

ORIGINAL RESEARCH ARTICLE

Management of Potential Drug Interaction in Community Pharmacies: A Prescription Based Survey

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ABSTRACT

Prescription based drug interaction is clearly a major public health issue that is on the rise. Concomitant use of several drugs by cardiac patients is often unavoidable. In these patients, pharmacokinetic drug interactions are very likely. The current study was designed to evaluate these interactions in patients hospitalized in various hospitals of Indore, India .A questionnaire was designed and used to collect study data. Overall information extracted from 100 prescriptions from September 2011 to November 2011. The extent of occurrence and frequency of potential pharmacokinetic interactions were studied carefully and analysed by the means of different medical and pharmaceutical websites, medical software and Pharmacological books. All of the pharmacokinetic drug interactions were evaluated in terms of mechanism, significance, and severity. Mechanisms of the pharmacokinetic interactions were related to metabolism (18.24%), absorption (38.26%), elimination (08.34%), distribution (22.73%) and unknown (12.43). Findings obtained in this study revealed that there was a significant number of severe (13.79%), moderate (38.72%), minor (23.24%) and no interaction (24.25) among the collected prescriptions. This highlights the necessity for the presence of a drug specialist (i.e. pharmacist) to rationalize the therapy and minimize major interactions. Better knowledge regarding these factors may help healthcare society to identify patients at high risk for prescription based drug interaction and also for designing the more effective dosage regimen for patient compliance and rational use of medicines.

Key words: Prescription, Pharmacokinetic; Drug interaction, Cardiac Patients.

INTRODUCTION

Prescription based drug interaction is clearly a major public health issue that is on the rise. Concomitant use of several drugs by cardiac patients is often unavoidable. In these patients, pharmacokinetic drug interactions are very likely. The current study was designed to evaluate these interactions in patients hospitalized in various hospitals of Indore, India .A questionnaire was designed and used to collect study data. Overall information extracted from 100 prescriptions from September 2011 to November 2011. The extent of occurrence and frequency of potential pharmacokinetic interactions were studied carefully and analysed by the means of different medical and pharmaceutical websites, medical software and Pharmacological books.

MATERIALS AND METHODS

The study was carried out in India. The object of this survey was to evaluate the therapy for the betterment of various cardiac patients, who were reported across from different states of India. Total 100 patients reported during survey from September 2011 to November 2011.

RESULTS AND DISCUSSION

Management of potential drug interaction in community pharmacies: a prescription based survey on heart patients in Indore. The total numbers of 100 prescriptions were collected from different areas of Indore. The prescriptions were given by different doctors and physicians for various patients for different diseases. All prescription were studied carefully and analyzed

by the means of different medicinal websites, different software and various medicinal and pharmacology books. We found some of these prescriptions having drug-drug interaction which is characterized as minor, moderate and major. The use of computerized drug interaction screens built into community pharmacy computer systems and used by many on-line, point-of-sale prescription claim adjudication systems, have become an important tool for pharmacists in preventing negative outcomes associated with drug drug interactions.

Table 1: Age and gender wise distribution

S. No	Gender	Age (20-40)	Age(41-60)	Age (>60)
1	Male-79	7	52	31
2	Female -21	0	7	3
3	Total-100	7	59	34

Table 2: Diseased wise distribution

S. No	Disease	No of patients
1	Hypertension	21
2	CHF	62
3	Angina	7
4	Arrhythmia	0
5	Hyperlipidemia	3
6	Hypertension +angina	7
	Total	100

Table 3: Types of drug-drug interaction

S. No	Type of drug interaction	No of prescriptions	% of drug interaction
1	Severe drug interaction	13	13%
2	Moderate drug interaction	52	52%
3	Minor drug interaction	0	0%
4	No drug interaction	35	35%
	TOTAL	100	100%

PRACTICE TO DIMINISH THE RISK OF DRUG-DRUG INTERACTIONS

- ❖ Consult the doctor or pharmacist before taking any new drugs, including over-the-counter drugs and dietary supplements, such as medicinal herbs.
- ❖ Keep a list of all drugs being taken. Periodically discuss this list with the doctor or pharmacist.
- ❖ Keep a list of all disorders. Periodically discuss this list with the doctor.
- ❖ Select a pharmacy that provides comprehensive services (including checking for possible interactions) and that maintains a complete drug profile for each person. Have all prescriptions dispensed in this pharmacy.
- ❖ Learn about the purpose and actions of all drugs prescribed.
- ❖ Learn about the possible side effects of the drugs.
- ❖ Learn how to take the drugs, what time of day they should be taken, and whether

they can be taken during the same time period as other drugs.

- ❖ Review the use of over-the-counter drugs with the pharmacist. Discuss any disorders present and any prescription drugs being taken.
- ❖ Take drugs as instructed.
- ❖ Report to the doctor or pharmacist any symptoms that might be related to the use of a drug.
- ❖ If seeing more than one doctor, make sure each doctor knows all the drugs being taken.

CONCLUSION

In the study the interaction severity was found to be low moderate as well as severe. Clinicians should continue to monitor these drugs in prescriptions carefully for any type of interactions between drug-drug and drug-food interactions. And, a rapid change in laboratory values should alert health care providers to action by identifying and possibly removing risk drugs. In India, off late many community pharmacists are using computers for business operations. Along with business software, if drug interaction software is also loaded in their system, it becomes easy for them to review and report the life threatening drug – drug interactions to the doctors. Efforts for an improved vigilance and an increase of patient awareness are needed.

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