

Short Communication

Pharmacotherapy Analysis of Patients Admitted in Medical Ward: Role of the Pharmacist!

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ABSTRACT:

The purpose of this study was to evaluate pharmacotherapy provided, to identify drug related problems and to highlight the role of pharmacist at ward level in tertiary care hospitals. Drug related problems are quite common in hospitalized patients and can result in patient's morbidity, mortality, and increase the expenditure of therapy and lengthen the hospital stay. A total of 30 patient's case histories were recorded in medical Ward at Hayatabad Medical Complex, Peshawar on the standard designed questionnaire. The percentage occurrence of different disease like diabetes mellitus (26.66%), Malaria (16.6%), COPD (10%), Stroke (10%), T.B (6.6%) and CHF (6.6%) were determined. Diabetes mellitus was higher among diseases. The drugs with potential drug interactions were dexamethasone, furosemide, omeprazole, aspirin, rifampicin. Interventions like addition of new drug was highest among the recorded interventions. With the focus on individual patient, extensive and responsible clinical pharmacy services will be a key segment of present-day health care.

Keywords: Drug related problems, pharmacist, drug interactions, and intervention

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INTRODUCTION

Drug-related problems (DRPs) are pharmacotherapy problems that truly or potentially have an impact on desired health outcome^[1]. This is most likely due to patients receiving multiple drugs to control their medical conditions, all of which promote DRPs. Several factors could put in to DRPs. In geriatrics, co-morbidities, poor medication adherence and poly-pharmacy are potential basis of DRPs^[2, 3].

Drug related issues could be characterized by any occasion or condition including drug therapy which interferes on the other hand conceivably, interferes with the patient, attaining an ideal outcome of desired therapeutic goal. Drug related problems are frequent and may result in low quality of life, with even high morbidity and mortality.^[4] Drug therapy has become so difficult that no one professional is expected to optimize the drug therapy and control drug related problems alone. Drug-related morbidity and mortality are often preventable, and pharmaceutical services can reduce the number of Adverse Drug Reactions (ADRs), the length of hospital stay and the cost of therapy.

Pharmacists must abandon factionalism and adopt patient-centered pharmaceutical care as their philosophy of practice^[5]. In the current Case, different histories were collected from patients, which have different diseases. The disease incidence, drug-drug interactions, and interventions made by the concern physicians were compiled.

MATERIAL AND METHOD

A standard questionnaire was designed, for recording of patient’s case histories which include demographic information, chief complaint, Drug-therapy provided in the hospital, main cause of hospitalization, concomitant disease, side effects, adverse effects, drugs interactions and other relevant information. A total of 30 patient’s case histories were recorded in medical unit at Hayatabad Medical Complex from December 2013 to February 2014. The pertinent information was recorded with respect to demographic information, disease incidence and drug related problems like drug interactions, ADRs and lack of education.

RESULTS AND DISCUSSION

A total of 30 patients drug therapy were assessed during the 3 months study period. The most frequent DRP, drug-drug interaction were noted. On the basis of evaluation of different case histories, results are summarized in the table 01, 02, 03 respectively .Out of 30 patients, (46.6%) were male and (53.33%) were female. Rate of illness was higher in female. The most prevalent disease was diabetes. The malaria was common in male while diabetes in female .The major diagnoses include Diabetes Mellitus,Stroke, Malaria, Chronic Obstructive Pulmonary Disease, and Chronic Heart Failure. The demographic details of the patients are summarized in Table 01.

The demographic details of the patients are listed below in Table: 01

Table :01 Demographic details of the study patients	
Characteristics	Numbers (n=30)
Gender	Male 14
	Female 16
Age group (Years)	Years
Mean	49.23
Range	62

The clinical data and main causes of hospitalization and concomitant diseases are given in Table: 02

Case No	Sex	Age (years)	Cause(s) of hospitalization	Concomitantcondition(s)
1	Female	40	Pericardial effusion	Nil
2	Female	60	DM-1	Asthma
3	Female	45	DM-2	HCV
4	Female	80	Stroke	Diabetes mellitus
5	Male	35	Scarlet fever	Nil
6	Female	25	Measles	Nil
7	Female	75	Diabetes mellitus-1	Nil
8	Female	30	Asthma	Nil
9	Female	40	Diabetes mellitus-1	Nil
10	Female	50	CRF	Hypertension

11	Male	23	Malaria	Nil
12	Male	18	Malaria	Nil
13	Male	75	Cerebral malaria	Tuberculosis
14	Female	21	Drug poisoning	Nil
15	Female	50	Diabetes mellitus-1	Hypertension
16	Male	64	Malaria	Nil
17	Male	70	CHF	Nil
18	Male	35	Poisoning	Nil
19	Male	70	Hemorrhagic stroke	Pneumonia
20	Male	20	Diabetes mellitus-1	Nil
21	Male	60	Pulmonary edema	Fits
22	Male	35	Malaria	Nil
23	Female	65	COPD	Nil
24	Male	23	Diabetes mellitus-1	Nil
25	Female	68	Tuberculosis	Nil
26	Female	65	CHF	Nil
27	Female	60	COPD	Kidney stone
28	Male	50	Ischemic stroke	Nil
29	Female	62	Tuberculosis	Nil
30	Male	63	Anemia	Nil

Table: 03 Potential drug interactions [6, 7]

S.No	Interacting drugs	Effects	Class
01	Dexamethasone +Aspirin	Increase risk of ulceration	Significant
02	Dexamethasone+Furosemide	Increase risk of hypokalemia	Minor
03	Dexamethasone+Glebencimide	Decrease the activity of glebenclmide	Minor
04	Rifampicin +Dexamethasone	Increase the risk of ADR e.g. hypertension	Serious
05	Glimepiride +Ramipril	Increase risk of hypoglycemia	Significant
06	Furosemide+Sulbutamol	Increase risk of Hypokalemia	Significant
07	Furosemide+Chlorothizide	Increase risk of Hypokalemia	Significant
08	Furosemide+Mefanemic acid	Increase nephrotoxicity	Significant
09	Ciprofloxacin +Omeprazole	Decrease the effect of ciprofloxacin	Significant
10	Rifampicine+Omeprazole	Decrease the level of omeprazole	Significant
11	Quinine+Arthmeter	Increased risk of arrhythmias	Significant
12	Levofloxacin+Quinine	Increased risk of ventricular arrhythmias	Significant

Table: 04 Pharmacist interventions

Type of intervention	Frequency	Percentage
Drug choice		48.57%
Addition of new drug	17	
Dosing		2.85%
Dose modification	01	
Dosage form modification	00	
Drug interactions	12	34.28%
Others *	15	42.85%

* Non-compliance, ADRs

CONCLUSION

Drug related morbidity and mortality in hospitalized patients is an integral issue which prolongs the stay and increase the expense of medicine. Medication related issues can interfere with the accomplishment of desired therapeutic objectives. The most widely recognized DRP that were watched, include drug interaction which may cause morbidity and at times even mortality; poly-pharmacy which is a financial load for patient sake; therapeutic duplication; expense related issues and excessive dose. Medication therapy could be advocated or more issues might be tackled by putting pharmacist in the health care team in hospital.

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