

Pattern of prescription and drug use in psychiatry out patient department of private practitioners of Central India

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ABSTRACT

Background: Psychotropic drugs have had a remarkable impact in psychiatric practice. The continuous monitoring of prescription and drug utilization studies may help to identify the problem involved in therapeutic decision and promote rational prescribing. Very few studies from India have evaluated the prescription pattern of Psychiatrists. Present study was undertaken to analyze the prescription pattern and drug used in psychiatric Out Patients of private practitioners of Central India.

Methods: One thousand prescriptions were collected by undergraduate students from chemist and analysed. Study parameter like demographic profile of patients viz. age, sex, diagnosis were recorded. Basic drug indicators, the prescribing pattern of antipsychotics and other categories of drugs were also recorded. The most common and, top brands of anti psychotics were analyzed. Inappropriate prescription if any were recorded and analyzed further.

Result: The most common psychotropic drugs were anti-anxiety in 361(36.1%) and antidepressants 130 (13%) prescribed for various psychiatric disorder. Usage of Sedative Hypnotics 104(10.4%), anti-psychotics 90(9%) and anticonvulsants 80 (8%) drugs in prescriptions. The incidence of polypharmacy (22%) was common occurrence in prescriptions. The commonest combination prescribed was of tricyclic antidepressant with benzodiazepines. Central anticholinergic was commonly prescribed with anti psychotics.

Conclusions: Anti-anxiety drug (benzodiazepines) was the most frequently prescribed class of psychotropic drugs in various psychiatry disorders. The prescribing prevalence of Alprazolam with different brand names was more than that of other benzodiazepines. The combination of different psychotropic drugs were also prescribed.

Keywords: Prescribing pattern, Private Practitioner, Psychotropic, Antipsychotics, Antidepressants

INTRODUCTION

Psychiatric disorders are common in medical practice and may present either as a primary disorder or a co-morbid conditions.

Depression occurs frequently in patients with neurological disorders particularly cerebrovascular disorders, Parkinson's disease, dementia, multiple sclerosis and traumatic brain injury, diabetes mellitus, hypothyroidism, cancer etc. HIV is frequently associated with features of depression, most commonly depressed mood and memory impairment.¹ Mood disorders may also be secondary to chronic administration of specific medication like antihypertensives.²

Studying prescription pattern provides opportunity to monitor therapeutic trends. Many studies from western countries have reported prescription pattern of various psychotropic medication. These studies have looked into national prescription patterns³, age and gender difference in antipsychotic prescription.⁴

Setting standards and assessing quality of care through performance and review should become part of everyday clinical practice.⁵ The recent proliferation of new drugs, their widespread use and powerful action, the rising recognition of immediate and delayed adverse effects and rising concern about the cost of drug have stimulated a new interest in the manner in which physician prescribe drugs.⁶

In developing country, almost all psychotropic medications available world wide are readily available in India. However, very few studies from India have evaluated prescription patterns of Psychiatrists. Some studies which have evaluated antipsychotic prescription pattern in India are limited by sample size.^{7,8} Hence present study was undertaken to analyze the prescription pattern and drugs used in psychiatric Out Patients of private practitioners of Central India.

METHODS

This study was carried out at tertiary care hospital. Prescriptions were collected from chemist at different point of central India for a period of 4 month. Data of 1000 patients were collected by IInd year MBBS students, as a part of ongoing research project. The prescriptions were studied for one encounter. The prescriptions were analyzed on the basis of following parameters

1. Demographic data
2. Diagnosis
3. Number of drugs per patients
4. Duration of therapy
5. Fixed dose combinations
6. Any advice given to the patients

The study protocol was approved by institutional Ethics Committee. The data was analysed by simple proportion.

RESULTS

Total 1000 prescriptions were studied. Out of which diagnosis was mentioned only in 396 prescriptions.

Table 1: Depicts demographic profile of the patients. Total demographic profiles for 537 patients were recorded from the prescriptions. Out of it, 299 were males and 238 were females. Maximum number of patients i.e. 134 belonged to age group 31-40 years (72 males and 62 females). Least number of patients i.e. 5 were enrolled in age group >70 years (4 male and 1 female). Inappropriate demographic data was noted from 463 prescriptions, out of which, in 292 patients age was not mentioned and in 171 patient's sex was not mentioned.

Table 2: Table shows the details of diagnosis of the patient. Out of one thousand (1000) prescriptions, diagnosis was mentioned in only 396 prescriptions. Among the diagnosed patients, Psychosis was the commonest psychiatric disorder (n=64, 6.4%). 57 (5.7%) patients were of anxiety. Other common complaints were schizophrenia (n= 52) and depression (n= 45).

Table 3: This shows prescribing frequency of psychotropic and different categories of drugs.

Table 1: Demographic profile of the patients.

Variables	Number (%)
Age in years	
01-10	52(9.8%)
11-20	37(6.89%)
21-30	119(22.16%)
31-40	134(24.95%)
41-50	103(19.18%)
51-60	71(13.22%)
61-70	16(2.98%)
>70	5(0.93%)
Sex	
Male	299 (29.9)
Female	238 (23.8)

Table 2: Diagnosis of patients.

Diagnosis	Number (%)
Psychosis	64 (6.4)
Anxiety	57 (5.7)
Schizophrenia	52 (5.2)
Depression	45 (4.5)
Hypertension	44 (4.4)
Seizure	40(4.0)
Ischemic Heart Disease	15(1.5)
Dementia	11(1.1)
Migraine	09(0.9)
Insomnia	08(0.9)
Acid Peptic Disease	08(0.8)
Bipolar Disorder	07(0.7)
Peripheral Neuropathy	06(0.6)
Diabetes Mellitus	06(0.6)
Hemiplegia	05(0.5)
Respiratory infection	04(0.4)
Angina	04(0.4)
Hypothyroidism	03(0.3)
Alcohol Withdrawal	03(0.3)
Pyogenic Meningitis	02(0.2)
Contusion	02(0.2)
Irritable Bowel Syndrome	01(0.1)
Total	396 (39.6)

Table 3: Prescription of psychotropic and other drugs.

Categories	Number (%)
Anti-anxiety agents	361 (36.1)
Antidepressants	130 (13.0)
Sedative Hypnotics	104 (10.4)
Antipsychotic	90 (9.0)
Anticonvulsants	80 (8.0)
Miscellaneous	73 (7.3)
Anti-hypertensives	47 (4.7)
Antibiotics	20 (2.0)
Antacids	16 (1.6)
Antiemetics	17 (1.7)
Analgesics	27 (2.7)
Anti angina	13 (1.3)
Anti diabetics	12 (1.2)
Laxatives	04 (0.4)
Diuretics	03 (0.3)
Anti parkinsons	03 (0.3)

The prescribing frequency of anti-anxiety 361(36.1%) and antidepressants 130(13%) were the most common categories of psychotropic drugs. The other psychotropic drugs prescribed in psychiatry OPD in descending order of frequency were Sedative Hypnotics 104(10.4%), anti-psychoics 90(9%) and anticonvulsants 80(8%).

In other categories of drug viz. miscellaneous 73(7.3%), antihypertensive 47(4.7%) were the most commonly prescribed drugs.

Table 4 Shows the various combinations of psychotropic drugs which were prescribed. Total 223 patients received the combination regimes. The combination of Tricyclic antidepressants and benzodiazepines were most widely preferred by psychiatrists. The other combinations were of antipsychotic and central anticholinergic.

Table 5 depicts the Top Ten Brands among the psychotropic drugs. Loripam(Lorazepam) was at the top table followed by Melzep (Clonazepam) and Alprax (Alprazolam).

Table 6 revealed various problems encountered in these prescriptions. Most common error found was diagnosis was not mentioned in (604). Other errors noted were absence of duration of treatment (306) and absence of age and sex.

Table 4: Prescribed combination of psychotropic drugs.

Brand name	Generic name	Number
Amixide	Amitrptylline HCl 5mg+ chlordiazeopoxide 5mg	17
Psycalm plus	Trifluperazine HCl 5mg + trihexiphenydyll HCl 2mg	14
Trinicamln forte	Chlorpromazine 50mg+ Benzhexol 2 mg + Trifluoperazine HCl 5mg	5
Depsonil DZ	Imipramine HCl 25mg + Diazepam 2mg	5
Anzal Plus	Propanolol 20mg + alprazolam 0.25mg	5
Trinicalm plus	Trifluperazine HCl 5mg + trihexyphenydyll HCl 2mg	2
Benzyzine	Trifluperazine 10mg + benzhexol HCl 2mg	2
Libotryp	Chlodiazepoxide 5mg + Amitryptiline HCl 12.5mg	2
Omez – D	Omeprazole + domperidone	2
Epiphen	Phenytoin sodium 100mg + phenobarbitone 30mg	2
Amlong-AT	Amlodepine 5mg + Atenolol 50mg	2
Tancodep	Imipramine + diazepam	1
Trizine-S	Trifluperazine HCl 5mg + triphexyphenydyll HCl 5mg	1
Tenoclor	Atenolol 25mg + chlorthalidone 12.5mg	1
Total		61

Table 5: Top Ten Brands among the psychotropic drugs.

Brand Name	Generic Name	Number
Loripam	Lorazepam	40
Melzep	Clonazepam	28
Alprax	Alprazolam	26
Oliza	Olanzapine	25
Psycalm plus	Trifluperazine + rihexyphenidyl	22
Depsonil	Imipramine	17
Alzolam	Alprazolam	15
Amixide	Amitryptilline + Chlodiazepexoide	17
Trika	Alprazolam	14
Restyl	Alprazolam	14
Total		218

Table 6: Problems observed in prescription.

Problem Description	Number %
Diagnosis not written	604 (60.4)
Duration of treatment not written	306 (30.6)
Age not written	292 (29.2)
Sex not written	171 (17.1)

Figure 1 depicts total number of drugs per prescriptions. Maximum patient's i.e. in 324 patients two drugs were prescribed. 310 patients were prescribed three drugs, while 35 patients were given more than 6 drugs.

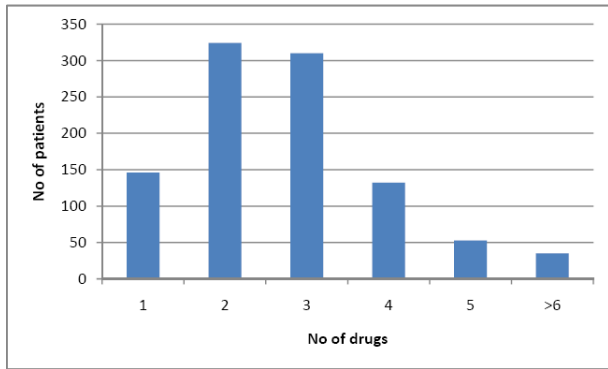


Figure 1: Number of drugs prescribed per prescription.

Figure 2 depicts the duration of treatment. In 266 patients, treatment was given for 16-30 days, 241 patients were on treatment for 1-15 days, while the drug therapy was continued for more than 90 days in 25 patients.

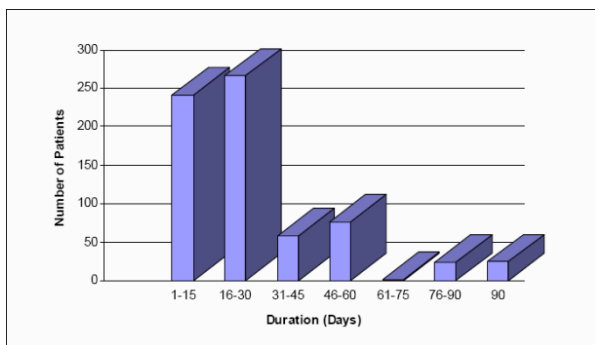


Figure 2: Duration of treatment.

Figure 3 shows drugs prescribed by Generic and Brand Name. Total 1647 were prescribed by brand name and only 47 drugs were by generic name.

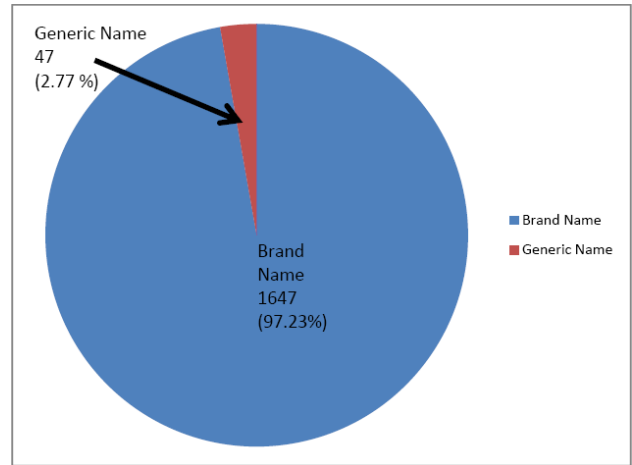


Figure 3: Drugs prescribed by Generic and Brand Name.

DISCUSSION

A prescription by a doctor may be taken as reflection of physician's attitude to the disease and the role of drug in its treatment. It also provides an insight into the nature of health care delivery system.⁹

This study indicates general trends in prescribing. As many as 1647 (97.23%) drugs were prescribed by brand name. The aim of generic prescribing is to reduce cost through substitution of less expensive formulation for drugs prescribed by brand names.¹⁰ These are issues for concern and can be redressed to some extent by prescriber education.

The study elucidates inappropriate demographic data as in total 463 patients age, sex was not mentioned. In 604 (60.4%) patients diagnosis was not mentioned. This indicates that majority of the prescribers do not adhere to the ideal pattern of the prescription writing.¹¹ Over prescribing in 22% (4 or more) of the prescriptions indicates the increasing tendency of poly pharmacy.¹²

Average number of drugs per prescriptions is an important index of prescription audit. It is preferable to keep the mean number of drugs per prescription as low as possible since multiple drugs lead to increased risk of drug interaction.¹³

In this study, duration was not stated in 306 (30.6%) prescriptions. This lapse on the part of physician needs to be brought to the notice of prescribers. It is important as many psychotropic drugs are potentially toxic and have to be prescribed for different periods, sometimes longer depending on individual patient.

Prescription order is an important transaction between the physician and patient. It brings into focus the diagnostic acumen and therapeutic proficiency of the physician with

instructions for palliation or restoration of the patients health.¹⁴

In our study benzodiazepines were the most frequently prescribed class of psychotropic drugs. They are remarkably useful and efficacious in a wide range of conditions for short term or intermittent use.¹⁵ However, with long term use the adverse effects (memory impairment, depression, tolerance, dependence etc.) outweigh the benefits, which should be minimized by rational prescribing. Guidelines for the rational use of benzodiazepines recommend their use for short term (maximum for four week) or intermittent courses in minimum effective doses, to be prescribed only when symptoms are severe.¹⁶

Likewise prescribing prevalence of Alprazolam with different brand names was more than twice than that of other benzodiazepine observed in our study. Majority of studies with Alprazolam demonstrated efficacy for the treatment of anxiety disorders, panic disorders and depression.¹⁷

Combination preparations of psychotropic drugs were prescribed in 61(6.1%) patients. Fixed dose combinations should be selected, only when the combination have proven advantage in therapeutic effect, safety or compliance over single compounds administered separately.¹⁸ The justification for such cause could not be ascertained in the present study.

The combination of tricyclic antidepressant with benzodiazepines was the most common combination prescribed by psychiatrist. The others were anti-psychotic with central anti-cholinergic.

Specific advice given to the patients was mentioned in 80 patients only.

CONCLUSION

Present study demonstrated that alprazolam, clonazepam and olanzapine are the commonly prescribed anti-psychotropic drugs. Anti-anxiety drug (Benzodiazepines (BZD) usage was extensive as they were prescribed in almost all types of psychiatric illnesses. Rational use of BZD requires consideration and attention to dose and duration of usage as well as drug interactions with other psychotropic drugs.

Our study has some limitations. We focused on the first prescription and this may not necessarily reflect the true clinical situation. Depending on the response in many patients, further medications may have been added or deleted.

We did not document the dose and dosing schedule of the treatment given. We also did not evaluate factors like treatment adherence, availability of supervision, concerns

of the patients about side effects, and adherence to treatment guidelines while prescribing.

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