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**Short communication**

**MEDICATION PRESCRIBING ERROR: A SOURCE OF CONCERN**

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**ABSTRACT**

**Background:** There are different types of medication errors which are experienced by the pharmacists in hospital settings. In Pakistan number of attending Pharmacist per bed is low and is a major cause of fatal and life threatening events.

**Aim:** The aim of present retrospective study was to assess the extent and type of medication error in inpatient medical charts.

**Method:** The physician's orders were analyzed by the clinical pharmacists in hospital setting during 2007-2008 in different wards. Various types of prescription errors had been reported and expressed in percentages.

**Result:** Out of 450 medical treatment charts, 381 medication errors were found in 350 charts. The highest rate of error was the wrong dose (25%) prescribed by physicians. Infrequent errors were lack of dosage frequency, protocol for treatment, dosage form and continuation of antibiotic after prescribed treatment days. However, most frequently occurring serious errors were wrong dosing frequency (17%) and no dose adjustment according to creatinine clearance (12.8%). 3.41% errors were related to directions for use of medicines.

**Conclusion:** Our study has demonstrated large number of prescription errors and high proportion of them were of serious nature therefore careful counter checking of medical charts is suggested.

**Keywords:** Medication error, Prescribing guidelines, Protocol.

**INTRODUCTION**

Medication error is the most frequently occurring incidence in the healthcare system.[1] These errors occasionally causes any emergency conditions, life threatening incidences or affects patients' quality of life.[2,3] General practitioners commonly do not follow the prescription guidelines.[4] These prescribing, dispensing or administering errors are avoidable.[5] various approaches have been suggested to control these medication errors which emphasizes on the collaborative approach to ensure proper contribution by each healthcare personnel involved in healthcare system.[6] Pharmacists actively play their roles in hospital settings especially during wards rounds.[7] Hospital pharmacy is the area which fulfills their urge to impart their skill and knowledge at the fullest. Their command on pros and cons of particular drug action provide them opportunity to serve the patient in true sense .[8] A large no. of data is available which shows that pharmacist as a custodian of drugs save the lives of patients. Pharmacists serves as a bridge between doctor and patient, therefore pharmacists counter checks the discrepancies contributed by doctors and nurses[9] Whether it may be an inpatient medical chart or outpatient prescription there are numerous chances of type A,B,C,D errors.[10,11] To avoid these errors a lot of researches and reviews have established various approaches to control these medication errors especially emphasizes on the collaborative approach that is the steps to ensure proper contribution by each healthcare personnel involved in healthcare system [6] especially the inclusion of clinical pharmacist in wards round with doctors. It also highlights the importance on taking advantage of recent advances, interventions and technologies [3]

Every pharmacist faces hindrances and noncooperation from other healthcare providers[11,12] therefore the benefits from pharmacists' skill are not being fully utilized in

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Table 1: Medication errors observed during clinical wards rounds

Pakistan.[13] However, no one can deny the fact that scrutiny of medication order by pharmacist during clinical rounds and at the time of dispensing can largely minimize the chances of undesirable events[7, 14]

1. The aim of present retrospective study is to identify the areas where the chain of collaborative approach among doctors, nurses and pharmacist breakdown and results in adverse events causing reversible or irreversible harm to the patient.

2. To analyze the extent and type of medication errors in inpatient medical charts which are observed by the clinical pharmacists in hospital setting

**METHODOLOGY**

The current study has been conducted from Jan2007 – Jan 2008, in different wards (GIT, CW, MICU, CCU)of renowned tertiary care hospital of Karachi. The mode of ordering medicines to patients was based on hand written instructions by doctors on patients medical history file. The nurses than put down the order in prescription for pharmacist to dispense in wards. The clinical pharmacist also participated in clinical rounds along with the physicians and reviewed patient history, laboratory reports as well as physicians orders during this period and reported medication errors identified by them. Total 450 medical treatment charts have beenchecked, analyzed and different types of medication errors were studied and expressed in percentages.

**RESULT**

In our present stud we have observed different types of medication errors. Prescribing wrong dose (28%) was the most common medication error followed by the wrong dosage frequency (19%) .It was found that practitioners did not state the strength of preparation in 16% of prescriptions among all which was followed by either wrong strength (15%) and no dose adjustment according to creatinine clearance (14%).

TYPES OF ERRORS	NO. OF ERRORS	% OF TOTAL ERRORS
1.Prescribing two antibiotics belonging to same generation/class	05	1
2.Prescribing medicines have samegeneric with two different brand names	03	<1
3.Wrong combination of antibiotics	04	1
4.Strength of preparation not stated	62	18
5.Wrong strength of medicine	52	15
6. Wrong dose of drug	97	28
7.Dosage frequency not mentioned	01	<1
8.Wrong dosage frequency	66	19
9.Dosage formnot mentioned	02	<1
10.Wrong dosage form	04	1
11.Confusion on resembling namesof drugs	04	1
12.Continuation of antibiotic afterprescribed treatment days	02	<1
13.No dose adjustment accordingto creatinine clearance	49	14
14.No dose adjustment according topatients' age and weight	06	2
15.Spelling errors or poor legibility	09	
16.Protocol for intake medicineis not mentioned	02	<1
17.Wrong protocol for intake of medicine	01	<1
18.Wrong dose of vit. and supplements	05	1
19.Wrong drug/ missing drug	05	1
20.Untidy treatment charts	02	<1
21.Drug interaction	0	

## DISCUSSION:

Bandresetal studied low level of prescription errors however they found incomplete prescriptions were in high frequency.[15]Ajemigitseetal found that lack of attention on part of doctors was the most errors in prescriptions.[16] Merino etal observed high frequency of prescription error at prescription and administration stage.[17] Our findings were further substantiated by the outcomes observed by Alshaihetal that is 17% of total prescriptions were unclear due to poor hand writing.[18]

Abbasinazarietal showed that highest error rate was found in prescriptions having 27 % wrong frequency, 9.5% forgot to discontinu.[19] In one of studies conducted by Alsulamietal it was observed that most common tpe of prescribing error were incorrect dose, wrong frequency and strength.[20] Many previous studies have reported prevalence of dispensing, administering and transcribing errors.[21,22]

Insufficient data availability related to medication error as well as non implementation of prescribing rules have potentiated the need for adopting necessary measures to ensure patient safety.[23]

Karthikeyan andLalitha in his studies indicated administration errors (28.35%) were most frequently occurring error.[24]Gouyonetal observed high frequency of dosing error in his studies.[25]

## CONCLUSION:

Since pharmacists serves as a bridge between doctor and patient therefore pharmacists can play vital role in avoiding discrepancies contributed by doctors and nurses. Most of the prescription errors occurs during ordering and transcribing and these initial errors could be effectively inhibited by inclusion and active participation of Pharmacists, because being expert they can provide valuable advises in careful dispensing as well as administration of drug.

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