Psychotropic drugs utilization pattern at tertiary care institute - a retrospective analysis

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Abstract
Introduction: Psychiatric disorders form an important public health priority. For the treatment of psychiatric disorders, a wide array of psychotropic drugs is available. Variations are also seen in utilization of psychiatric drugs from place to pace. Data from different parts of the world indicate increasing prescriptions for drugs used for mental disorders, particularly antidepressants and antipsychotics. **Aims and Objectives:** to study the drug Utilization Pattern of Psychotropic Drugs in Psychiatric Unit of Government Medical College and Hospital Latur. **Methodology**: In the present study prescription of patients attending psychiatric OPD were analyzed. Daily six prescriptions were collected from medical record section. And analysis of them was done with respect to type and category of drug, number of drugs per prescription. **Results:** most common study population was young male. Most common patients were of Schizophrenia (49%) attending the OPD. Most commonly two drugs per prescription (46%) were prescribed. Antipsychotics (41.78%) were the most commonly prescribed drugs in the psychiatric OPD. It was followed by mood stabilizers (22.6%) and anti depressants (20.18%). Benzodiazepines were prescribed in 10.79%. Trifluoperazine was prescribed in 410 prescriptions. **Conclusion:** most commonly two drugs were prescribed per prescription. Antipsychotics were the most commonly prescribed category.
Keywords: psychology, drug utilization.

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INTRODUCTION

Drug utilization study is one of the fundamental watchtowers of promoting rational use of medicine for treatment of various diseases, surveying the field of healthcare and leading to a greater understanding of the development that underlies it.[1] Drug Utilization Research (DUR) was defined by the WHO in 1977 as "The marketing, distribution, prescription, and use of drugs in a society, with special emphasis on the resulting medical, social and economic implications"[2]. The increased interest in DUR has resulted from recognition of the virtual explosion in the marketing of new drugs, the wide variations in the patterns of drug prescribing and consumption, and the increasing concern about the cost of drugs[3]. A prescription-based survey is considered to be one of the most effective methods to assess and evaluate the prescribing attitude of physicians and prescription based drug utilization studies are more meaningful to observe the prescribing attitude of physicians with the aim to provide drugs rationally. The results of these types of studies, which were carried out at different health care centers are used to evaluate and analyze the medical, social and economic outcomes of the drug therapy.[4] Psychiatric disorders form an important public health priority[5,6]. Of the top ten health conditions contributing to the Disability Adjusted Life Years (DALYs), four are psychiatric disorders[7]. Mental illness is associated with high levels of health service utilization and associated costs, and in developing countries these costs are mostly paid by the patient[8]. For the treatment of psychiatric disorders, a wide array of psychotropic drugs is available[9]. During the past two decades, the development of newer drugs like Selective Serotonin Reuptake Inhibitors (SSRIs) and atypical anti–psychotics have

drastically changed the drug therapy protocols. Data from different parts of the world indicate increasing prescriptions for drugs used for mental disorders, particularly antidepressants and antipsychotics. Data from the USA found an increase in the proportion of people prescribed antidepressants from 5.84% in 1996 to 10.12% in 2005.[10] Studies of antipsychotic prescribing show increases over the past two decades in a variety of countries.[11] Thus the present study was undertaken to study the utilization of various drugs used in treatment of psychiatric illness.

AIMS AND OBJECTIVE
To study the drug Utilization Pattern of Psychotropic Drugs in Psychiatric Unit of Government Medical College and Hospital Latur.

MATERIAL AND METHODS
Study Design
After receiving the approval of ethical committee the present retrospective cross-sectional study was conducted in the department of psychiatry of government medical college, Latur. The study was conducted from July 2013 to June 2014. Prescriptions of patients of both sexes and all ages, suffering from a psychiatric illness and started on at least one psychotropic drug, were selected. Total one thousand prescriptions were analyzed as per the WHO recommendations on conducting retrospective DUS from medical databases/registries[12].
Methodology
The data of the patients attending the Psychiatry OPD, during the study period was collected from the medical record section. The sampling frame was fixed as six prescriptions per day, five days a week, during the given sampling period.
The six prescriptions were selected as follows:
- On day 1, all six prescriptions were chosen from the beginning of the day,
- On day 2 six prescriptions were chosen from the middle of the day and
- On day 3, six prescriptions were chosen from the end of the day and so on[12.]
- In case of OPD holidays, the prescriptions of that day were assigned to the next working day.

Details of Patient like age, gender and registration number and diagnosis were recorded on a prestructured proforma. Prescription details like date, number of drugs, names of individual drugs (generic/brand), any Fixed Dose Combination (FDC) prescribed, whether the prescribed drug (s) was available from the hospital pharmacy, dose, dosage form, dosing schedule, and duration of treatment were also recorded. The collected data was analyzed by using the Chi–Square test. All statistical calculations were carried out with Open Epi: A Web-based Epidemiologic and Statistical Calculator. The level of significance was fixed at 5% (p<0.05) with 95% confidence interval[13].

RESULTS

Table 1: Demographic profile of patient

Variable		Number (%)
Age	0 -12 Years (Children)	10 (1%)
	13 -19 years (Adolescents)	90 (9%)
	20 -39 years	610 (61 %)
	40 – 59 years	190 (19 %)
	≥ 60 years	100 (10 %)
Sex	Males	630 (63 %)
	Females	370 (37 %)
Diagnosis	Schizophrenia and other psychosis	490 (49%)
	Mood disorders	240 (24%)
	Anxiety disorders	40 (4%)
	Substance related disorders	50 (5%)
	Epilepsy	130 (13%)
	Mental retardation	40 (4%)
	Sexual dysfunctions	10 (1%)

It was observed that majority of the patients attending the psychiatric OPD were between the age of 20 to 39years (61%) followed by 40 to 59 years (19%). Out of the total 1000 patients 630 (63%) were male and 370 (37%) were female. When all the patients in the study we recategorized according to the diagnosis, it was observed that Schizophrenia was the most common (49%) followed by Mood disorders (24%) and epilepsy (13%).

**Table 2:** Number of drugs prescribed per prescription

Prescription containing number of drugs	Number of prescription (%)
One	290 (29%)
Two	460 (46%)
Three	250 (25%)
Four	40 (0.4%)
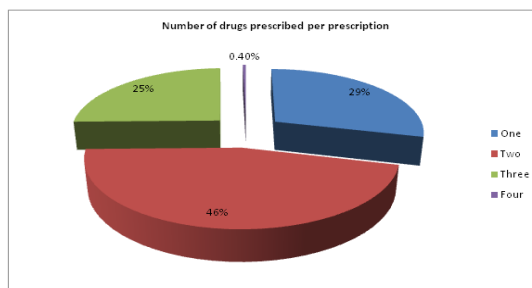
Maximum number of drugs which were prescribed per prescription was four. Most commonly two drugs per prescription (46%) were prescribed in the study. It was observed that only one drug was prescribed in 29% prescription.

Table 3: Common categories of psychotropic drugs prescribed to outpatients

Category of drugs	Number of drugs	Percentage
Antipsychotics	890	41.78%
Antidepressants	430	20.18%
Mood stabilizers and AEDs	470	22.6%
Benzodiazepines	230	10.79%
Anticholinergics	10	0.46%
Others	100	4.69%
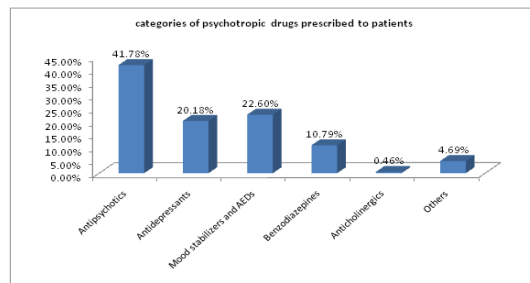
categories of psychotropic drugs prescribed to patients

It was observed that antipsychotics were the most commonly prescribed drugs in the psychiatric OPD. It was followed by mood stabilizers (22.6%) and anti depressants (20.18%). Benzodiazepines were prescribed in 10.79%.

Table 4: Individual psychotropic drugs prescribed in a sample of patients

Sr. No.	Name of drugs	Number of prescription	Percentage
1	Trifluoperazine	410	20.4
2	Olanzapine	300	14.93
3	Sodium valproate	260	12.94
4	Escitalopram	220	10.95
5	Chlordiazepoxide	200	9.95
6	Amitriptylline	180	8.96
7	Carbamazepine	100	4.98
8	Clozapine	90	4.48
9	Phenobarbitone	50	2.49
10	Chlorpromazine	40	1.99
11	Lithium	30	1.49
12	Bupropion	20	1.00
13	Lorazepam	20	1.00
14	Phenytion sodium	20	1.00
15	Aripiprazole	10	0.50
16	Quitiapine	10	0.50
17	Amisulpride	10	0.50
18	Diazepam	10	0.50
19	Clonazepam	10	0.50
20	Etizolam	10	0.50
21	Trihexyphenydyl	10	0.50

Out of the total one thousand prescriptions Trifluoperazine was prescribed in 410prescriptions.It was followed by Olanzapine (300prescriptions), Sodium valproate (260 prescriptions) and Escitalopram (220prescriptions).

DISCUSSION

The present study was conducted to study the utilization of psychotropic drugs used in psychiatric OPD. It can be seen that majority of the patients attending the psychiatric OPD were between the age of 20 to 39 years (61%) followed by 40 to 59 years (19%). It means that the reproductive age group accounted for the majority of all the psychiatric disorders, as has been seen in many other studies. Similar findings were also reported by Piparva KG et al[14], Kessler RC et al.[15] Friedli L et al[16]. The proportion of male patients (63%) attending the psychiatric OPD was more than female patients (37%). But Patel V et al[17] and Mohammed Pet al[18] showed more incidence in female population as compared to male population attending the OPD. Schizophrenia and other psychosis were the most common (49%) psychiatric disorders observed in the study. They were followed by followed by Mood disorders (24%) and epilepsy (13%).Karan B.et al[19] also reported schizophrenia as the most common disease in their study. Most commonly two drugs per prescription (46%) were prescribed in the study followed by it three drugs per prescription (25%). It was observed that only one drug was prescribed in 29% prescription. Since, no prescription had more than five drugs; we can say that polypharmacy was avoided. Polypharmacy can lead to poor compliance, drug interactions, adverse drug reactions, under-use of effective treatments and medication errors[20,21]. When the drugs in the prescriptions were categorized; it was observed that antipsychotics were the most commonly prescribed drugs in the psychiatric OPD. It was followed by mood stabilizers (22.6%) and anti-depressants (20.18%). When individual drug was analyzed it was observed that Trifluoperazine (20.4%) was prescribed maximum times followed by Olanzapine (14.93%). Both the drugs are antipsychotics and used commonly in the treatment of schizophrenia. The most commonly prescribed drugs for treatment of schizophrenia were conventional anti–psychotics. This was as per the current recommendations and mainly because they were available in the hospital drug store.[19] The current data indicate rising trends in prescriptions for psychiatric drugs, including antidepressants and antipsychotics, with no compensatory reduction in prescriptions for anxiolytics and hypnotics. The findings are consistent with finding reported by Olfson M et al[10], Verdoux H et al[11], Exeter D et al[22] and Deambrosis P et al[23] in their studies. As per current recommendation (APA and NICE) Selective Serotonin Reuptake Inhibitors (SSRI) should be used in the management of mood disorders[24,25]. In the present study mood disorders (24%) was the second most commonly observed disorder. Currently, SSRIs are greatly preferred over the other classes of antidepressants.

The adverse-effect profile of SSRIs is less prominent than that of some other agents, which promotes better compliance. The SSRIs are thought to be relatively unproblematic in patients with cardiac disease except citalopram in high doses[26,27].

CONCLUSION
Most commonly two drugs were prescribed per prescription. Antipsychotics were the most commonly prescribed category.

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