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A Study on Drug Prescribing Pattern in Psychiatry Out-Patient Department from a Tertiary Care Teaching Hospital

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Abstract

***Background*:** Conventional public health statistics, which concentrate on mortality rather than morbidity or dysfunction, severely underrepresent the massive burden of sickness caused by behavioral and psychiatric illnesses. ***Objective*:** To determine the prevalence of psychiatric disorders and the patterns of psychotropic drug prescriptions. ***Materials and Methods*:** It was a hospital-based prospective observational study was conducted in the Department of Pharmacology & Therapeutics, Sir Salimullah Medical College & Hospital during July' 2022 to December' 2022. A total of 765 prescriptions were selected. All patients attending the psychiatry OPD during the period of the study were included and analyzed as per the WHO drug indicators. ***Results*:** Clonazepam constitutes 119 (51.74%), Lorazepam 74 (32.17%), and Others 37 (16.09%) of the 230 anxiolytics listed in the table. In 195 antidepressant drugs, 76 (38.97%) were escitalopram, 33 (16.92%) were amitriptyline, 47 (24.10%) were imipramine, and 39 (20%) were other antidepressants. Antipsychotics were detected in 194 patients (21% of the cohort population). This includes Olanzapine (88.36%), Haloperidol (34.54%), Risperidone (14.22%), and Other Antipsychotics (12.89%). Trihexyphenidyl was prescribed to 75 of the 88 study participants, accounting for 85.23% of the total. Prescribing Indicators and it was observed that an average number of drugs per prescription were 2.59±1.37. Average number of Antipsychotics prescribed per prescription was 2.73±1.46. The number of antipsychotic drugs prescribed by generic name was 52.94%. Percentage of injectable drugs prescribed 2.48%, Percentage of the prescriptions containing psychotropic FDC 20.78%, Percentage of psychotropic drugs prescribed from essential drug list 42.75%, Percentage of psychotropic drugs prescribed from hospital pharmacy 62.22%. ***Conclusion*:** The most frequently prescribed antidepressant, antipsychotic, and BZD medications were escitalopram, olanzapine, and clonazepam, in that order. Carbamazepine was preferred over lithium as a mood stabilizer.

Keywords: Drug utilization, Psychotropic, Out-patient, Prescribing pattern, Antipsychotics.

INTRODUCTION

Antipsychotic medications are the primary therapeutic interventions in the treatment of patients with psychiatric disorders. Prescribing trends of antipsychotics has modified over the decade with accessibility of atypical antipsychotics. Hence continuous studies on contemporary prescribing patterns are needed to provide most upgraded, effective and rational treatment of psychoses [1].

Rational use of medicines as defined by the World Health Organization (WHO) states that "Patient receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community [2].

Antipsychotic medications are categorized into two classes: first-generation antipsychotics (FGAs) or typical antipsychotics and second-generation antipsychotics (SGAs) or atypical antipsychotics [3].

According to the World Health Organization's (WHO) Global Burden of Disease Study, psychiatric illnesses are considered to be among the most onerous diseases in the world. They influence people's economic well-being as well as their quality of life [4].

Psychiatric ailments are responsible for 12% of the disease burden worldwide. By 2020, it is expected that they would account for 15% of all disability-adjusted life-years (DALYs) lost. Intercontinental the prevalence rates for these illnesses are expected to be around 10% for adult populations. According to many epidemiological research conducted in India, the morbidity rate is about 18-20 per thousand people [5].

Antipsychotics are ascribed to numerous negative consequences such as Extra pyramidal side effects, sedation, weight gain, metabolic interruptions, sexual impairments, urinary and gastrointestinal dysfunctions, Menstrual irregularities, and galactorrhea [6]. Side effects are pharmacologically significant since they can cause distress, diminish quality of life, be stereotyping, and lead to antipsychotic medication nonadherence, which can cause a relapse of the underlying psychiatric diagnosis. Consequently, some adverse effects can result in additional physical morbidity and mortality. Side effects must be monitored in a systematic manner and certain rating scales are designed to evaluate specified antipsychotic side effects [7].

MATERIALS AND METHODS

It was a hospital-based prospective observational study was conducted in the Department of Pharmacology & Therapeutics, Sir Salimullah Medical College & Hospital during July' 2022 to December' 2022. A total of 765 prescriptions were selected. All patients attending the psychiatry OPD during the period of the study were included and analyzed as per the WHO drug indicators. Prescriptions of patients of both sex and all ages, suffering from a psychiatric illness and started on at least one psychotropic drug were selected. In-patients, referred patients, patients of epilepsy, patients who were pregnant, lactating as well as those cases where diagnosis was not certain were excluded from the study. Designed and pre-tested structured proforma was used to collect the required information. Age, diagnosis (patient information) and name of the drug, dosage form, route of administration and duration of prescription (drug information) were recorded. The method of duplicate prescriptions was used for analysis. WHO drug use indicators included, to analyze the prescriptions were: (1) average number of the drugs per prescription, (2) average number of the psychotropic drugs per prescription, (3) percentage of the psychotropic drugs prescribed by generic name, (4) percentage of injectable drugs prescribed, (5) percentage of prescriptions containing psychotropic fixed dose combinations (FDC), (6) percentage of the psychotropic drugs prescribed from essential drug list and (7) percentage of the psychotropic drugs prescribed from the hospital pharmacy.

RESULTS

Figure I shows majority psychiatric disorders was seen between 31-45 years of age 287(37.52), followed by 237(30.98%) between 15-30 years, 191(24.97%) between 46-60yrs. Table 1 showed clonazepam constitutes 119 (51.74%), Lorazepam 74 (32.17%), and Others 37 (16.09%) of the 230 anxiolytics listed in the table. In 195 antidepressant drugs, 76 (38.97%) were escitalopram, 33 (16.92%) were amitriptyline, 47 (24.10%) were imipramine, and 39 (20%) were other antidepressants. Antipsychotics were detected in 194 patients (21% of the cohort population). This includes Olanzapine (88.36%), Haloperidol (34.54%), Risperidone (14.22%), and Other Antipsychotics (12.89%). Trihexyphenidyl was prescribed to 75 of the 88 study participants, accounting for 85.23% of the total. Other anticholinergics were prescribed to 13 participants, accounting for 14.77%. Antimaniacs were prescribed to 58 participants in the study. Valproate: 23 (39.56%), Carbamazepine: 29 (50%), and Lithium: 6 (10.34%). Table-2 Prescribing Indicators and it was observed that an average number of drugs per prescription were 2.59±1.37. Average number of Antipsychotics prescribed per prescription was 2.73±1.46. The number of antipsychotic drugs prescribed by generic name was 52.94%. Percentage of injectable drugs prescribed 2.48%, Percentage of the prescriptions containing psychotropic FDC 20.78%, Percentage of psychotropic drugs prescribed from essential drug list 42.75%, Percentage of psychotropic drugs prescribed from hospital pharmacy 62.22%.

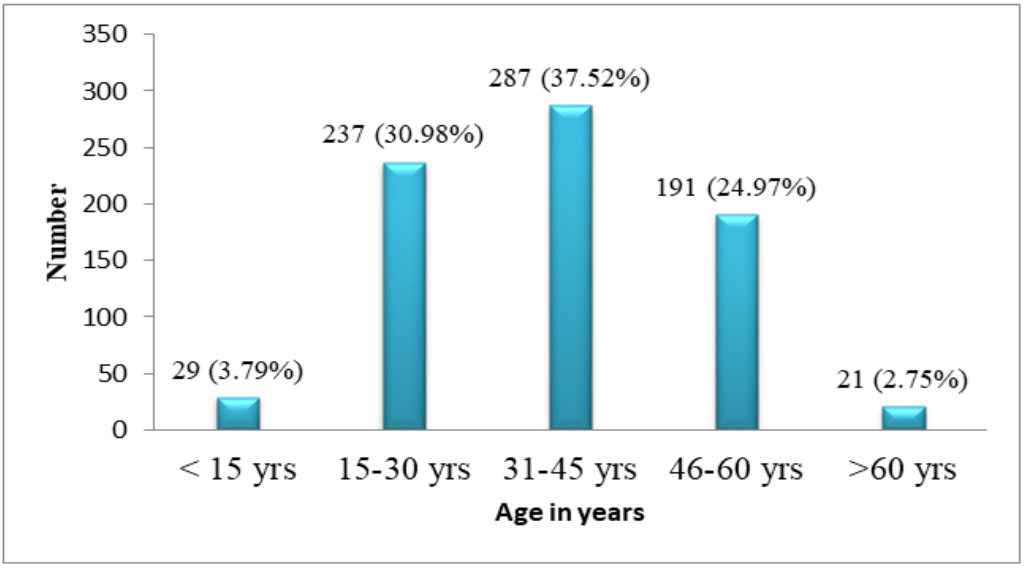

Figure I: Age group distribution of the study population (n=765)

Table 2: Prescribing prevalence of individual psychotropic drugs

		Number	Percentage of drug
Anxiolytics (n=230)	Clonazepam	119	51.74
	Lorazepam	74	32.17
	Others	37	16.09
Antidepressants (n=195)	Escitalopram	76	38.97
	Amitriptyline	33	16.92
	Imipramine	47	24.10
	Others	39	20.00
Antipsychotics (n=194)	Olanzapine	88	45.36
	Haloperidol	67	34.54
	Risperidone	14	7.22
	Others	25	12.89
Anticholinergics (n=88)	Trihexyphenidyl	75	85.23
	Others	13	14.77
Antimaniacs (n=58)	Carbamazepine	29	50.00
	Valproate	23	39.66
	Lithium	6	10.34

Table 2: Drug usage pattern in psychiatric illness

	Number	Percentage
Average number of the drugs per prescription (mean ±SD)	2.59±1.37	
Average number of the psychotropic drugs per prescription (mean ±SD)	2.73±1.46	
Percentage of the psychotropic drugs prescribed by generic name	405	52.94%
Percentage of injectable drugs prescribed	19	2.48%
Percentage of the prescriptions containing psychotropic FDC	159	20.78%
Percentage of psychotropic drugs prescribed from essential drug list	327	42.75%
Percentage of psychotropic drugs prescribed from hospital pharmacy	476	62.22%

DISCUSSION

In this study observed the majority psychiatric disorders was seen between 31-45 years of age 287(37.52), followed by 237(30.98%) between 15-30 years, 191(24.97%) between 46-60yrs. Predominance of psychiatric disorders was seen between 36-40 years of age. Most of studies have shown similar results with age ranging from 21- 45 years [6-8]. Reason for this preponderance of age could be that this is the time period where males carry the onus of carrier making, marriage and family establishment and other socioeconomic burdens and females in addition to these has to face turmoil of hormonal disturbances and child birth. The decline of psychiatric illness after this age could be due to settlement of all these turbulences of life.

Present study showed clonazepam constitutes 119 (51.74%), Lorazepam 74 (32.17%), and Others 37 (16.09%) of the 230 anxiolytics listed in the table. In 195 antidepressant drugs, 76 (38.97%) were escitalopram, 33 (16.92%) were amitriptyline, 47 (24.10%) were imipramine, and 39 (20%) were other antidepressants. Antipsychotics were detected in 194 patients (21% of the cohort population). This includes Olanzapine (88.36%), Haloperidol (34.54%), Risperidone (14.22%), and Other Antipsychotics (12.89%). Trihexyphenidyl was prescribed to 75 of the 88 study participants, accounting for 85.23% of the total. Other anticholinergics were prescribed to 13 participants, accounting for 14.77%. Antimaniacs were prescribed to 58 participants in the study. Valproate: 23 (39.56%), Carbamazepine: 29 (50%), and Lithium: 6 (10.34%). The drug utilization pattern in the study population show that anxiolytics (BZD) were the most commonly used psychotropic drugs followed by anti-depressants and anti-psychotics. In a study, more than half of the psychotic patients received adjunctive BZD, which is similar to many other studies [9, 10]. Clonazepam (51.83%) being the most common followed by lorazepam (32.32%), suggesting a trend toward the use of shorter acting BZD as continuous and prolonged use of longer acting BZDs has resulted in dependence and may have withdrawal symptoms when the dose of the drug is reduced or stopped [11]. Guidelines for the rational use of BZDs recommend their use for short-term (maximum 4 weeks) or intermittent courses in minimum effective doses, to be prescribed only when symptoms are severe [12]. The current research findings on the preferential usage of atypical antipsychotics are consistent with those of other investigators like Shaifali *et al*., where the use of Atypical antipsychotics (89%) was observed as compared to typical antipsychotics (11%) [13]. And also similar to the findings by Shah *et al*., wherein Atypical antipsychotic drugs (94.03%) were preferred over typical antipsychotic drugs (5.97%) [14]. In the Qadir *et al*., [15] study, Olanzapine (55.80%) was the most commonly used antipsychotic followed by risperidone (34.83%), Aripiprazole (1.87%), Clozapine (1.87%), Chlorpromazine (1.87%). Other less common antipsychotics utilized were Fluphenazine (1.49%), Trifluoperazine (1.12%), Quetiapine (1.12%). This was comparable to the research conducted by Patron *et al*., that interpreted the most frequently antipsychotics were as follows Olanzapine (478), Clozapine (354), Risperidone (307), Sulpiride (202), Quetiapine (99), Amisulpride (59) and Sertindole (21) [16].

Prescribing Indicators revealed an average of 2.59±1.37 medications per prescription. The average number of antipsychotics prescribed per prescription was 2.73±1.46. The number of antipsychotic medicines administered under generic names was 52.94%. The percentage of injectable medicines prescribed is 2.48%; the percentage of prescriptions including psychotropic FDC is 20.78%; the percentage of psychotropic drugs prescribed from the essential drug list is 42.75%; and the percentage of psychotropic drugs prescribed from hospital pharmacies is 62.22%. Comparison with the study of Taj *et al*., [1] they reported that the average number of drugs per prescription 2.92 + 1.27 The average number of the antipsychotic drug per prescription 1.33 + 0.46 Percentage of antipsychotic drugs prescribed 45.71% Percentage of antipsychotic injectables prescribed 2% Percentage of the antipsychotic's drugs prescribed by generic name 90.63% Percentage of antibiotics encounter in the prescription 0.34% Percentage of the drug prescribed from EDL 90% Percentage of the antipsychotic drug prescribed from EDL 16.78%. The average number of psychotropic drugs per prescription in Thakkar *et al*., study was found to be 2.92±1.27, which was found in similar studies, where it ranged from 2.3 to 3 drugs per prescription [18]. Furthermore, Piparva *et al*., in their study also interpreted an average number of drugs per prescription as 2.96 which implies similarity to our study interpretation [17].

CONCLUSION

The incidence of polypharmacy was low in our study. The study's drug use indicators mostly follow accepted guidelines for developing nations. The most often prescribed BZD, antipsychotic, and antidepressant medications were clonazepam, olanzapine, and escitalopram, in that order. As a mood stabiliser, carbamazepine was favoured above lithium. Given the low percentage of prescriptions for generic drugs, the problem of brand-name usage must be addressed.

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