

Pattern of psychotropic prescription in a tertiary care hospital of Bangladesh: a cross-sectional analysis of prescription photos

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Introduction

Mental disorders account for a growing proportion of the worldwide burden of diseases. In 2013, mental disorders accounted for 14% of the worldwide burden of diseases [1]. The burden of mental health disorders in Bangladesh is yet to be measured precisely as done in the developed countries. A recent systemic review reported the prevalence of mental disorders varied from 6.5 to 31.0% among adults and 3.4 to 22.9% among children in the country [2]. As a part of holistic biopsychosocial approach, pharmacotherapy is an important part of care for mentally ill patients [3]. But, pattern of prescriptions varies based on the different geographical areas, patient characteristics, type of disorder, culture, environment, socioeconomic status, availability drugs and prescribing habit of physicians [4]. Drug surveillance studies seek to monitor and evaluate the prescribing patterns to make the care evidence based, rational and cost-effective [4]. Moreover, describing the pattern also helps in identifying the factors responsible for irrational practice of polypharmacy as well as problems associated with it [5]. We aimed to see prescription pattern of psychotropics in a tertiary care specialized psychiatric hospital at out patient services setting of Bangladesh.

Methods

This hospital-based descriptive cross-sectional study was conducted within the period of January to March 2018 at the outpatient department (OPD) of a tertiary care specialized mental health hospital of Dhaka, Bangladesh. Convenient sampling was used to collect data from 709 patients visited at the study duration by capturing the photos of the prescriptions with a smart phone. All prescriptions having at least one psychotropic drug were included. Prescriptions in which hand-writing could not be comprehensible, or advised for admission, and referred to other hospitals were excluded. Permission was taken from the ethical review committee of the department of Pharmacy of Noakhali Science and Technology University and confidentiality of data was maintained adequately. Data were analyzed using the Statistical Package for Social Science (SPSS) version 20 for Windows and Microsoft Excel version 2010. The psychotropic drugs included for analysis were antipsychotics, antidepressants, mood stabilizers anti-cholinergics and sedative-hypnotics.

Results

Among the 709 photos of outpatient services prescriptions 454 (64%) were male and 255 (36%) were females. The mean age of the respondents was 29.63 (SD±11.43) years, ranging from 4 to 70 years. The mean of total number of drugs in a prescription was 3.42 (SD±0.64). About 75% of the prescriptions had anti-psychotics, 42% had anti-depressants, 17% had long acting injections (LAIs) and 63% of the prescriptions had combination of drugs (Table 1). Among the anti-psychotics, olanzapine was found in about 14% of the prescriptions, followed by risperidone and others. Mirtazapine was most commonly found among the anti-depressants, clonazepam was most commonly hypnotics, fluphenazine was most common LAIs, valproate preparation was most common mood stabilizer and procyclidine was most common anti-cholinergic. Majority of prescriptions contained single drug from the specific groups. However, combinations were also found as there were even three anti-psychotics in the same prescription. The category other contained vitamins and minerals, food supplements, anti-ulcerants, hormone products and drugs others than psychotropics (Table 2).

Discussion

We aimed to see prescription pattern of psychotropics of at OPD of a tertiary care specialized mental health care center in Dhaka, Bangladesh. In the current study, anti-psychotics were most commonly prescribed drugs and about 75% of the prescriptions contained anti-psychotics. The mean of total number of drugs including other drugs in a prescription was 3.42 (SD±0.64). Nearly similar number of psychotropics (3.39±1.67) were found in a study by Mukherjee *et al.*, in 2014 [5]. Another study revealed the average drug was 2.51±0.75 [4]. Similar pattern was found in a study conducted in India [6]. About 64% of the prescriptions contained combination of psychotropics in the OPD setting. In a study in India revealed that, about 77% of the

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Table 1. Distribution of psychotropics (n=709)

Psychotropics	Frequency	Percent
Anti-psychotics	533	75.17
Anti-cholinergic (mostly procyclidine)	411	57.96
Anti-depressants	295	41.60
Sedatives	216	30.46
Mood stabilizers	125	17.63
Anti-dementics	57	8.03
Long acting injection (Fluphenazine)	121	17.06
Others	289	40.76
Combination	448	63.20
Anti-psychotics		
Olanzapine	97	13.74
Risperidone	75	10.51
Trifluoperazine	34	4.85
Quetiapine	34	4.85
Fluphenazine (LAI)	11	1.62
Chlorpromazine	11	1.62
Haloperidol	6	0.81
Aripiprazole	6	0.81
Clozapine	6	0.81
Combined	252	33.57
Total	533	75.18
Anti-depressants		
Mirtazapine	89	12.56
Sertraline	56	7.85
Escitalopram	33	4.71
Fluoxetine	17	2.36
Clomipramine	17	2.36
Amitriptyline	6	0.79
Venlafaxine	6	0.79
Combination	72	10.21
Total	295	41.61
Sedatives		
Clonazepam	168	23.70
Diazepam	30	4.23
Midazolam	6	0.85
Bromazepam	6	0.85
Combination	6	0.85
Total	216	30.47

Table 2. Distribution of prescription of multiple drugs of same group

Number of Drugs	Antipsychotic		Antidepressants		Mood stabilizers	
	N	%	N	%	N	%
1	250	35.2	224	31.59	95	13.40
2	238	33.6	71	10.02	30	4.23
3	45	6.4				

patients received polypharmacy [6]. Another study in India revealed 85% of the patients had found to get polypharmacy [5]. Among the anti-psychotics, olanzapine was most common which was similar in Ghana where olanzapine was the commonly prescribed psychotropic medication [1]. Other studies in India also found olanzapine as the commonest anti-psychotic [4,7]. Mirtazapine was commonest anti-depressant and clonazepam was commonest hypnotics. Rode *et al.*, found escitalopram, and clonazepam as the commonest ones respectively [4].

The study revealed about 17% of the prescriptions had LAIs whereas another study among 120 schizophrenia patients revealed about 57% of the patients had history of receiving LAIs [8]. The variations can be explained by the different distribution of patients in the two different settings. Current study included prescriptions

of patients without any diagnosis, but the mentioned study included only schizophrenic patients. However, Ashong *et al.*, didn't found any evidence of LAIs among schizophrenic patient because of cost, insurance coverage, treatment setting, negative attitudes of healthcare professionals and patients, fear, and pain on injection [1]. But, in India perceived expenses of LAIs is an important cause of low LAI using [8-10]. Mukherjee *et al.*, found only 4.42% respondents were found to get parenteral preparations [5].

Though the study can provide an initial idea of further studies, but with this cross sectional, single centered, generalization of the study findings would be difficult. Moreover, the study didn't give any rationale of the prescribing the psychotropics and diagnoses were not assessed. Further larger scale studies considering the diagnosis and rationale of prescription can be considered.

Conclusions

Two-third of the patients of OPD getting anti-psychotics, olanzapine was mostly prescribed anti-psychotic, mirtazapine was most commonly anti-depressant, clonazepam was most commonly prescribed hypnotic. More than 6 out of 10 patients were prescribed combination of psychotropics.

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Conflict of interest

None.

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