CLINICAL PHARMACIST INTERVENTION ON DRUG RELATED PROBLEMS IN EPILEPSY PATIENTS

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INTRODUCTION

Drug Related Problem(DRP) is an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes.

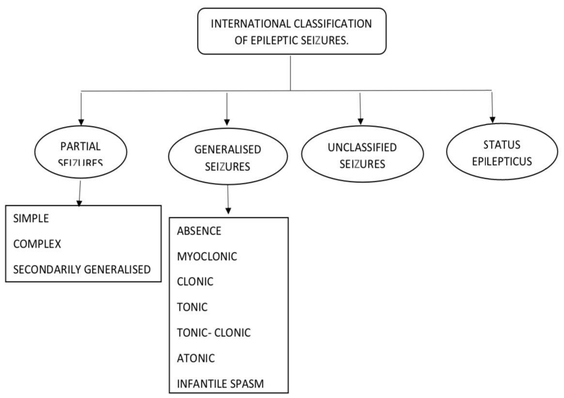
IMPORTANCE OF MONITORING DRP'S:

DRP's are of major concern in view of physical, psychological and economic burden to the patients. Thus, optimization of drug therapy by clinical pharmacist by preventing DRP in Epilepsy patients may influence health related costs, enhance patient quality of life and thereby potentially save lives. The primary goal of pharmaceutical care is to improve an individual patient's quality of life through the achievement of definite , medication related therapeutic outcomes. The outcomes sought are-

- Cure of patient's disease.
- Elimination or reduction of a patient's symptomology.
- Arresting or slowing disease process.
- Prevention of the disease.

EPILEPSY:

Epilepsy is chronic neurological disorder characterized by periodic reoccurrence of seizures with or without convulsions. Seizures that are prolonged or repetitive can be life-threatening.



OBJECTIVES

To identify the type and cause of Drug Related Problem's (DRP's) in Epilepsy patients' by Clinical Pharmacist and provide appropriate resolutions in a tertiary care setting.

METHODS

A Prospective Observational study was conducted by clinical pharmacist among 288 Epilepsy patients for about nine months period in Neurology department of a tertiary care hospital.

INCLUSION CRITERION:

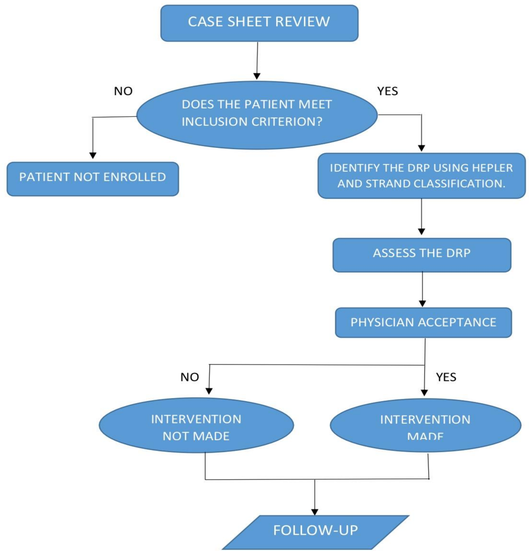
- In- patients of both sexes with Epilepsy.
- Patient on any medication and multiple comorbidities.

EXCLUSION CRITERION:

- Pregnant and Lactating women.
- Poisoning and accident cases.
- Out-patients.

Data collected were analyzed for descriptive statistics along with the health care team.

STUDY PROCEDURE



SOURCES OF DATA:

- **Hepler and Strand classification-** To classify the DRP's.
- **PCNE classification(V8.03)-** To identify the causes of DRP and acceptance rate of the intervention.
- **Truven Health Analytics-** Micromedex solutions for identifying Drug-Drug Interactions in Epilepsy patients.
- **Adverse Drug Reaction probability scale (Naranjo's)** for identifying the probability of adverse effects.

RESULTS

Among 288 Epilepsy patients a total of 432 DRP's had been reported. The rate of overall DRP's was found to be on an average of 1.50 DRP's per patient. The frequency of DRP's was higher in elderly patients due to poly-pharmacy and presence of multiple co-morbidities. The total acceptance rate of interventions by the physician was 58%.

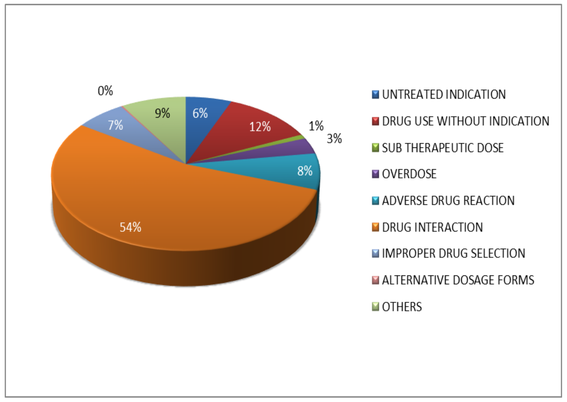


FIG. 01- Distribution of all types of DRP's among Epilepsy patients.

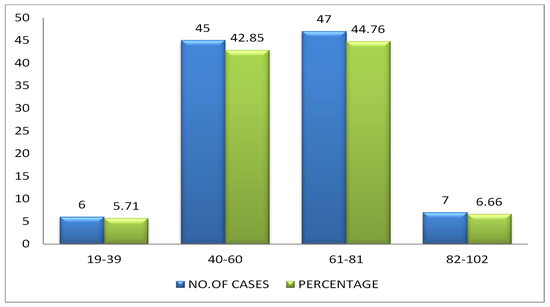


FIG. 02 - Age wise distribution of Epilepsy patients.

DRUGS INVOLVED	TYPE OF DRP	SEVERITY	EFFECT	INTERVENTION
Carbamazepine + Isoniazid	Drug interaction	major	Isoniazid inhibit carbamazepine metabolism	Substitution of Carbamazepine with other antiepileptic drug
levetiracetam	overdose		neurotoxicity	Reduction in the dose of the Levetiracetam
Valproate sodium	Adverse drug reaction		thrombocytopenia	Reduction in the dose of valproate sodium

TABLE 01- Interventions made by the Clinical Pharmacist in Epilepsy patients.

DISCUSSION

From 288 patients, females reported about 169 (58.7%) and 151 (52.4%) patients with total comorbidities. The main cause of DRP was non-adherence of nearly three-fourth (72.2%) of the Epilepsy patients, as a result of forgetfulness (58.9%) and inability to get medicine (10.2%).

A similar study was conducted on "Medication Belief and Adherence among Patients with Epilepsy" by Yirga Legesse Niriayo, Abraham Mamo, Kidu Gidey and Gebre Teklemariam Demoz in which off 292 Epilepsy patients, 179(61.3%) were male and 114(39%) had comorbidities. Almost two-thirds (65.4%) of the patients were non-adherent to their medications.

CONCLUSION

- The causes that resulted in DRP to occur in Epilepsy patients are poly-pharmacy, medication with narrow therapeutic range and non-adherence of the patient.
- It was identified that major cause for extension of hospitalization was occurrence of DRPs.
- The results suggested that lack of information on patient's past clinical history has led to development of Drug Interactions. Therefore, medication reconciliation represents a process that can minimize Drug Related Problems.
- Pharmacist's, in collaboration with multi-disciplinary team, demonstrated a positive impact by identifying, intervening and resolving the DRP's among Epilepsy patients'.
- This would help to reduce DRP induced morbidity and mortality, improved adherence to the medication, enhanced the patient compliance and health related outcomes.

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