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Prescription Pattern of Psychotropic Drugs at the Psychiatry Outpatient Department of a Tertiary Hospital in Southeastern Bangladesh

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Abstract

Background: At present, magnitude of psychiatric diseases occurring worldwide is a growing concern which implies the focus on rational prescribing of psychotropic drugs in public health point. So, the study aims to assess the prescription pattern of psychotropic drugs at the Psychiatry Outpatient Department of a tertiary hospital in Bangladesh.

Materials and methods: This cross-sectional study was conducted among 470 patients attended the Out-Patient Department of Psychiatry in Chittagong Medical College Hospital from February, 2023 to January, 2024.Participants were selected consecutively and data were collected by a structured case record form. All ethical issues in different stages of study and quality control of data were maintained strictly.

Results: From the total participants (470) in the study, 30.4% were in the age group 20-29 years in which male were predominant (54.7%). Schizophrenia was the (19.6%) most frequent diagnosis followed by Bipolar mood disorder (16.1%). Among male, Bipolar mood disorder (19.5%) was more common while among female schizophrenia (24.4%) was more common. Antipsychotics (70.2%) were the most commonly prescribed psychotropic drugs followed by antidepressants (50.6%), mood stabilizer (38.9%) and sedative-hypnotics (37.4%). It was found that average number of psychotropic drugs per prescription was 2.2±1.0 (Mean ± SD).

Conclusion: The study findings suggest to carry out further studies which would be impactful for improving the prescription pattern of psychotropic drugs to ensure better patient outcome.

Key words: Out-patient; Prescription pattern; Psychotropic drug.

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Introduction

Psychiatric disorders are the most common of all human illnesses and comprise significant proportion of public health problem.[1] Approximately thirteen percent of the worldwide burden of disease produced by psychiatric diseases.[2] In Bangladesh the rate of psychiatric diseases is veritably high and the reported cases among adult is 16.8% and among children 13.6% in Bangladesh.[3] In this way, psychiatrists are now searching for evidence-based psychotropic drugs for effective and safe treatment of psychiatric diseases.[4,5] Psychopharmacology, the diverging and challenging sector is also constantly seeking for new and improved drugs for the treatment of psychiatric disorder.[6] Although psychotropic drugs are widely available but their rational selection in treating psychiatric illness become a challenge. Because of their significant impact on psychiatry, clinical practice, effectiveness and safety,psychotropic drugs have prompted a remarkable change in prescribing pattern in various mental illness.[7]

The art of prescription writing varies according to geographical area, patients' characteristics, disease prevalence, cultural socioeconomic status.[6] Nowadays rationality of prescribing pattern is under the threat of bad prescribing habit such as misuse, overuse and underuse of medicines which potentiates the hazard of patients and unnecessary expenses.[8,9] Inappropriate prescription pattern ultimately causes therapeutic failure, exacerbation of disease, health hazard, wastage of resources and hospitalization.[10] So periodic review of pattern of drug utilization is very important to ensure safe and effective treatment which will facilitate rationality of prescription in society.[11] Again, drug utilization studies provide complete guidance for practitioner, dispensers and the general public regarding appropriate use of medicines and collaborates with other organizations and cultivates working relationship with them.[12] To ensure the rationale use of psychotropic drugs there are different guidelines

available throughout the world.[13,14] Recently some guidelines published in Bangladesh such as Bangladesh Association of psychiatrist's guideline for individual psychiatric diseases which are helping prescriber for the purpose of rational use of psychotropic drugs. Consequently, the purpose of this study was concentrated to analyze and evaluate the prescribing pattern of psychotropic drugs in the Psychiatry outpatient department of a tertiary care hospital located in Southeastern Bangladesh.

Materials and methods

It was a descriptive type of cross-sectional study. The data were collected from the Outpatient Department of Psychiatry of Chittagong Medical College Hospital, Chattogram, Bangladesh during February, 2023 to January, 2024. A total of 470 prescription of patients were collected by consecutive sampling method using a structured case record form. Patients who were seeking treatment at Psychiatry Out Patient Department of CMC and Hospital for various psychiatric disorders of all age groups and both genders were included in our study. In this study, referred patients as well as those cases where diagnosis was not certain were excluded. Necessary permission was taken from ERC before commence the study. After collection, data were analyzed by SPSS-26.

Results

The research was effective in enrolling a total of 470 patients who met the requirements for inclusion. Male number was more in the study with 54.7% in the total sample. The most frequent age group was 20-29 years. Other demographic characteristics of the study population are presented in Table I.

Table I Sociodemographic characteristics of the patients (n= 470)

Attribute		Frequency (f)	Percentage (%)
Gender	Male	257	54.7
	Female	213	45.3
Age (Year)	<10	12	2.6
	10~19	74	15.7
	20~29	143	30.4
	30~39	108	23
	40~49	64	13.6
	50~59	44	9.4
	60~69	18	3.8
	≥70	7	1.5
Educational status	Illiterate	100	21.3
	Primary	146	31.06
	SSC	114	24.3
	HSC or above	110	23.4
Occupation	Employed	332	70.6
	Unemployed	138	29.4
Monthly Family Income (Tk)	< 20000	182	61.3
	≥20000	288	38.7
Residence	Rural	236	50.4
	Urban	234	49.6

Figure 1 shows the distribution of the number of prescribed drugs per patient. The number of drugs per prescription ranged between 1 to 6 drugs. The number of prescriptions containing 2 drugs accounted for the highest number of prescriptions (41%) while those containing 1 and 3 drugs per patient were 23%. While 2% prescriptions contain no psychotropic drug.

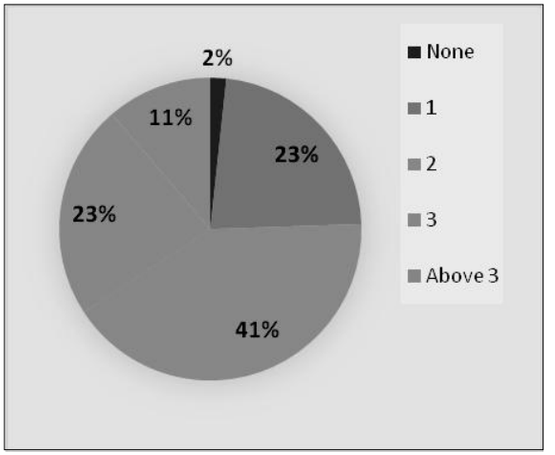

Figure 1 Distribution of number of psychotropic drugs per prescription

Table II representing, most frequent diagnosis was schizophrenia (19.6%) followed by Bipolar mood disorder (16.1%) major depressive disorder (13.8%) and intellectual disability (12.6%). Among male, Bipolar mood disorder (19.5%) was more common while among female patients' schizophrenia (24.4%) was more common.

Table II Common psychiatric diagnosis written on the prescription of the patients attending the psychiatry outpatient Department (n= 470)

Psychiatric Disorder	Male (n=257)	Female (n=213)	No. of patient (n= 470)
Schizophrenia spectrum and other psychotic disorders			
Schizophrenia	40(15.6%)	52(24.4%)	92(19.6%)
Unspecifiedpsychosis disorder	3(1.2%)	3(1.4%)	6(1.3%)
Bipolar and related disorders			
Bipolar mood disorder	50(19.6%)	26(12.2%)	76 (16.1%)
Depressive disorders			
Major depressive disorder	34(13.3%)	31(14.6%)	65 (13.8%)
Generalized anxiety disorder	23(8.9%)	22(10.3%)	45(9.5%)
Non-specific anxiety disorder	4 (1.6%)	2 (0.9%)	6 (1.3%)
Panic disorder	3 (1.2%)	2 (0.9%)	5 (1.1%)
Neurodevelopmental disorders			
Intellectual disability	30(11.7%)	29(13.6%)	59 (12.6%)
Disruptive, impulse-control, and conduct disorder			
Oppositional defiant disorder	5 (1.9%)	0 (0)	5 (1.1%)
Obsessive compulsive disorder	14(5.4%)	13 (6.1%)	27 (5.7%)
Somatic somatoform disorder	8 (3.1%)	10 (4.7%)	18 (3.8%)
Substance use disorder	12 (4.7)	3 (1.4%)	15 (3.2%)
Dementia	6 (2.3%)	3 (1.4%)	9 (1.9%)
Others	30(11.7%)	12 (5.6%)	42 (8.9%)

A total of 4 group of psychotropic drugs were prescribed in which Antipsychotic (70.2%) were the most commonly prescribed followed by antidepressants (50.6%), mood stabilizers (38.9%) as shown in Table III.

Table III Prescribing prevalence of individual psychotropic drugs

Drug Class	Drug name	No. of drugs n (%)
Antipsychotic (n= 330)	Risperidone	139 (42.1)
	Olanzapine	119 (36.1)
	Quetiapine	61 (18.5)
	Others	11 (3.3)
Antidepressant (n= 238)	Sertraline	80 (33.6)
	Fluoxetine	57 (23.9)
	Escitalopram	56 (23.5)
	Others	45 (18.9)
Mood stabilizer (n= 183)	Sodium valproate	171 (93.3)
	Lithium	12 (6.5)
Sedative-hypnotics (n= 176)	Clonazepam	136 (77.3)
	Flurazepam	15 (8.5)
	Alprazolam	12 (6.8)
	Others	13 (7.4)

Discussion

The burden of psychiatric illness from infancy & adolescence to adulthood is enormous, although it remains under represented by conventional public health.[15] Because of increasing number of diagnosed cases of psychiatric disorders, the clinical use of psychotropic drugs has expanded.[16] This cross-sectional study was attempted to understand the pattern of prescription of psychotropics in the Psychiatry Outpatient Department in CMCH in southeastern Bangladesh.

The most common age group (30.4%) in this study were 20-29 years (Table I) having psychiatric disorder. But in the study of Bagewadi & Huded et al. showed that significant proportion of the patients (44.5%) belonged to the age group of 20–40 years.[10] This may be due to difference in age group and regional variation of their study population. The proportion of male was higher than female in the study with 54.7% in the total sample (Table I) which agreed with other studies like 57.6%, 51.5% and 64.5%.[7,15,17] The reasons

for the psychiatric disorder of male predominance is due to some social implication factors like drop out from high school, unemployment, stressful occupation, low job security and family relationship issues.[11]

In present study, the most frequent diagnosis was schizophrenia (19.6%) followed by 16.1% bipolar mood disorder and 13.8 % major depressive disorder (Table II). But in another recently published study by Hattab et al. which was carried out in outpatient setting showed that 52.8% of the patients were diagnosed with schizophrenia while 15.2% were diagnosed with depression[17]. In our study, among male, Bipolar mood disorder (19.6%) was more common while among female patients' schizophrenia (24.4%) was more common. It has been hypothesized that hormonal variation, effects of childbirth, psychosocial stress among women of our country could be the differentiating factors.[6]

According to this study the average number of medicines per prescription was 4.4 ± 2.1(Table III) which demonstrates a notable use of medicines other than psychotropic medicine (e.g. Procyclidine hydrochloride, Trihexyphenidyl, Thiamine and so on). These medicines are frequently used to augment the action of primary drug or to avoid side effects of Psychotropics. The rate of average number of medicines in this study was greater than in the study of Abdurrahman et al.[7] This variation may be due to the consequence of comparatively higher rate of prescribing placebo drug in purpose of filling patient's satisfaction in Bangladesh.[18]

In this study, average number of psychotropic drugs per prescription was 2.2±1.0 (Table III) which is comparable with the findings of other studies where it ranged from 2 to 3.3 drugs per prescription.[7] This higher percentage of using psychotropics in this study may arise the need for close monitoring of prescription pattern in this region and also calls for further research. The concurrent use of two or more psychiatric medications (Same chemical class or same pharmacological actions) to treat the same condition in a prescription is known as psychiatric polypharmacy.[6] In our study, over 41% of prescriptions contained 2 drugs and only 23% of prescriptions contained 4 drugs which suggests the incidence of polypharmacy. But it is alarming because polypharmacy leads to poor compliance, adverse drug reactions increased risk of drug interactions, increased hospital cost, under-use of effective treatments and errors of prescribing.[19,20]

In the present study all drugs were prescribed by their trade name, which suggests brand names are more popular among the medical practitioners, which is contrary to the WHO guidelines, where generic prescription is the key point for rational prescribing.[21]

In the present study, injectable medicines were prescribed in just 3% prescriptions which within the WHO recommended value of <20%.[22] This result was in line with the study of Tejus et al. where 2.39 % of the drugs were injectable in their prescription.[23] More adverse effects and high cost are probably the reasons for low utilization of injectable preparation.

The international guidelines regarding the treatment of psychosis suggest that the use of atypical anti-psychotics should be considered as a first-line therapy for schizophrenia due to their higher safety profile, tolerability and efficacy especially in treating negative symptoms of schizophrenia in comparison with typical agents.[24] Present study findings were in line with these international recommendations, as atypical anti-psychotics were more commonly prescribed compared to typical ones. Atypical antipsychotics are commonly prescribed because of their high tolerability, low relapse rate, efficacy against refractory cases, good control over negative symptoms mild adverse effects.[6] Although it is safe than the typical antipsychotics, their ability to cause sedation should be kept in mind in case of older patients.[10]

In this observation, drug utilization pattern showed that most commonly advised Psychotropic drugs were antipsychotics 70.2% followed by 50.6% were antidepressants, 38.9% mood stabilizer and 37.4% sedative-hypnotics (Table III). But in an Indian outpatient psychiatry department study by Bagewadi & Huded found antidepressants (38%) was the most commonly suggested psychotropic drug followed by anxiolytics (21%), antipsychotics (17%) and mood stabilizers (08%).[10] Antipsychotic drugs are prescribed at comparatively greater extent because of higher

prevalence of schizophrenia & bipolar mood disorder in this study.

Risperidone (42.1%) was the most common atypical antipsychotics preparation prescribed to the study population (Table III) followed by Olanzapine (36.1%) and Quetiapine (18.5%). This study findings are also similar to the findings of the another study.[23,26] But a systemic review has shown that olanzapine is more efficacious than other second-generation antipsychotic drug.[27]

With regard to antidepressants, Selective Serotonin Reuptake Inhibitors (SSRI) were the most common prescribed compared to Tricyclic Anti-depressants (TCA). Among the SSRI, sertraline was the most commonly prescribed drug. As because SSRI are generally free of sedative effects and used safely in higher doses. Mild adverse effects and high tolerability accounts for their popularity to the physicians as most widely prescribed antidepressants.[25]

In this drug utilization study, the use of the psychotropic drugs for various indications was consistent with the recent recommendation and guidelines. Because of better safety profile and tolerability, newer psychotropic drugs were being prescribed more by psychiatrists. This study provides a baseline information for use of psychotropics in community level on carrying out further studies on prescribing pattern in tertiary care hospital.

Limitation

The short duration of this cross-sectional study might affect the results as possible. The study findings could not be applied to the wider community as the study was restricted to outpatients only at the Department of Psychiatry, Chittagong Medical College Hospital, Chattogram, Bangladesh. Appropriateness of prescription for the psychotropic drugs in accordance with the diagnosis and co-morbidities of the diseases was not evaluate during the study.

Conclusion

In conclusion, present study findings suggest that majority of psychiatric outpatients received psychotropic drugs as polytherapy and are prescribed in trade name. Among the psychotropics antipsychotics are the most commonly prescribed drugs. Newer and second-generation antipsychotic drugs are preferred more by psychiatrists. This study information can help the non-psychiatrist clinicians to choose the right antipsychotic drugs for their prescription and as well as help in rational prescribing of psychotropic drugs.

Recommendation

For the benefit of psychotic patients and all of humanity, the present study thus provides a baseline for drug utilization studies periodically for a longer duration of time and with a larger sample size.

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Contribution of authors

SD-Conception, acquisition of data, data analysis and interpretation, drafting and final approval.

SSA-Design, critical revision & final approval.

PA-Acquisition of data, drafting and final approval.

MR-Acquisition of data, data analysis, drafting and final approval.

Disclosure

The authors declared no conflict of interest.

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