ABSTRACT

Drug related morbidity and mortality due to drug-drug interactions is increasing day by day. By implementing proper interventions, they could be minimized or prevented and this could enhance the quality of treatment and also the patient safety. If the patterns and prevalence of DDIs was accurately determined, the interventions aimed at reducing the DDIs are likely to be more effective. Even today, research on drug-drug interactions is very limited in India. The prevalence and pattern of DDIs has not been well documented and the development of the strategies that have been used for the prevention of DDIs are still in infancy stage in India. Hence in this study, I made an attempt to assess the prevalence and severity of possible drug-drug interactions at a tertiary care teaching hospital in India.

Data was collected by reviewing the inpatient case records from the medical records department. Data was collected by using a previously designed standard data collection proforma for this specific project. Cases of both the genders and all the age groups (Pediatrics, Adults & Geriatrics) who were treated in the following departments that include General medicine, Pediatrics, Psychiatry, Gynecology, Chest & TB and Orthopedics were included in the study in which the prescriptions were observed with polypharmacy (≥2 drugs). Case records that did not met the inclusion criteria along with the case records of ambulatory patients were excluded from the study. Drugs prescribed in each prescription were entered into the software Micromedex 2.0 in order to analyze for the identification and severity assessment of possible drug-drug interactions.

In this study, the prevalence was found to be 53.9% and the department of General Medicine was observed to be with more number of possible DDIs which was mainly due to the prescriptions with polypharmacy and multiple disease conditions. Majority of the possible drug-drug interactions were observed in the age group 51-60 years followed by the age group 41-50 years. Polypharmacy played a significant role in this study and majority of the prescriptions were observed with major polypharmacy. A total of 1125 possible drug-drug interactions were observed in this study and majority of the interactions were of moderate severity followed by major and minor. Majority of the patients who were observed with possible drug-drug interactions were found to be stayed for 6-10 days. Most of the possible drug-drug interactions were found to be observed in the prescriptions which were prescribed during the admission on day-1 followed by
during stay and at discharge. The drug combinations of Calcium + Iron, Atorvastatin + Clopidogrel and Metronidazole + Ondansetron were found to be the most frequently observed possible drug-drug interactions of minor, moderate and major severity respectively.

In India, clinical pharmacist should become a part of the health care team in order to provide better pharmaceutical care and they should focus on the prevention of polypharmacy as it may finally result in the reduction of the occurrence of DDIs. Appropriate surveillance systems have to be implemented for the monitoring of DDIs and the role of technology in providing the pharmaceutical care must be explored by using the available upgraded drug information softwares. Clinical pharmacists should directly involve in the prevention of DDIs which may indirectly show influence on the reduced health care costs.