

Drug utilization pattern in psychiatry outdoor patients at tertiary care teaching hospital of Bastar region

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Abstract

Background: Psychotropic drugs have had a remarkable impact in psychiatric practice. However, their utilization in actual clinical practice, effectiveness and safety in real life situation need continuous study.

Aim: To evaluate the utilization pattern of antipsychotics drugs in the Psychiatric OPD at L.S.B.R.K.M Govt. Medical Jagdalpur.

Materials and Methods: A prospective cross-sectional study was undertaken for a period of three months. The total number of prescriptions that were analyzed was 264. Patients of all ages and both sexes were included in the study while inpatients, referred patients and patients of epilepsy were excluded.

Results: Out of 264 patients, 180(68.18%) were males and 84 (31.81%) were females. Depression (30.6%) was the commonest psychotic ailment. Fluoxetine (34%) was the most common antidepressant prescribed for its treatment.

Anxiety comprised the second commonest category of psychotic disorder (24.4%) followed by Schizophrenia (22%). Lorazepam (43.4%) was the most prescribed anxiolytic whereas Risperidone (46.6%) was used to treat schizophrenia.

Conclusion: Depression was the commonest psychotic ailment followed by anxiety and schizophrenia. Polypharmacy was found in 45% of prescriptions. Risperidone + Trihexyphenidyl was the commonest fixed dose combination used for Schizophrenia and Psychosis followed by amitriptyline+Chlordiazepoxide for anxiety and depression.

Keywords: Drug utilization, Psychiatry patients, Bastar region, prescribing pattern

1. Introduction

The rapidly expanding field of psychopharmacology is challenging the traditional concepts of psychiatric treatment and research, and is constantly seeking new and improved drugs to treat psychiatric disorders. In this way, psychiatrists are continuously exposed to newly introduced drugs that are claimed to be safe and more efficacious [1]. Although psychotropic medications have had a remarkable impact on psychiatric practice that legitimately can be called revolutionary, their utilization and consequences on real life effectiveness and safety in actual clinical practice need continuous study.[2]

Newer drugs are however known to be expensive and unaffordable to the majority of patients [3], especially in developing countries. Although psychotropic drugs have had a remarkable impact in psychiatry, their utilization in actual clinical practice, effectiveness and safety in the real-life situation needs a continuous study.[4] As there is no sufficient data available on their use in the population of central India, the present study was carried out to analyze the pattern of psychotropic drug utilization in the psychiatric out-patient department (OPD).

Present study was designed to observe the prevalence of different psychiatric illnesses and to analyze the drug utilization pattern in outdoor patients of psychiatric department of a tertiary care hospital in Bastar region.

2. Materials and Methods

2.1 Study Design

A prospective cross sectional study of 3 months duration was carried out amongst outdoor patients (OPD) of the Psychiatry department of Govt. Medical College Jagdalpur.

Permission of the Institutional Ethical Committee was obtained for conducting the study. Patients of all ages and both sexes were included in the study. In-patients, referred patients, patients of epilepsy as well as those cases where

diagnoses were not certain were excluded from the study.

The study was carried out for three months (1st May 2014-31st July 2014).

A total of 264 prescriptions were analyzed. WHO drug indicators that were selected to analyze the prescribing pattern included:

- a) **Gender distribution of patients:** Patients were analyzed as to number of male and female patients with psychiatric disorders included in the study.
- b) **Age distribution of patients:** The patients taking part in this study were classified into following age groups: 0–20 years, 21–40 years and 41–60 years and >60 years of age.
- c) **Most common psychiatric diseases:** Diagnosis of individual patient as done by Psychiatrist using DSM IV criteria.
- d) **Most commonly prescribed group of drugs:** The drugs were classified into following categories viz. antipsychotics, antidepressants, antiepileptics, anxiolytics, mood stabilizers.
- e) **Most commonly prescribed drug**
- f) **Number of Drugs per prescriptions**

2.2 Presentation and Interpretation of data

The data was analyzed using the Microsoft Excel 2007.

3. Results

A total of 264 patients with a diagnosis of psychiatric disorders and who were receiving at least one antipsychotic drugs were included in the study. The Gender and Age characteristics of the patients are presented in Table 1 and Table 2 respectively.

Table 1: Gender Characteristics of 264 Patients

Gender	No. of Patients	Percentage (%)
Male	180	68.18
Female	84	31.81

Table 2: Age Characteristics of 264 Patients

Age(in yrs)	No. of Patients	Percentage (%)
0 to 20	27	10.22
21to 40	99	37.50
41 to 60	90	34.09
>60	48	18.18

Among the 264 patients, 180 were male patients (68.18%) as compared to 84 female patients (31.81%). Overall 99 patients belonged to the age group of 21-40 yrs, accounting for 37.50 % of the total; 90 patients belonged to the age group of 41-60 yrs., accounting for 34.09 %. The remaining 75 patients belonged to the age group of 0-20 yrs and >60 years, accounting for 10.22 % and 18.18% respectively of the total patients included in the study.

Figure 1: Gender-wise distribution of the patients

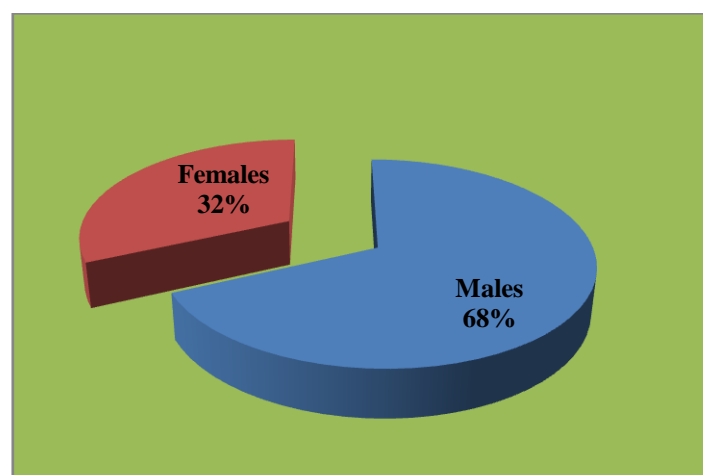
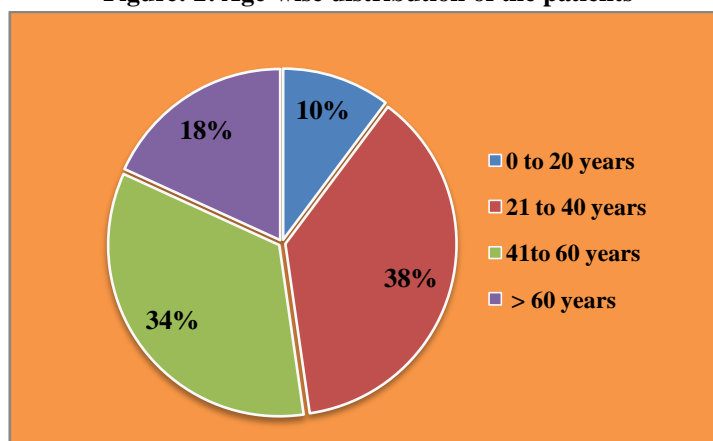
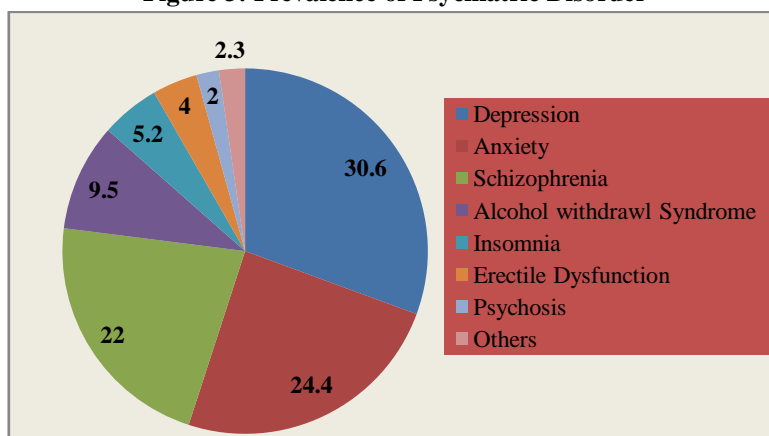


Figure 2: Age-wise distribution of the patients

Depression (30.6%), Anxiety (24.4%), Schizophrenia (22%) were the most common disorders among the patients attending psychiatry OPD. The other common disorders were Alcohol withdrawal syndrome (9.5%), Insomnia (5.2%), Erectile Dysfunction (4%), Psychosis (2%), others (2.3%).

Figure 3: Prevalence of Psychiatric Disorder

All the psychotropic drugs prescribed were categorized into 4 broad groups, i.e. anti-psychotics, anti-depressants, anxiolytics, antimanic/mood stabilizers, anti-cholinergics (Table-3).

Table 3: Category of drugs prescribed in Psychiatry outpatient department

Category	Drug	Percentage
Antipsychotics	Risperidone	46.6
	Olanzapine	18.8
	Trifluoperazine	13.4
	Levosulpiride	9.2
	Chlorpromazine	8.9
	Clozapine	1.1
	Aripiprazole	0.9
	Haloperidol	0.5
	Flupenazine	0.3
Antidepressants	Fluoxetine	34
	Imipramine	24.9
	Sertaline	17.4
	Amitriptyline	17.1
	Mirtazepine	12.6
	Paroxetine	2
Anxiolytics	Escitalopram	2
	Lorazepam	43.4
	Clonazepam	35.6
	Chlordiazepoxide	14.2
	Alprazolam	4.9
Others	Clobazepam	1.9
	B-Complex	0.5
	Iron Preparation	0.5

Polypharmacy is evident in most of the cases as 45% (119) of the prescriptions contain more than 2 drugs.

Table: 4 Distribution of number of Psychotropic drugs per prescription

Number of drugs	Prescription	Percentage
1	23	8.7%
2	122	46.2%
More than 2	119	45.0%

Fixed dose combinations were used in 187 (71%) of the prescriptions as regards to the monotherapy which was used only in 77(29%) of them.

Figure: 4 Distribution of prescribing pattern

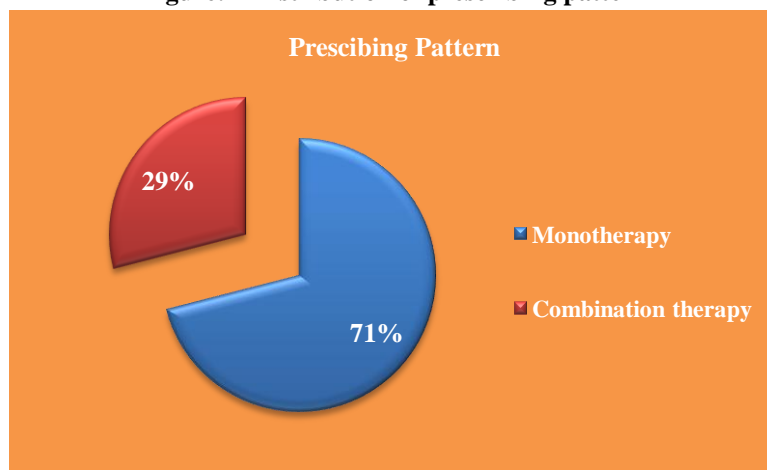
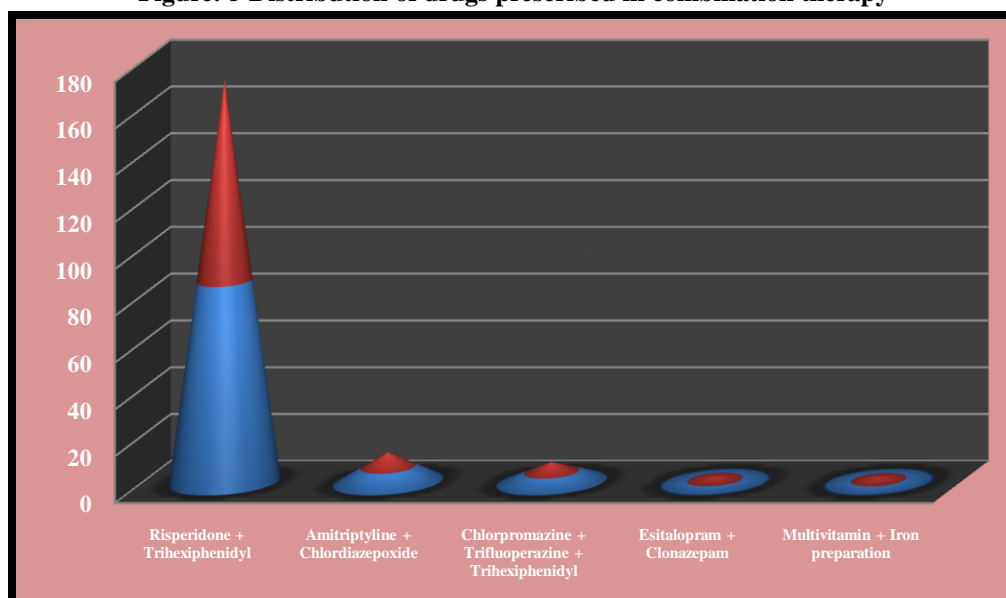


Figure: 5 Distribution of drugs prescribed in combination therapy



4. Discussion

Prescription gives insight into nature of healthcare delivery system in drug utilization research [5]. Drug utilization study is defined as a study of the marketing, distribution, prescription and use of drugs in a society highlighting on the resulting medical, social and economic consequences.[6] The burden of illness resulting from psychiatric and behavioral disorders is enormous, although it remains grossly under represented by conventional public health statistics. Some psychotropics are among the most commonly used ones, the use of such drugs is a relevant public health preferable to keep the number of drugs per prescription as low as possible since polypharmacy leads to increased risk of drug interactions, increased hospital cost [7] and errors of prescribing [8]. Several important findings are revealed by this study, “Depression and other psychiatric disorders” (30.6%) were the most common group of psychiatric conditions found in patients attending psychiatry outpatient department. Same finding was observed in other studies.[9][10] 21-40 years was

the most common age group to whom psychotropic prescriptions were given. Increasing use of psychotropic drugs in this age group may be due to increased incidence of mental ill health, improved mental health literacy in general population, reduction in stigma associated with mental illness, increase in drug treatment option and due to more vigorous marketing of such medications.[11]

Men received more psychotropic prescriptions than women [12][13]. Single drug was received by only 8.7% of population suggesting trend of polypharmacy. These results are in line with an Italian study conducted by Gianni Tognoni.[14] Majority of patients were prescribed psychotropic drugs from 5 different categories or different compounds from same category. Other studies too consistently found polypharmacy like ours, and trend is consistent even after prescription monitoring [15][16][17].

In difficult to treat cases like treatment resistant schizophrenia or depression, mixed diagnosis and double diagnosis, drug combination is needed. But there is a lack of evidence based strategies to guide this practice.[18]

In our study 71% of the prescriptions were having polypharmacy and is in line with that of conducted by Carlos De Las Cuevas and Ann M Mortimer who found that incidence of polypharmacy was 41.9% and 100% Respectively.[19] Anticholinergics were concomitantly used with typical as well as atypical antipsychotics. This could be due to unawareness of prescribers to advantages of atypical over typical antipsychotics or false claims of low incidence of extra pyramidal side effects (EPSE) with atypical antipsychotics by marketing people. Prescribers' explanation this practice is to prevent occurrence of adverse drug reaction to typical antipsychotic but such practice is wrong as it is increasing burden on patient in the form of money as well as number of drugs. Our finding is that, anticholinergic prescription was along with both typical (as fixed dose combination) as well as atypical antipsychotics.

Antidepressants and antipsychotic coprescription may be prescribed to tackle the negative side effects of psychosis. The efficacy and safety of such co-prescription has been insufficiently investigated.

Tricyclic antidepressant was the most commonly prescribed drug class and in that amitriptyline was the most common drug. This finding matches with the study Moore *et al*[20]. Though recent trend is shifting towards SSRIs, our prescribers are still hanging on tricyclic antidepressants. BZD were prescribed with antidepressants. The potential benefits of adding a benzodiazepine to an antidepressant must be balanced judiciously against possible harms including development of dependence and accident proneness. Furukawa TA and his colleagues conducted trial on comparison between antidepressants plus benzodiazepine and benzodiazepine alone in patients with major depression. The reviewers report that a combination of benzodiazepines with antidepressants works in favor for the treatment of depression, because it decreases dropouts from treatment and it increases short term response up to four weeks.[21] Fluoxetine was given in the patients of seizure but textbook says, "Seizures have been reported in 0.1 to 0.2% of patients with SSRIs".[22] Though incidence is low, it still exists. Use of SSRIs in children and adolescent is matter of concern. Data concerning safety and efficacy of antidepressants in pediatric age group are still limited and there is increasing number of suicides. US-FDA on this basis asked manufacturer to include "black box" warning in labeling of SSRIs.[23] No drug was prescribed by generic name. Prescribers are using brand names may be due to marketing strategies. This has to be changed to reduce cost incurred by patients. Topiramate, which is an antiepileptic drug, was used exclusively for alcohol dependence. Johnson found that patient taking topiramate achieved more abstinent days and lower craving for alcohol [24].

5. Conclusion

Prescription practices in Government Medical College, Jagdalpur showed high rate of polypharmacy, variation in prescription practices, prescription rate was higher in men (antidepressants higher in women) between 21-40 yrs age. This study may expand the existing data on prescription practices and misuse. Such audit gives scope for prescriber to improve prescription practice and rational use of medicine. The issue of prescribing by brand names needs to be addressed. There is scope to extend this study by evaluating drug compliance and adverse drug reactions of psychotropic drugs.

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