

3rd International Conference on **Clinical Pharmacy**

December 07-09, 2015 Atlanta, USA

Comparison between the incidence of medication errors in four different hospitals in the Middle East

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Introduction: The National Coordinating Council for medication error reporting and preventing defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the drug is in the control of a health care professional, patient or consumer. The Institute of Medicine reported that medication errors are considered the 8th leading cause of death in the USA. Medication errors result in at least 1 death per day, 1.5 million people injured per year and >7,000 deaths per year in the USA. These errors are also associated with 0.86 to 2.9% of ER visits and 0.7 to 17.7% of hospital admissions.

Objective: To detect the incidence of medication errors in four different hospitals with different subspecialties; a cancer center, a tertiary hospital, a children's hospital and a cardiac center in two different countries (Egypt and Saudi Arabia) in the Middle East.

Methods: A total of 100 medical files were selected randomly from each hospital and all medication orders were reviewed and assessed using the drug therapy assessment worksheet questions to detect correlation between drug therapy and medical problems, appropriate drug selection, drug regimen (dosage and interval), therapeutic duplication, drug allergy or intolerance, adverse drug events and drug interactions. The incidences of medication errors were compared between the four hospitals.

Results: The highest incidence of medication errors was detected in the cancer center, with an average rate of 9 medication errors per file followed by the tertiary hospital (7 medication errors per file), the children's hospital (6 medication errors per file) and the cardiac center (4 medication errors per file). Inappropriate drug regimens (dosing and intervals), drug interactions and lack of therapeutic monitoring were the major causes of medication errors in all hospitals. All of the medical files showed medication errors when compared to ideal practice.

Conclusion: The study concluded that chemotherapy is associated with the highest incidence of medication errors amongst specialized therapeutic areas. Clinical pharmacists can play a vital role in detecting and preventing medication errors and this can be achieved by their involvement in the clinical rounds, drug and poison information centers and educational programs to inform the medical team about the detected medication errors.

Biography

Abuelsoud Nermeen Nabeel has completed her MSc in Clinical Pharmacy from Ain Shams University and her PhD in Clinical Pharmacy from Ain Shams University. She participated in the establishment of clinical pharmacy services in Cairo in 1997 and over a period of 18 years, she succeeded in establishment of the clinical pharmacy concepts in many different hospitals in two countries (Egypt and KSA) in the Middle East. She is a Clinical Pharmacy Consultant, Prince Sultan Cardiac Center, KSA, Collaborative Assistant Professor in Pharmaceutical Care Department, Faculty of Pharmacy, Qassim University, KSA and Clinical Pharmacy Preceptor for interns in pharm-D programme, Faculty of Pharmacy, Qassim University. She has published many articles in many journals; *Drug Information Journal* and *Saudi Pharmaceutical Journal* and also had many poster presentations in many international conferences on clinical pharmacy. Her poster presentation won the first position in the First International Clinical Pharmacy Conference in Saudi Arabia, 2015.

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