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AUDITING AND DRUG UTILISATION PATTERN IN NEUROLOGICAL DISORDERS

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ABSTRACT

Monitor the Irrational prescribing procedure and the creation of drug trend tracking activities as a method for assessing the production, delivery and delivery activities of medicines toward neurological disorders. The next retrospective research is to be conducted over a six-month span on treatment and medication usage in the tertiary hospital's indoor neurology clinic with data obtained from 180 patients. Requirements are evaluated for the reason score and reason status using the criterion of Beers and Phadke as a method for assessing the effectiveness of the drug for all patients' ages.

KEYWORDS: drug utilisation, rational, semi-rational, irrational, unnecessary drugs, hazardous drugs.

INTRODUCTION

For a variety of factors in recent years, the in patient usage of medications against psychiatric conditions has become a significant concern. In spite of the emptor of safety favors and procedures, neurological medications pay for a large proportion of the rise in prescription prices, mostly in hospitals. One reason for rising harmful effects involving patients of various ages is the overuse and misuse of medications for neurological disorders.

These problems contribute to rigid prescribing stratagems, various strategies and specific outgrowths, in hospitals in many nations. Throughout the conditions that accompany the effects of the hospital's medication stratagems, controlling the usage of medications is quite relevant. Of this reason medical reports may be reviewed, although this approach must be quite thorough.

The overall goal of the study on substance usage will be to assess whether or not drug treatment is appropriate. The core initiative of study into the usage of medications is to allow the ethical application of narcotics available in general. The reasonable usage of a medication requires the prescribing of the most appropriate dosage of a well recorded clinical-medicine at the government's enforced quality, given that the correct knowledge is received. The substance intake criteria found can be linked to the existing opioid rehabilitation standards and guidance.[1-4]

For a duration of eight months, the retrospective analysis is carried out at an indoor medical neurologist's laboratory in a tertiary hospital for prescribing and substance usage examinations during which details was obtained from 180 patients. The candidates are assessed and evaluated for their rationality ranking and rationality score using both the Breweries and Phadke tests as a method for determining the validity of the drug in a patient's age.; A framework of different points of view that takes into consideration prescription medication and illness preference and dosage of such medications, unsafe medicines, inappropriate medications and formulations and the usage of harmful products.[7-9]

The most cases observed in our study were among the following neurological disorders,

- Alzheimer's Disease (Memory Disorders),
- Epilepsy,
- Stroke,
- Parkinson's Disease.

Beers Criteria

Beers Criteria are guidelines for health professionals which help to ensure the safety of the prescription of medicines for elderly adults. These guidelines are widely referred to as a "Beers List".

Phadke's criteria

The requirements of Phadke are a method for drug help that has been established and not commonly accepted in India. It counts for a given medication. Many of the population statistics are determined depending on the distribution of the departments / patients, whereas the status of medications is measured on the basis of the percentage ranking. Assessment of the causality of adverse medication reactions recorded on the usage of

neurological medicines in patients treated with medications.

AIM

Track inappropriate drug use against neurological conditions and establish pattern-monitoring methods for treatment and include a method for assessing the prescribing, processing, and delivery patterns in neurologic conditions and make it safer and more efficient and encourage the appropriate usage in drugs.

OBJECTIVES

Prescription of medications against psychiatric diseases in the health system will be emphasized. Data from patients are obtained based on organized questionnaires.

Our emphasis is on

- the number of medicinal products prescribed by the medicinal term,
- the number of prescription medications,
- the number of EDL medicines.
- The statistics of the patient's age, — the number of medicinal products prescribed by the generic medicines.
- The number of patients inquired for the following: length of illnesses, personal experience, or use of pharmaceuticals,
- number of patients who were satisfactorily or unhappy with health services,
- number of patients who obtain dose directions,
- number of patients recommended for study;
- the number of patients recommended for testing

METHODOLOGY

Study design

From October 2019 to March 2020 the research was performed in a nearby hospital. This is a case-control analysis mentioned. Ordinarily provide individuals, always a minority, with the majority of the community with a similar trait, with a check. Transversal spokesmen are verbal spokesmen. They can be seen only as the proportion of chance but even simply risky ones and conditional hazards from prevalences, not in the same manner as the case-control considers.

OBSERVATION

180, the gender ratio (male: female) was 1.52:1. Maximum dosage amount was analyzed 180. Of the 180 people, 119 (66.13%) were males, and 61 (33.87%) were females. There were no major age and sex variations. Of both races, there were lower instances of 21 to 40 years. (9 percent in males and 8% in females) the largest is in the age classes of 0 to 20 years and over 80 years, elevated from 41 to 60 years (31 percent in males and 29 percent in females). Among the 180 examined medications, 58 (31.67%) were patients under the age among 20. There is > 80 years (47.74%) of patients in this age range.

Method of analysis

Data obtained from case record form will be presented as.

i. Percentage of patients taking monotherapy medications for psychiatric conditions.

ii. Percentage of patients taking combination treatment drugs against psychiatric conditions.

iii. The most severe of 3 points performance system was lowered for consideration of medicines' safety status after: Percentage of participants taking various types of drugs toward neurological disorder

• Main drug – 2 points

• Complementary drug – 1 points

RESULTS

In tables and graphs below some key results and criteria related to prescribing trends are shown.

Age Distribution of Patients

All patients were shown to be the rising victims of semi-rational medication prescribing regardless of their aged limits. Both age classes, though, are in risk. 33 per cent of the patients under the age of 4 and the patients under the age of 35 are the most vulnerable to substance misuse.

180, the gender ratio (male: female) was 1.52:1. Maximum dosage amount was analyzed 180. Of the 180 people, 119 (66.13%) were males, and 61 (33.87%) were females. There were no major age and sex gaps. There were less instances of each genders (10 percent) of 21-40 years of age group. The age range of 41 to 60 (14 percent) years was increased to 26 (0 to 20 and > 80 years old). Lowest is 0 to 20 years. Fifty (27.79 per cent) of the 180 medications examined came under the age of 20. The patient demographic amounted to 86 (47.78%) years of age.

Overall % of prescription for neurological disorders

Table 1: % of prescription for neurological disorders.

Alzheimer's Disease	34.25% - 62
Epilepsy	37.47% - 67
Stroke	14.15% - 26
Parkinson's Disease	14.12%- 25

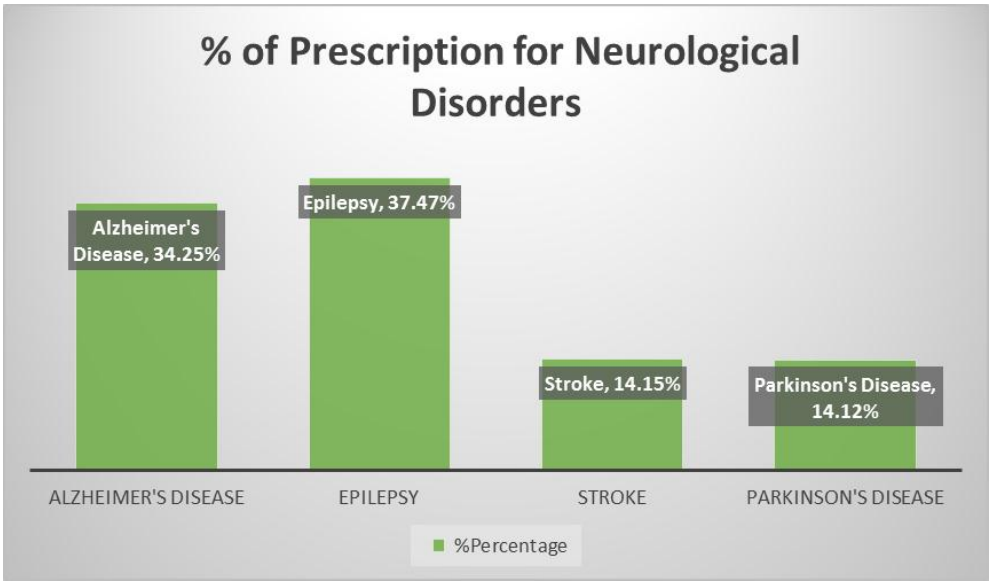

Figure 1: % Age distribution of patient.

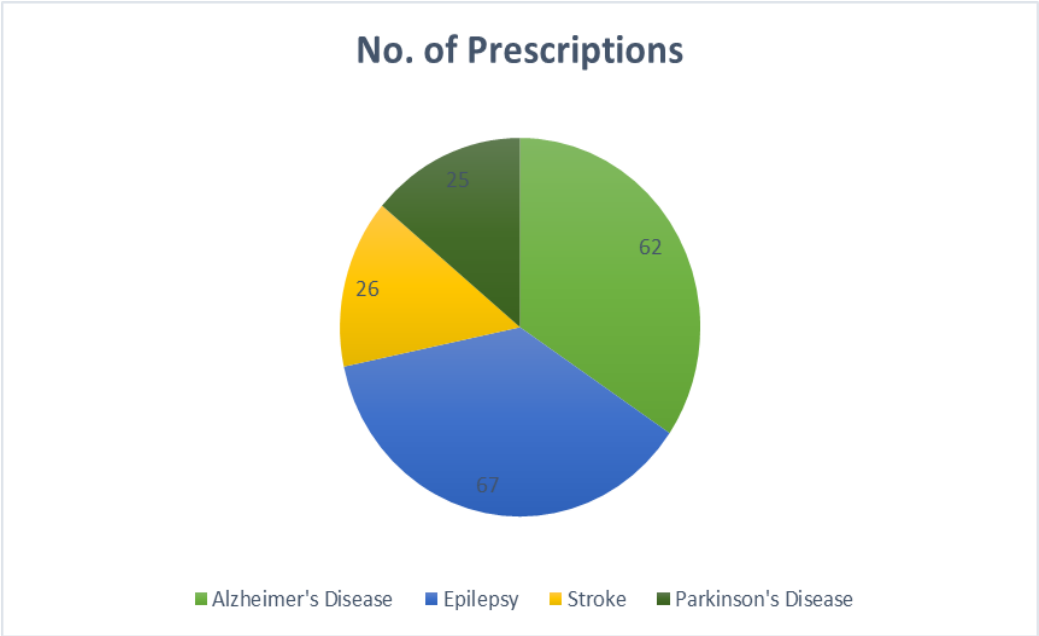

Figure 2: No. of Prescriptions pattern by neurological disorder's group.

Table 2: Multiple neurological disorder's prescription pattern by age group.

Neurological Disorders	below 20 years of age	21 - 40 years of age	41 to 60 years of age	> 80 years of age
Alzheimer's Disease	-	-	21%(12)	81% (50)
Epilepsy	52%(36)	-	2%(1)	43%(30)
Stroke	23.12% (6)	34.65% (9)	30.73% (8)	11.55% (3)
Parkinson's Disease	33% (8)	38% (9)	24% (6)	9% (2)
N=180	27.79% (50)	10% (18)	14.45% (26)	47.79% (86)

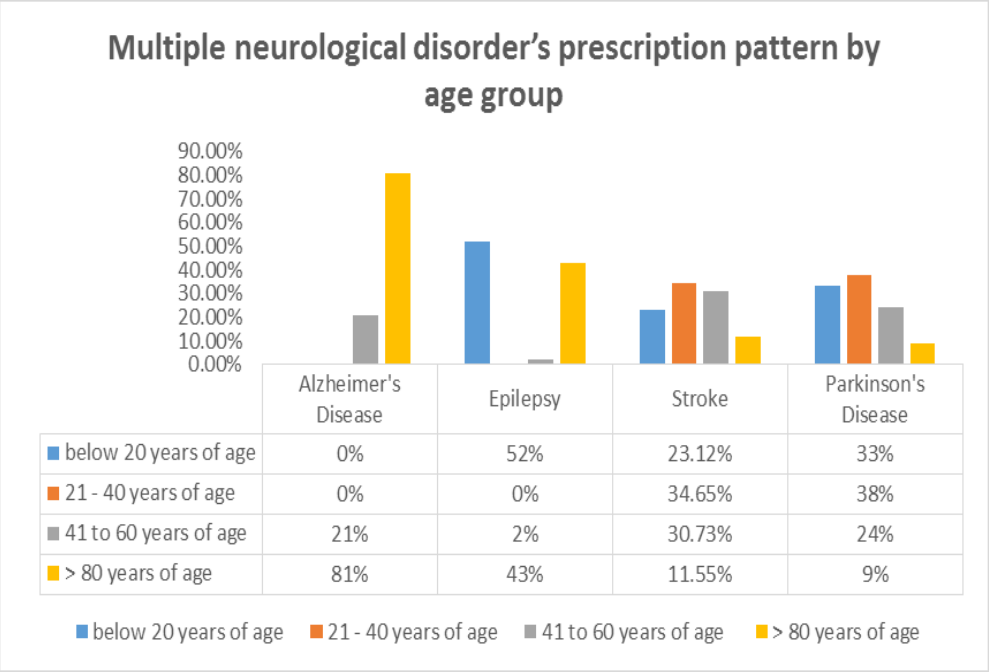

Figure 3: Multiple neurological disorder's prescription pattern by age group.

Table 3: Prescription pattern for rational use of drugs against Alzheimer's Disease.

Alzheimer's Disease (62 Prescriptions)		Repeat prescription within 1–2 days		Repeat prescription within 3–10 days		Points Scored
Prescribed Drugs	**Prescriptions**	**(%)**	**Adj.**	**(%)**	**Adj.**	**Total**
Donepezil*	17(27.73%)	35.21	6	64.65	12	32
Rivastigmine*	28(45.12%)	32.17	9	67.75	18	58
Galantamine	10(16.15%)	72	7	30	3	10
Memantine	7(10.79%)	42.85	3	57.18	4	7
*Note: *Main Drug, 45 prescriptions are rational and 17 prescriptions are semi - rational*						

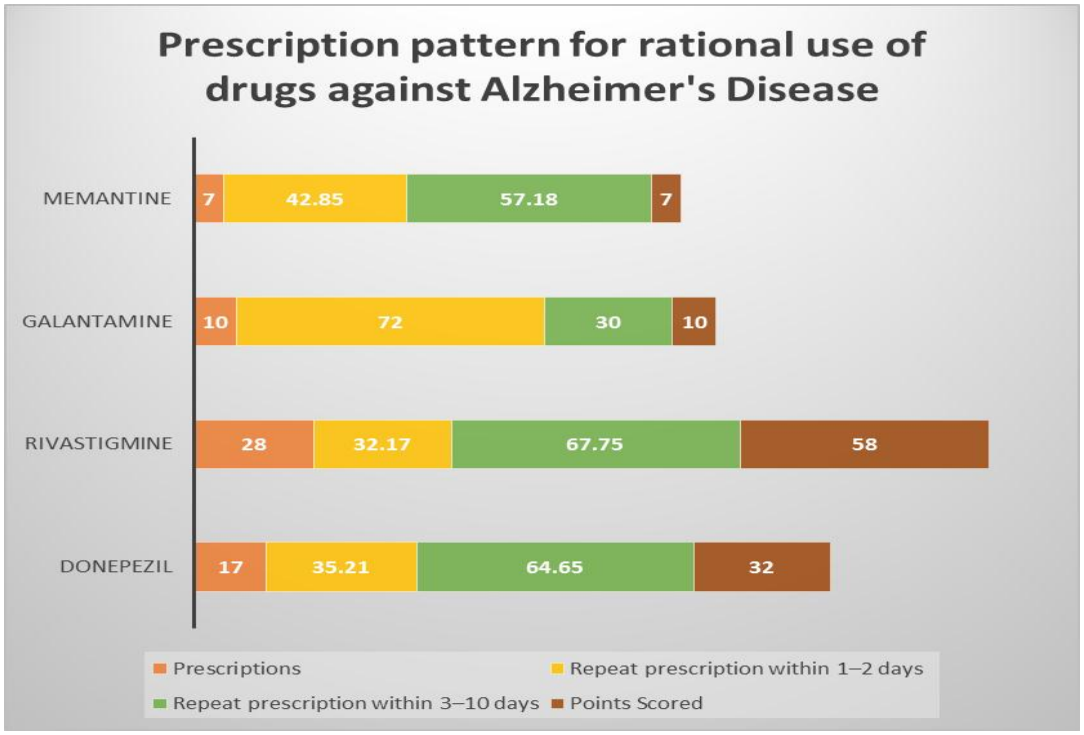

Figure 4: % Prescription pattern for rational use of drugs against Alzheimer's Disease.

Table 4: Number of Drugs prescribed per Case against Alzheimer's Disease.

Alzheimer's Disease		
	No. of case	**Percentage % of drug prescribed**
No drugs	-	-
One drug	6	9.58%
Two drugs	38	61.56%
Three drugs	10	16.18%
Four drugs	8	11.45%
More than five drugs	-	-

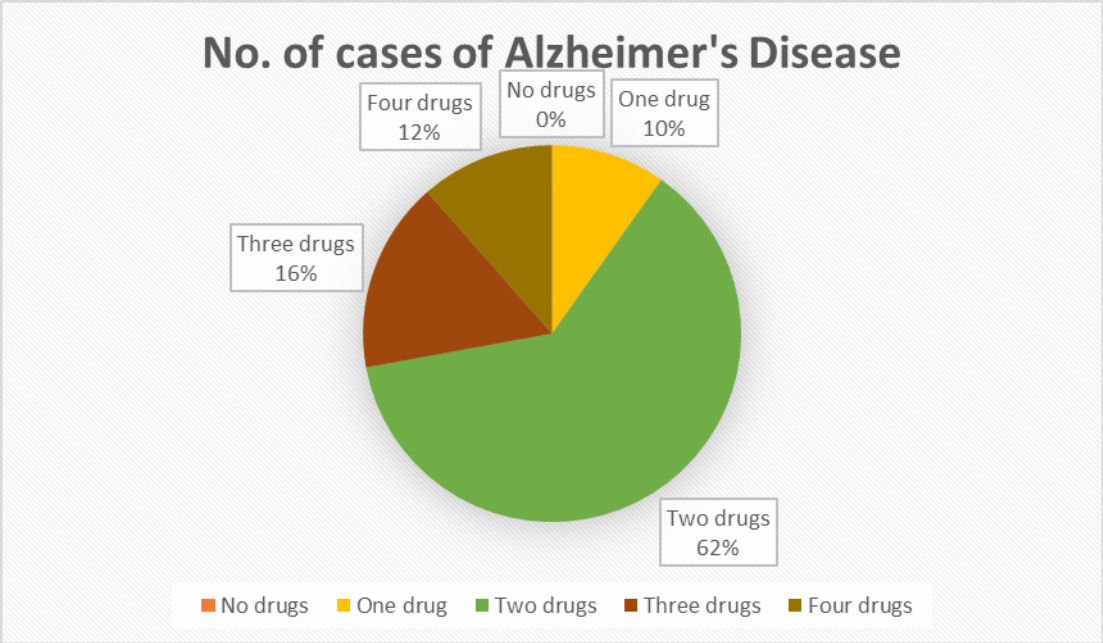

Figure 5: Number of Drugs prescribed per Case against Alzheimer's Disease.

Table 5: Prescription pattern for rational use of Antiepileptic drugs.

Antiepileptic drugs (67 Prescriptions)		**Repeat prescription within 1–2 days**		**Repeat prescription within 3–10 days**		**Points Scored**
Prescribed Drugs	**Prescriptions**	**(%)**	**Adj.**	**(%)**	**Adj.**	**Total**
Sodium valproate*	29(42.68%)	44.87	13	55.19	16	58
Phenytoin *	19(26%)	89.47	17	10.56	2	38
Phenobarbitone	15(22.9%)	46.66	7	53.56	8	15
Clobazam	4(6.39%)	75	3	24	1	4
*Note: *****Main Drug, 48 prescriptions are rational and 19 prescriptions are semi - rational*						

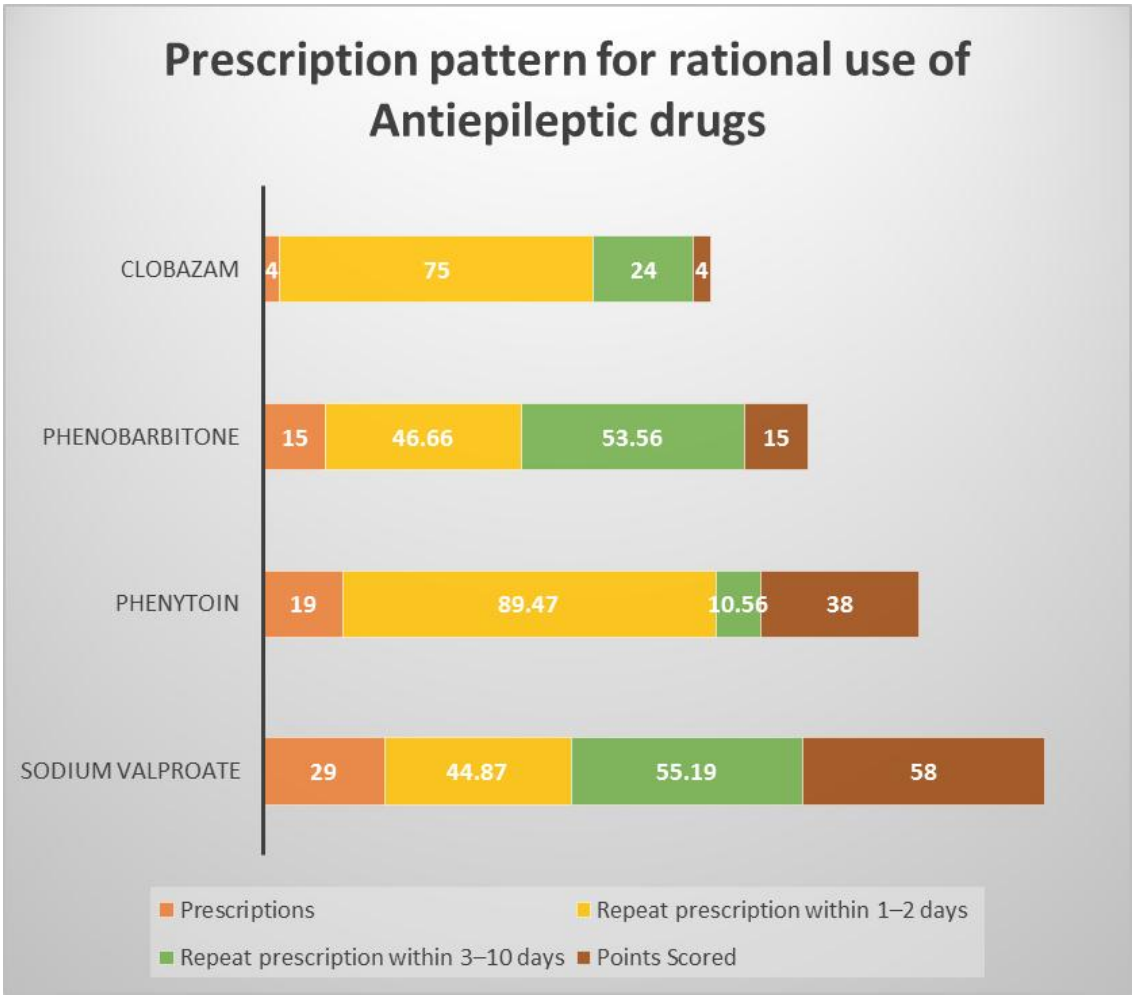

Figure 6: % Prescription pattern for rational use of Antiepileptic drugs.

Table 6: Number of Antiepileptic drugs prescribed per Case.

Antiepileptic drugs		
	No. of case	**Percentage % of drug prescribed**
No drugs	-	-
One drug	37	55. 19%
Two drugs	22	32.88%
Three drugs	8	11.92%
Four drugs	-	-
More than five drugs	-	-

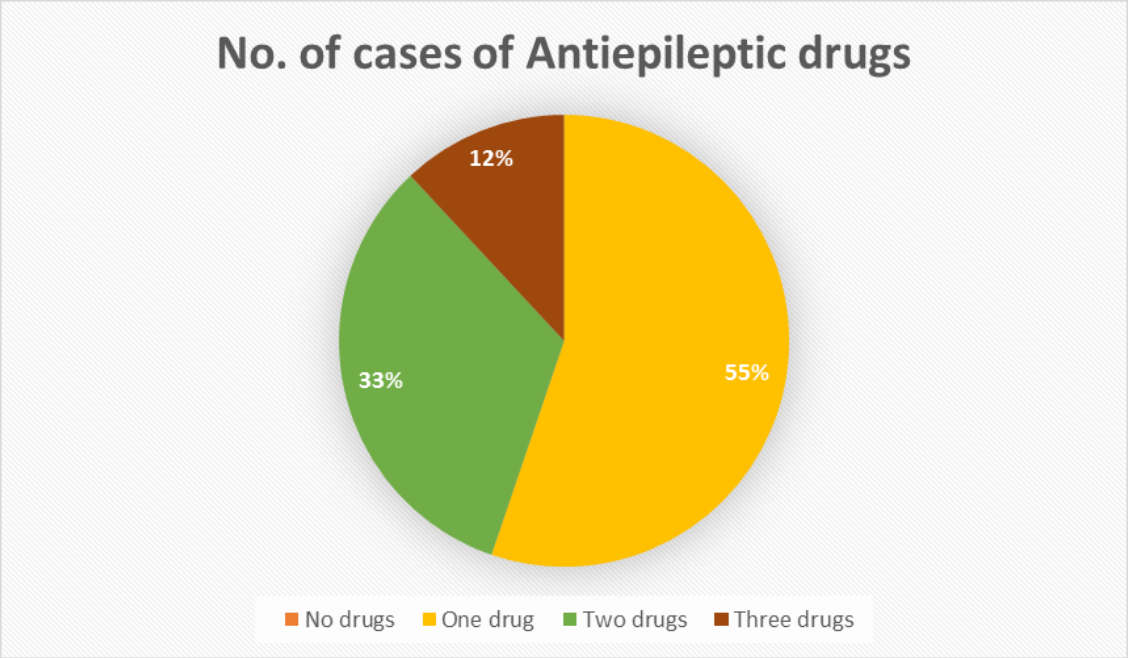

Figure 7. Number of Antiepileptic drugs prescribed per Case.

Table 7: Prescription pattern for rational use of drugs against Stroke.

Stroke (26 Prescriptions)		Repeat prescription within 1–2 days		Repeat prescription within 3–10 days		Points Scored
Prescribed Drugs	**Prescriptions**	**(%)**	**Adj.**	**(%)**	**Adj.**	**Total**
Aspirin *	19(73.20%)	68.46	13	31.59	6	38
Heparin	5(11%)	60	3	40	2	5
Warfarin	2(6.23 %)	100	2	0	0	2
*Note: *Main Drug, 19 prescriptions are rational and 7 prescriptions are semi - rational*						

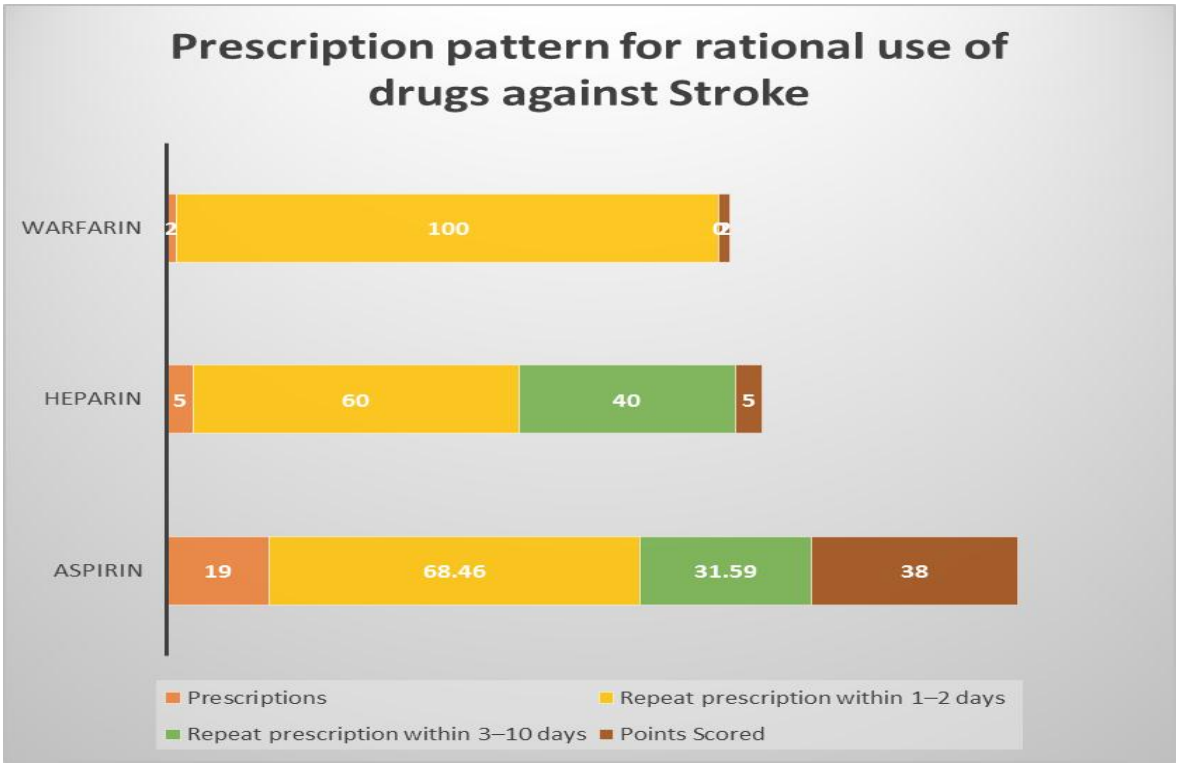

Figure 8: % Prescription pattern for rational use of drugs against Stroke.

Table 8: Prescription pattern for rational use of drugs against Parkinson's Disease.

Stroke		
	No. of case	**Percentage % of drug prescribed**
No drugs	-	-
One drug	21	88.47%
Two drugs	4	11.59%
Three drugs	-	-
Four drugs	-	-
More than five drugs	-	-

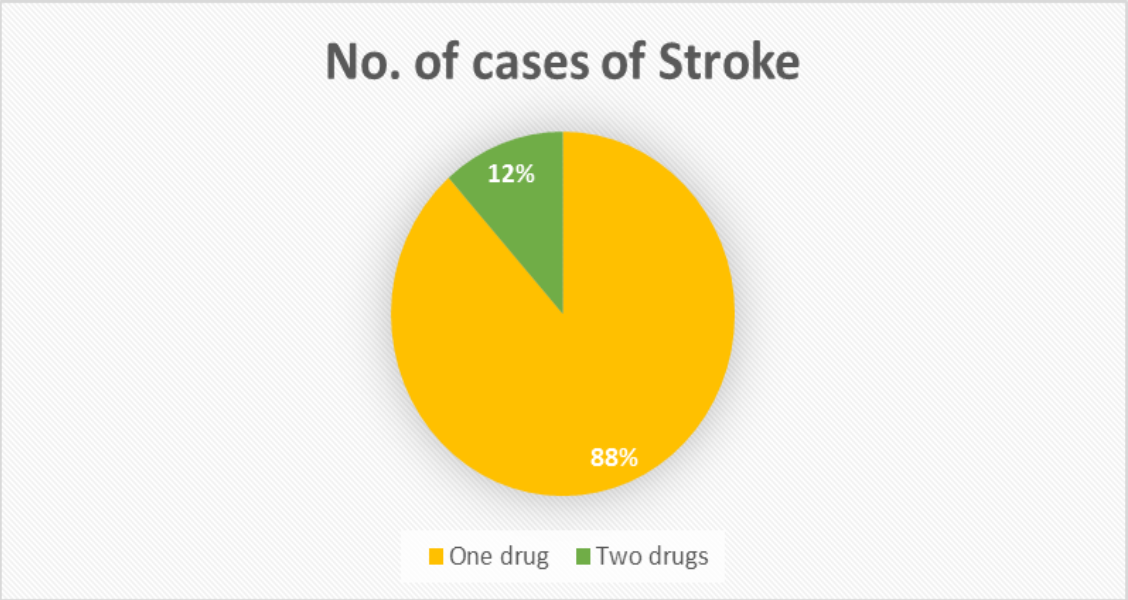

Figure 9: Number of Drugs prescribed per Case against Stroke.

Table 9: Prescription pattern for rational use of drugs against Parkinson's Disease.

Parkinson's Disease (25 Prescriptions)		**Repeat prescription within 1–2 days**		**Repeat prescription within 3–10 days**		**Points Scored**
Prescribed Drugs	**Prescriptions**	**(%)**	**Adj.**	**(%)**	**Adj.**	**Total**
Levodopa *	13(52%)	76.95	10	23.05	3	26
Pramipexole	6(24%)	66.64	4	33.36	2	6
Apomorphine	2(8%)	100	2	0	0	2
Tolcapone	1(4%)	100	1	0	0	1
Benztropine	1(4%)	100	1	0	0	1
Trihexyphenidyl	1(4%)	100	1	0	0	1
Amantadine	1(4%)	100	1	0	0	1
*Note: **Main Drug, 13 prescriptions are rational and 12 prescriptions are semi - rational*						

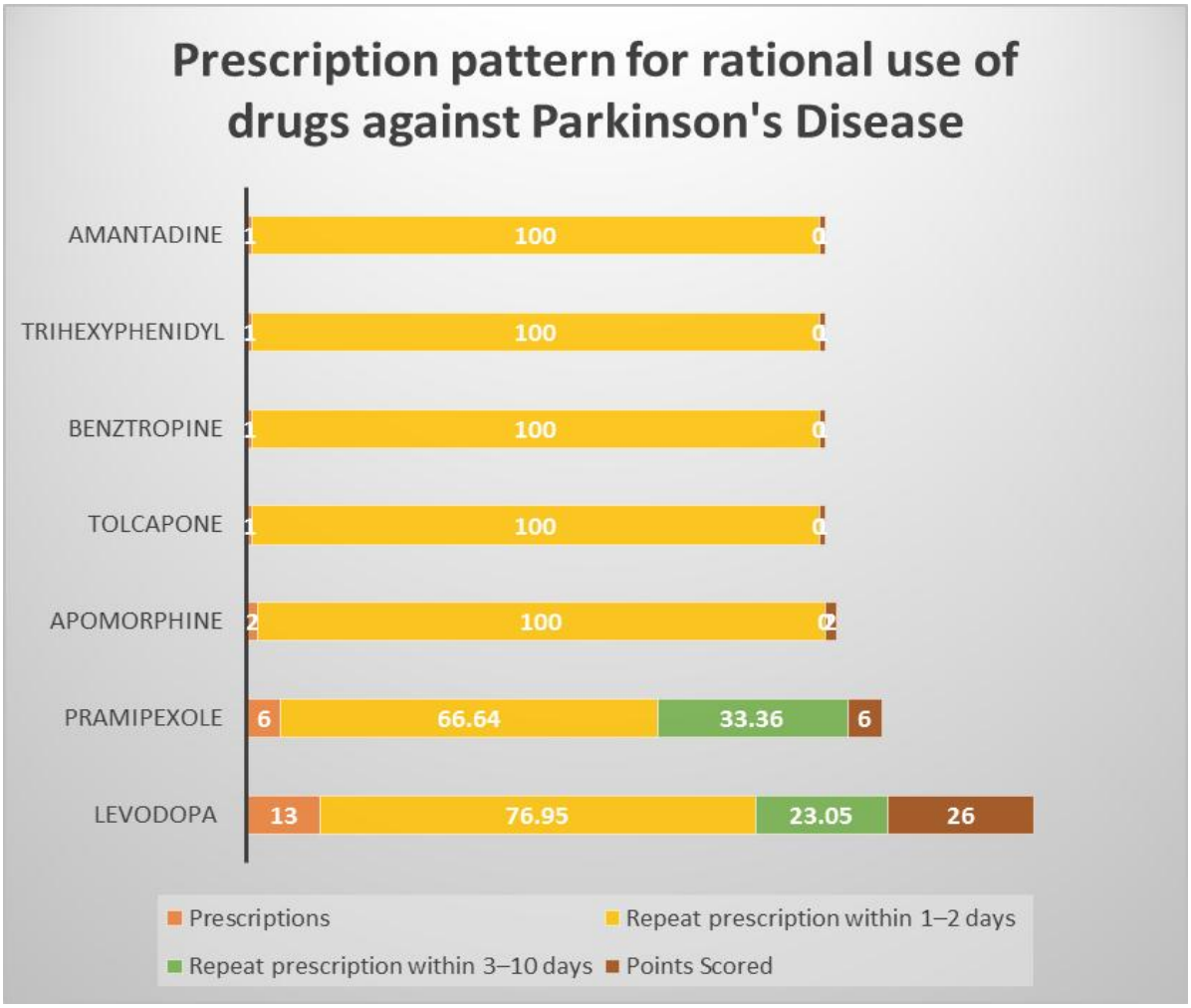

Figure 10: % Prescription pattern for rational use of drugs against Parkinson's Disease.

Table 10: Number of Drugs prescribed per Case against Parkinson's Disease.

Parkinson's Disease		
	No. of case	**Percentage % of drug prescribed**
No drugs	-	-
One drug	20	80%
Two drugs	2	12%
Three drugs	3	8%
Four drugs	-	-
More than five drugs	-	-

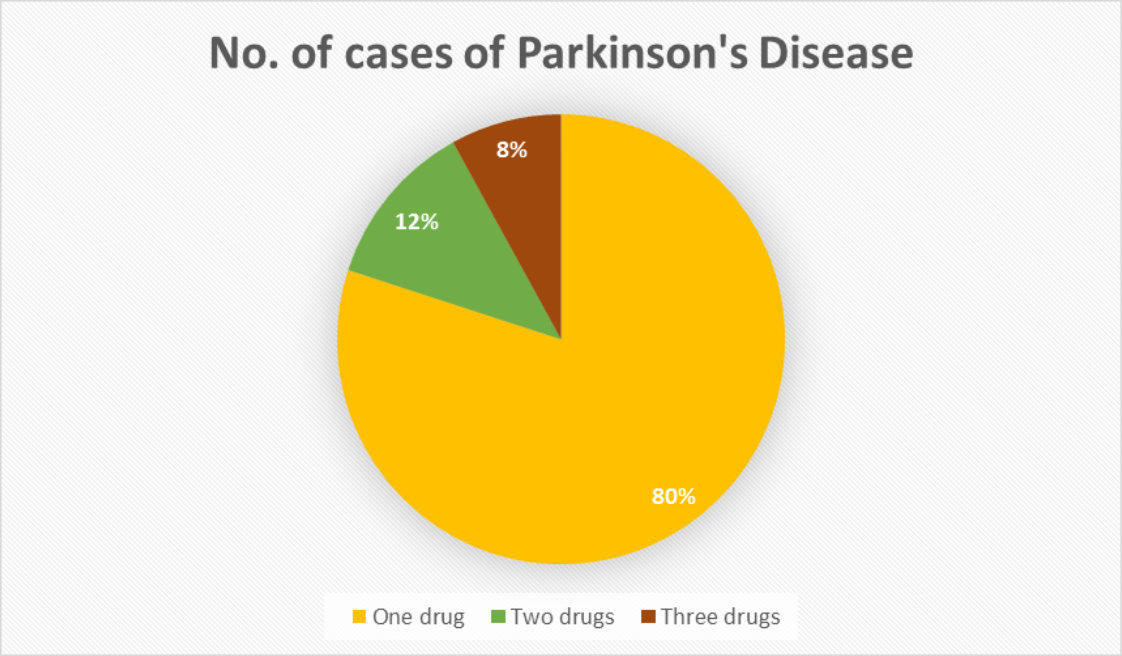

Figure 11: Number of Drugs prescribed per Case against Parkinson's Disease.

Table 11: Average number of drugs against neurological disorders.

	Alzheimer's Disease		Epilepsy		Stroke		Parkinson's Disease	
	Cases	**Drugs**	**Cases**	**Drugs**	**Cases**	**Drugs**	**Cases**	**Drugs**
Rational use of Drugs	45	80	48	81	19	21	13	20
Average Number of Drugs per prescription	1.74		1.66		1.11		1.54	
Semi-Rational use of Drugs	17	60	19	24	7	8	12	12
Average Number of Drugs per prescription	3.43		1.27		1.16		1	
Total Number of Drugs	140		105		29		32	

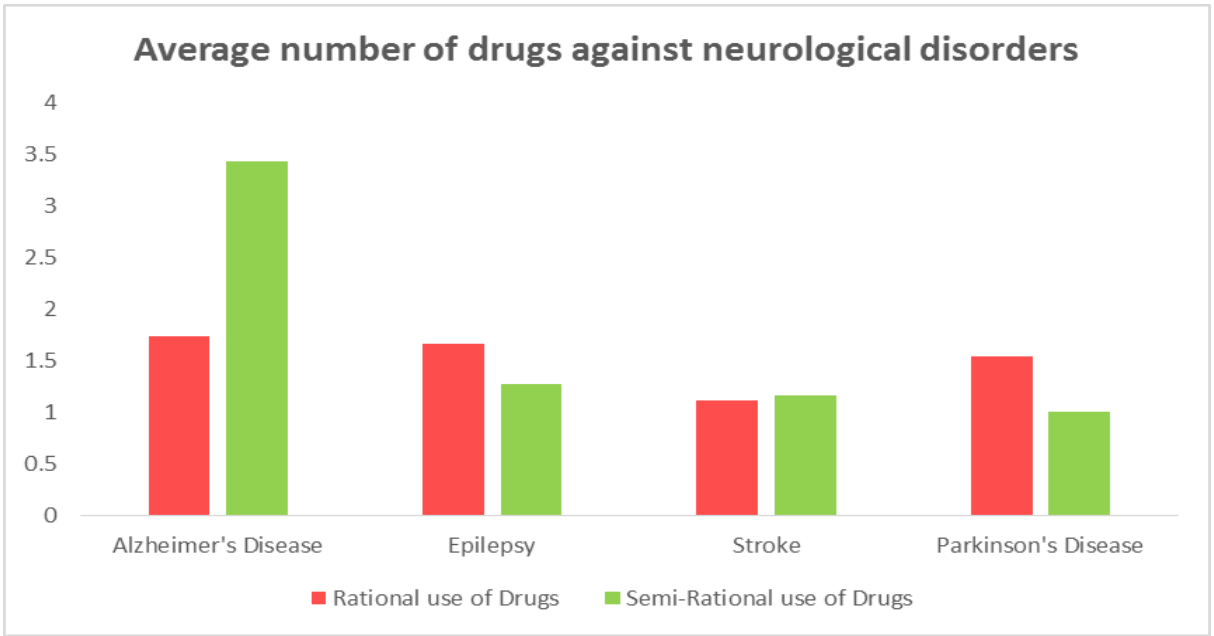

Figure 12: Average number of drugs against neurological disorders.

Check List for Clinical Encounter

In IPD more than 42 prescriptions do not ask about duration of present illness. Doctors do not take any history prescribed patients "past illness" but in IPD it is not so improved and it was 27 prescriptions. 139 prescribed patients were willing to tell their previously taken drug history in IPD. Only 29 prescribed patients got investigation advice in IPD, 6 prescribed patients do not get any instruction regarding taking the drugs in IPD.

Table 12: Check List for Clinical Encounter IPD.

Indication	IPD		
	Yes	No	N.A.
Asking about duration of present illness	120	45	15
Taking history of past illness	140	31	9
Taking previous drug history	135	40	5
Investigation advised	28	143	9
Instruction about taking drugs	167	6	7
Instruction about diet	157	18	5

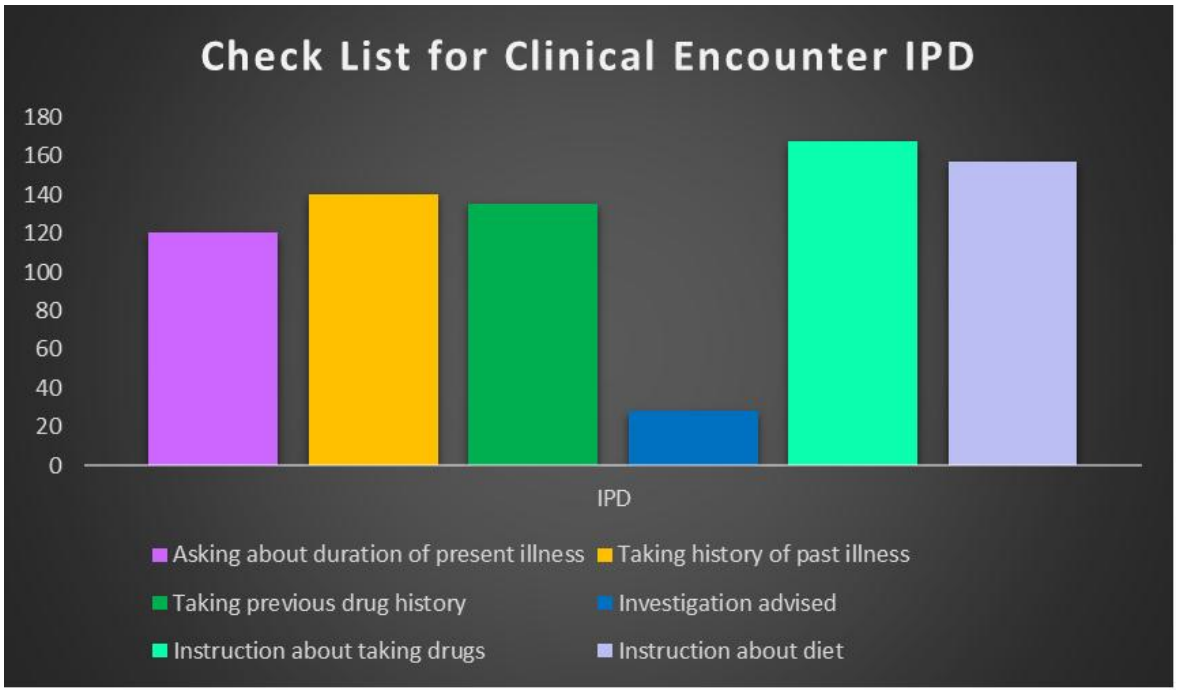

Figure 13: Check List for Clinical Encounter in IPD.

CONCLUSION

For any kind of error of a doctor, the patients suffer badly. There is a requirement for improvement in the standards of prescription patterns. By focussing to improve the quality of care, an action plan should be generated and recommendations for changing the present prescribing practices are set either by providing the hospital doctors with the Standard Treatment Guidelines, by following the information, education, and communication (IEC) interventions. After an agreed discussion prescribing of drugs should be done to show that the changes that have been performed, results in improvements in drug utilisation. Apart from promoting rational pharmaco-therapeutics these measures will also lead to a professional working environment and promote patient care more cost- effective.

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