

## Pattern of prescribing psychotropics in the outpatient department of a tertiary psychiatric hospital

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### Article info

Received : 06 Oct. 2016  
Accepted : 01 Dec. 2016  
Number of tables : 04  
Number of figures : 02  
Number of refs : 17

### Summary

Pattern of prescriptions for psychiatric patients varies which is influenced by patient variation, types of disorders, cultural and environmental influences, socioeconomic status, availability of drugs and psychiatrists own preference. The aim of this study was to determine the patterns of prescribing psychotropic drugs in psychiatry Outpatient Department (OPD) in a tertiary care hospital. The cross-sectional study was conducted in the OPD of National Institute of Mental Health (NIMH), Dhaka from January to June, 2016. In the study, the prescriptions prescribed by psychiatrists were considered as study population. Using convenient sampling method, data were collected by observation using checklist from selected 604 latest prescriptions prescribed by psychiatrists in OPD of NIMH for the patients coming there for treatment. The data on the psychotropic drugs collected for the study were antipsychotics, antidepressants, mood stabilizers and sedative-hypnotics. Results showed that a total of 1802 psychotropic drugs were prescribed with an average of 2.98 psychotropics per prescription. The most common drug group prescribed was antipsychotics (44.8%). Majority (49.7%) of the prescriptions contained 3 psychotropics simultaneously. Most common (27.8%) combination was that of antipsychotics and sedative-hypnotics. Dosage regimen was twice/day for the majority (55.6%). There was a combination of oral and parenteral drugs in 48.3% of prescriptions. All the drugs were prescribed by brand names. There was no diagnosis written in 60.9% of the prescriptions. The prescription pattern was not rational and this should be intervened by educating prescribers about rational prescribing in psychiatry.

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Bang J Psychiatry 2015;29(1):10-13

### Introduction

Psychiatric disorders form an important public health priority. Of the top ten health conditions contributing to the Disability Adjusted Life Years (DALYs), four are psychiatric disorders.<sup>1</sup> Mental illness is associated with high level of health service utilization and associated costs, and in the developing countries, these costs are mostly paid by the patient. Since 1950s, psychotropic drugs have proliferated, and diagnosed cases have also increased. The expanding and challenging field of psychopharmacology 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. Although psychotropic drugs have had a remarkable impact on psychiatry, their utilization in actual clinical practice, effectiveness and safety in the real-life situation needs continuous study, and is thus a topic of increasing interest in recent times.<sup>2</sup>

It is important to realize that inappropriate use of drugs represent a potential hazard to patients and an unnecessary expense. This necessitates a periodic review of pattern of drug prescription to ensure safe and effective treatment.<sup>3</sup> The rational use of drugs requires that "patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, at the lowest cost to them and their community".<sup>4</sup> The irrational use of drugs is a problem, and to improve the overall drug use, especially in developing countries, international agencies like World Health Organization (WHO) and International Network for Rational Use of Drugs (INRUD) have recommended standard drug use indicators which help us to know the shortcomings in our prescription writing.<sup>5,6</sup> Drug prescribing pattern varies among different geographical areas and is influenced by patient characteristics, type of disease prevalence, cultural and

environmental influences, socioeconomic status, availability of newer drugs and prescribing habit of physicians. Describing drug use pattern and prescribing behavior, measurement of drug use in the health facilities helps in identifying the factors responsible for the practice of polypharmacy and the problems associated with it.<sup>7</sup> The study of prescribing patterns seeks to monitor therapeutic trends, evaluate and if necessary, suggest modifications in prescribing patterns so as to make medical care rational and cost effective.

Many studies from the western countries have reported the prescription patterns of various psychotropic medications, which have looked into national prescription patterns, prescription patterns in general practice, and specialist care, age, and gender differences in antipsychotic prescription, prescription patterns of anti-depressants, mood stabilizers in bipolar disorder patients, and rate of use of anti-cholinergic agents in psychiatric patients. A few surveys of prescription patterns of various psychotropics from Asian centers are available too.<sup>8-10</sup>

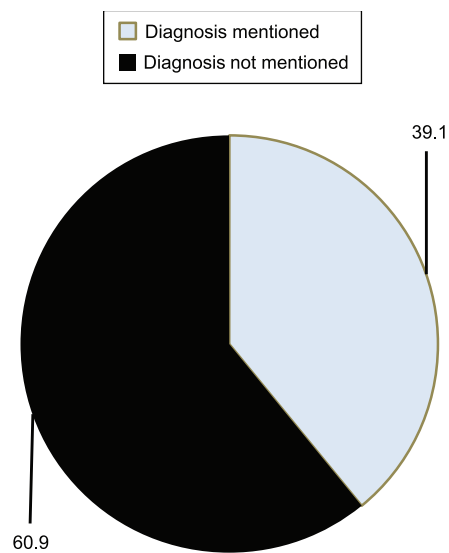
As there is no sufficient data available on their use in the population of Bangladesh, the present study was carried out to observe the patterns of prescribing psychotropic drugs in psychiatry outpatient department.

**Materials and methods**

It was a hospital-based cross-sectional study. The study was conducted over a period of six months from January to June 2016 at the outpatient department of National Institute of Mental Health (NIMH), Dhaka, Bangladesh. The prescriptions prescribed by psychiatrists were considered as study population. All prescriptions having at least one psychotropic drug were included. Prescriptions in which hand-writing could not be understandable, or advised for admission, and referred to other hospitals were excluded. Permission of the institutional ethics committee was obtained for conducting the study. Informed consent was taken from all participants prior to their inclusion into the study. Using convenience sampling method, data were collected by observation using checklist from selected 604 latest prescriptions prescribed by psychiatrists in OPD of NIMH for the patients coming there for treatment. The sampling frame was fixed as six prescriptions per day, five days a week, during the sampling period. The six prescriptions were selected as follows: On day 1, all six prescriptions were chosen from the first two hours of the OPD, on day 2 six prescriptions were chosen from the middle 2 hours and on day 3, six prescriptions were chosen from the last 2 hours of OPD and so on. In case of Out Patient Department holidays, the prescriptions of that day were assigned to the next working day. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 16. The psychotropic drugs included for analysis were antipsychotics, antidepressants, mood stabilizers and sedative-hypnotics.

**Results**

In majority (60.9%) of the prescriptions observed for the study, no diagnosis was mentioned (Figure 1). There were 1802 psychotropic drugs in 604 prescriptions with an average of 2.98 psychotropics per prescription. Antipsychotics (44.8%) were the most commonly prescribed psychotropics (Table 1). Among the prescriptions, only 58 (9.6%) contained one psychotropic. The rest 546 (90.4%) contained combination of psychotropics. Most (49.7%) of the prescriptions contained 3 psychotropics (Table 2). Among the combinations, antipsychotics with sedative-hypnotics were the most common (27.8%) combination (Table 3). Most (83.8) of the psychotropics were advised to take orally (Figure 2). Majority (55.6%) were advised to take the psychotropics twice a day (Table 4).



**Figure 1: Diagnosis mentioned in the prescription (n=604)**

**Table 1: Commonly prescribed group of psychotropics (n=1802)**

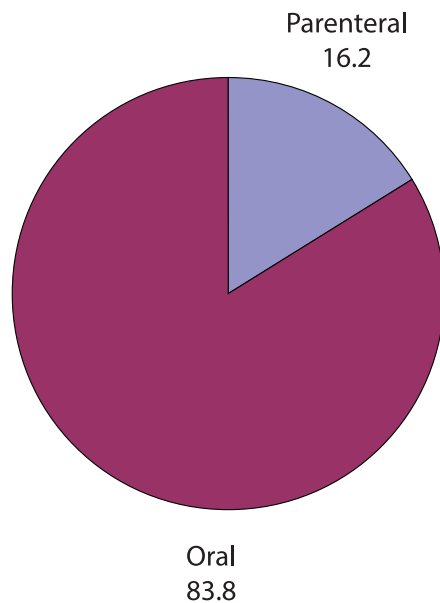
Psychotropics	Frequency	Percentage
Antipsychotics	808	44.8
Antidepressants	246	13.7
Mood stabilizers	296	16.4
Sedatives-hypnotics	452	25.1

**Table 2: Number of psychotropics per prescription (n=604)**

Number of psychotropics	Frequency	Percentage
1	58	9.6
2	102	16.9
3	300	49.7
4	92	15.2
5	40	6.7
6	12	1.9

**Table 3: Combination of psychotropics (n=546)**

Combination	Frequency	Percentage
Antipsychotics+ Sedative-hypnotics	152	27.8
Antipsychotics+ Mood stabilizers	40	7.3
Antipsychotics+ Antidepressants	24	4.4
Antipsychotics+ Mood stabilizers+ Sedative-hypnotics	104	19.0
Antipsychotics+ Antidepressants+ Sedative-hypnotics	28	5.1
Antipsychotics+ Antidepressants+ Mood stabilizers	18	3.3
Antipsychotics+ Antidepressants+ Mood stabilizers+ Sedative-hypnotics	56	10.3
Antidepressants+ Mood stabilizers+ Sedative-hypnotics	24	4.4
Antidepressants+ Mood stabilizers+	14	2.6
Antidepressants+ Sedative-hypnotics	62	11.4
Mood stabilizers+ Sedative-hypnotics	24	4.4

**Figure 2: Route of administration of psychotropics prescribed by psychiatrists (n=1802)****Table 4: Dosage regimen/day in prescription(n=604)**

Dosage	Frequency	Percentage
Once	36	6.0
Twice	336	55.6
Thrice	232	38.4

## Discussion

A prescription may be taken as reflection of physician's attitude to the disease and the role of drug in its treatment. It also provided an insight into the nature of the healthcare delivery system.<sup>11</sup> The present study aimed to analyze the current prescribing pattern of psychotropic medications in the OPD of a tertiary care psychiatric hospital. The demographic analysis suggested that

males were represented with more psychiatric illness, compared to females; this finding was contrary to the findings of Thakkar KB et al. and Mant A et al.<sup>10,12</sup>

The age group of 26-35 years was found to be represented with maximum psychiatric disorders. Here, we found that antipsychotic drugs were the most commonly prescribed categories of psychotropic medications followed by sedative hypnotics, mood-stabilizers and anti-depressants in decreasing order. The average number of psychotropic drugs per prescription was 2.98, which was higher than that found in similar studies, where it ranged from 1.79 to 2.5 drugs per prescription.<sup>13,14</sup> Average number of drugs per prescription was an important index of prescription audit. It is preferable to keep the mean number of drugs per prescription as low as possible because multiple drugs lead to increased risk of drug interaction. Out of the 604 prescriptions monitored in our study, 90.4% were prescribed more than one drug, 49.7% patients were prescribed three drugs; we can say that polypharmacy was not avoided. Polypharmacy can lead to poor compliance, drug interaction, adverse drug reactions, under-use of effective treatments, healthcare costs, and medication errors.<sup>15</sup> In this study, we found that the most common combination of drugs was of antipsychotics and sedative-hypnotics, followed by antipsychotics, mood stabilizers and sedative-hypnotics.

No drug was prescribed by generic names; contrary to the findings of the study done by Thakkar KB et al.<sup>10</sup> There might be no obligation of prescribing generic names among the medical practitioners at government tertiary care teaching hospital as per local health administration order. It is against the WHO guidelines, where generic prescription is one of the indicators of rational prescribing. Generic drug prescribing also facilitates cheaper treatment for the patient.

The oral (83.8%) and parenteral (16.2%) preparations used in this study were comparable with those of Rode SB et al. and

Dutta SB et al.<sup>16,17</sup> The injection most frequently prescribed was fluphenazine decanoate (25 mg) intramuscularly. Concerns about the adverse effects and cost-effectiveness of the parenteral route of drug administration are probably the reasons for the low utilization of depot injection formulation in the psychiatry OPD.

No diagnosis was written in more than half (60.9%) of the prescriptions. The appropriateness of prescription of the psychotropic drugs with regard to the diagnosis and comorbidities was not evaluated in study. The factors such as cost, patient compliance, and adherence to treatment guidelines while prescribing were not as well assessed. The study involved patients attending the OPD of a tertiary care psychiatric hospital in the capital of Bangladesh; thus, the results cannot be a representative of national data. The hospital resources (e.g., availability of free medicines from hospital) that might govern the issue of polypharmacy have not been considered in this research.

### Conclusion

Though there are some limitations in the study, this can be concluded that the prescription patterns were not rational. Diagnosis was not mentioned in most of the prescriptions and use of combination of drugs was remarkable. This issue should be intervened by educating prescribers about rational prescribing in psychiatry.

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