

Drug-drug Interactions: The Importance of Medication Reconciliation

Dear Editor,

Adverse drug events (ADEs) are one of the important complications of medication therapy which could affect million patients each year. They can lead to life-threatening consequences and have heightening health-care outlays.^[1] Drug-drug interactions (DDIs) are an important subtype of ADEs which are often predictable. Although damaging of interactions has been recognized, the incidence of ADEs and hospitalization rate related to DDIs is still high. The reason of this issue could result from either inadequate knowledge of prescriber or incomplete information about drug history of patients.^[2]

Medication reconciliation is a process of matching a patient's medication orders to all of the drugs that the patient is currently receiving. This reconciliation should be done to avoid medication errors including omissions, duplications, dosing errors, and ADE or DDIs. Various studies have demonstrated that a lack of medication reconciliation is responsible for 46% of all medication errors and >20% of ADEs in the hospital setting.^[3]

Considering that DDIs could be a hidden risk factor contributing to ADEs and the lack of medication reconciliation implementation in the most Iranian hospitals, the main goal of this study is to investigate the incidence of DDI in internal wards of a great referral medical center in Iran. Our secondary goal is to explain the importance of medication reconciliation.

In a 6-month period, the recorded medical files of 1733 consecutive patients admitted to Firoozgar Hospital in Tehran, Iran, were retrospectively assessed. The list of prescribed drugs during hospitalization of patients was assessed by Multi-Drug Interaction Checker Unit and analyzed by Medscape 3.2 software (medscape.com). This database source content from reputable, established providers such as AHFS is easy to navigate and does not require an invasive registration to use their services.

In this study, we found that of total 1733 patients, 78.3% have at least one drug interaction. Totally, 10,309 drug interactions were reported with the mean of six interactions per patients. Regarding intensity, 7.9% had serious, 69.9% moderate, and 22.2% minor drug interactions. The major factors affecting the drug interactions in hospital wards were age, number of drugs administered, length of hospital stay, and the type of medical services.

During the past decade, drug safety has earned particular importance due to its fundamental role in patients' health. One of the important aspects of drug safety is attention to DDIs because these interactions could decrease or increase the effect of drug therapy and might lead to a serious side

effect. DDIs are commonly multifactorial in nature. Patient factors including age, multiple medications use, number of medical problems, and having more than one physician prescribing drugs and also staff factors such as poor collaboration between colleagues could lead to medication error.^[2] Therefore, the implementation of a stepwise method to preventing medication error, especially adverse drug reactions due to DDIs is very important. One of the most important strategies is the medication reconciliation. However, some studies indicate that an extensive range of barriers such as the lack of health-care provider's knowledge about this process and poor teamwork could affect medication reconciliation.^[4]

In conclusion, considering that the medication reconciliation could reduce medication error, numerous efforts should be made to encourage all health-care professionals to become familiar and perform a medication reconciliation process.

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CONFLICTS OF INTEREST

There are no conflicts of interest.

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