of medicine prescription in inpatient and outpatient settings, especially at patient transfer and discharge. Pharmacists can prevent these medication errors by reconciliation of the patients' medications. Therefore, the present study was designed to evaluate medication discrepancies of a local hospital.

Methods: A medication reconciliation form was designed to fully record all patients' drug history and current therapies. All admitted patients during a six month interval, from September 2015 to February 2016, were evaluated by a pharmacist and their medical records were compared to the detailed data form.

Results: 150 admitted patients were evaluated in the study period. 51% of the patients were male and 49% female. 56% of the patients had medication discrepancies when discharged. Interestingly none of the patients had documented drug history in their medical records.

Conclusion: More than half of the patients developed a medication discrepancy at the time of discharge. We think that a drug review of the patients at the time of admission and discharge and establishing medication reconciliation processes may be helpful in improvement of health care.

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Introduction

Medication reconciliation is a process that offers a detailed list of medications which patients take during hospitalization. It also compares these medications with the medications which patients take before and after hospitalization. It identifies and corrects medication

discrepancies that can harm patients (1). Medication reconciliation can lead to safe medication use. Studies have shown that medication errors occur less frequently when these processes are implemented and patients take medicine under intensive monitoring (2). A study on 165 patients in a hospital in Denmark by Foss et al., (2004), showed a discrepancy rate of 48% before and after discharge (3). In a study by Pronovost et al., (2003), on 33 patients in the intensive care unit, 15 patients (46%) experienced medication errors at admission or after discharge when a new medication was given (4). In another

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Table 1. Rate of medication discrepancies at the time of discharge.

	Female	Male	Pediatrics	Adults	Geriatrics
Percent of discrepancy	54%	57.89%	44.23%	64.71%	56.66%

study conducted by Legg et al., (2010) on 129 patients in a teaching hospital, 80 patients (62%) experienced one or more unintentional medication discrepancies at the time of discharge (5). In a study done by Feldman et al., at Johns Hopkins University revealed that 62 patients out of 225 patients (27%) experienced at least one type of unintentional medication discrepancy during hospitalization and after discharge (6). Three of these studies which was conducted by Salanitro et al., (2012) in a University in Boston, Slovenia Knez et al., (2011) in a hospital in Canada, Vieira et al., (2006), showed that 154 patients out of 405 patients (38%) have experienced one or more than one of an unintentional medication discrepancies after hospital discharge (7-9). Several studies related to medication reconciliation showed that medication discrepancies often were unintentional and sometimes occur in 100% of the admitted patients (7, 8, 10).

The aim of this study is to identify discrepancies at the time of admission and discharge in a small hospital with no pharmacists in charge of medication reconciliation.

Methods

This study was conducted in the only hospital of a small town in north of Khouzestan province (Lali). It was permitted by Ahvaz Jundishapur University of Medical Sciences ethics committee. All patients admitted during six months of this study entered this study after signing a consent form. A detailed medication reconciliation form was designed to record their medications including supplement and herbal medicine (drug name, dosage, route of administration, strength, etc). The patient data form can be found at the end of the manuscript. Their chief complaints, demographic data, health conditions, drug history, drug allergies were recorded in the emergency room and then they were followed through admission and discharge. All prescribed medications at each time were fully recorded. This process was done by a pharmacist who on the next step checked this form with the patients' hospital medical record.

Results

Omid hospital has 32 beds and 150 admitted patients were evaluated in this study from September 2015 to February 2016. 51% of the patients were male and 49% female. 56% of the patients had medication discrepancies when discharged. Interestingly none of the patients had documented drug history in their medical records.

Table 1 shows the medication discrepancies at the time

of discharge (compared to the time of admission).

Discussion

Our findings showed a high rate of medication discrepancy. This rate was close to what Zargarzadeh et al., (2012) found in their 102 patients (67.8%) (11). While a study conducted by Akram et al., in a hospital in Singapore showed that 23% of patients experienced at least one medication discrepancy after discharge (12). Another study by Foss et al., on 165 patients in a hospital in Denmark showed 48% discrepancy rate at the time of discharge (3).

Medication discrepancy review on admission and after discharge revealed that 44.2% in the age range of 0 to 12 years old, 66.7% in the age range of 20 to 60 years old and 56.6% in the age range above 60 years had medication discrepancy, while that a study by Coleman et al., on elderly patients showed that 14.1% of patients experienced more than one medication discrepancy after hospital discharge (13).

Medication review at hospital admission and discharge prevent unwanted drug effects, reduce medication related costs and more importantly help patients to recover more quickly. A detailed medicinal file for patients by pharmacists can reduce the side effects of these discrepancies. The patient can also keep and use this file as his/her drug document and hand it to the health care team whenever admitted (14). Patients who are referred to medical centers several times during one year (patients with respiratory problems, diabetes, heart and kidney problems, etc.), are at higher risk for developing medication discrepancies (5). None of the patients had documented drug history. This could be one of the reasons the rate of discrepancies is above 50%. With our results we believe a pharmacist can be helpful in fulfilling this reconciliation.

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