ORIGINAL RESEARCH PAPER
Volume-9 | Issue-3 | March-2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PRESCRIBING PATTERN OF ANTIPSYCHOTIC DRUGS IN TERTIARY CARE TEACHING HOSPITAL, HALDWANI

Pharmacology

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ABSTRACT

INTRODUCTION- Psychotic disorder is a symptom of mental illness characterised by distorted or non-existence sense of reality.Antipsychotics are the agents used for the treatment of psychotic disorder.
OBJECTIVE- To evaluatethe prescription pattern of Antipsychotic drugs in outpatient and inpatient department of Psychiatry of Dr Susheela Tiwari Hospital, Haldwani, Uttarakhand.
MATERIAL AND METHOD- Data was recorded from the outpatient and in patient department prescription forms . statistical analysis was done.
Result- The majority of the patients were males . Most commonly affected age group was 18-30years.. Olanzapine (46.5%)was the most commonly prescribed antipsychotic drug and psychosis was most common indication for prescribing antipsychotic drugs. Monotherapy was given in 90.1% patients
CONCLUSION- Olanzapine was the single most commonly prescribed antipsychotic followed by risperidone and amisulpride.. Monotherapy of antipsychotic drugs was significantly prescribed irrespective of psychotic disorders.

KEYWORDS

Psychotic Disorder, Olanzapine, Monotherapy

INTRODUCTION

Psychosis or psychotic disorder is a symptom of mental illness characterised by distorted or non-existence sense of reality[1] It indicates presence of hallucination, delusions or limited number of severe abnormalities of behaviour [2]. .They can be broadly categorised into non-affective (schizophrenia and related psychoses), affective (a major depressive disorder with psychotic symptoms; bipolar disorder with psychotic symptoms) and substance-induced disorders.[1]

Antipsychotics are the agents used for the treatment of psychotic disorders and also other psychiatric illness like major depressive disorder, obsessive-compulsive disorder(OCD), post-traumatic stress disorder(PTSD), anxiety, dementia etc.[3]They can improve mood, reduce anxiety and relieve sleep disturbance[4] Antipsychoticdrugs are the primary drug, but many other drugs are also prescribed in such patient categories known as concomitant drugs to meet the most common unmet needs of patients with a psychotic illness: anxiety, sleeping problems etc. [5]

There are suggested guidelines for prescribing drugs which aims at encouraging and facilitating rational use of medication.[6] The prescribing pattern of drug varies according to the clinician , and also upon the availability of drugs .

Various studies[1, 7,8] are done in various parts of world and even India utilising only a small group of population of that region. Due to lack of such data in Kumaon region of Uttarakhand regarding utilization, therefore, present study was undertaken to develop a baseline data on drug prescribing pattern of antipsychotics and assessment of prescription in the Psychiatry outpatient and inpatient department of Government Medical College and Dr Susheela Tiwari Government Hospital, Haldwani.

MATERIALS AND METHOD

It was an observational, prospective hospital based study carried out in the deparment of Pharmacology and department of Psychiatry of Government Medical College and Dr Sushila Tiwari Hospital haldwani done after the approval from screening committee of pharmacology and institutional ethical committee of Government Medical College Haldwani. Written informed consent was taken from parents/ legal guardian. All the new patients aged above 18 years prescribing with atleast one antipsychotic agents in the period between Jan 2018 – Dec 2018 were included in the study. Non consenting patients were excluded. Demographic and prescription details of the patients were recorded in the working proforma. Detailed history, gender, clinical diagnosis, details of medication i.e., number of drugs used; drug class/category, route were recorded. The prescribing practices were analyzed through WHO core prescribing indicators

Collected data was coded appropriately, entered in Microsoft Excel .Analysis was also carried out using SPSS software. Categorical data was presented as percentage (%). Pearson's Chi square test has been used to evaluate differences between groups for categorized variables. The descriptive analysis of data was presented in graphs, percentages. All tests were performed at a 5% level of significance, thus an association was significant if the p-value was less than 0.05.

OBSERVATION AND RESULT

The following study was done in 202 patients. Maximum number of patients were recruited on OPD basis(90.6%). Only 9.4% were IPD patients. Higher percentage of our study patients, 51%(103 patients) were from the rural areas. 171(84.7%) patients were hindus, 16(7.9%) were muslims and 15(7.4%) were sikh patients. 45(22.3 %) patients had positive family history of psychiatric illness

Out of 202 study patients, 104(51.5%) were males, and 98(48.5%) were females. The ratio of male-female came out to be 1.06: 1. Maximum number of patients in age group of 18-30 years(52.5%) with male preponderance of 32 %. In rest of the age group, female preponderance is seen (TABLE 1)

Table 1: Age and gender distributionof patients

AGE GROUPS (YEARS)	SEX		TOTAL n(%)	P VALUE
	MALE n(%)	FEMALE n(%)		
18-30	63 (32.2%)	43 (21.3%)	106 (52.5%)	p< 0.05*
31-40	23 (11.4%)	27 (13.4%)	50 (24.8%)	p>0.05

41-50	10 (5%)	17 (8.4%)	27 (13.4%)	p>0.05
Above 50	8 (3.4%)	11 (5.4%)	19 (9.4%)	p>0.05
Total	104 (51.5%)	98 (48.5%)	202	p>0.05

Chi square applied

* p<0.05 is significant

Olanzapine 94(46.5%) was the most commonly prescribed antip sych otic drug followed by risperidone 51(25.24%) and amisulpride 40 (19.8%).(Table 2) All drugs were prescribed orally except haloperidol which was prescribed orally (20%) as well as parentrally(80%) for acute management

Table 2:Drug utilization of antipsychotic drugs

Antipsychotic	Total	Percentage Utilization In Patients	P Value*
Olanzapine	94	46.5%	p>0.05
Risperidone	51	25.24%	p>0.05
Amisulpride	40	19.8%	p>0.05
Quetiapine	20	9.9%	p>0.05
Haloperidol	10	4.10%	p>0.05
Lurasidone	7	3.5%	p>0.05
Clozapine	3	1.5%	p>0.05
Aripiprazole	2	1%	p>0.05

Chi square applied

* p<0.05 is significant

The psychotic disorders for which antipsychotic drugs were prescribed in current study includes psychosis 50 (24.8%), psychosis NOS 42 (20.8%), bipolar affective disorder- current episode mania 33(16.3%), schizophrenia 27(13.4%), acute transient psychotic disorder 17(8.4%), substance induced psychosis 9(4.5%), depression with psychotic symptoms9(4.5%), post partum psychosis 6(3%), psychosis with OCD 2(1%), psychosis with seizure disorder 2 (1%), adjustment disorder 1(0.5%), dissociative disorder 1 (0.5%), anxiety 1(0.5%), catatonia 1(0.5%), body dysmorphic syndrome 1(0.5%)

In 50 patients of psychosis, olanzapine 20(40%) was most commonly prescribed drug followed by risperidone 13(26%) and amisulpride 11(22%). In psychosis NOS, olanzapine 25(59.52%) was most commonly prescribed followed by amisulpride 11(26.19%), and risperidone 8(19.05%).Olanzapine was also most commonly prescribed drug in case of ATPD, substance induced psychosis,depression with psychotic symptoms and post partum psychosis (64.70%, 44.44%, 66.66%,and 66.67% respectively). Among BPAD patients, quetiapine 13(39.39%) followed by olanzapine 9(27.27%). was the most common drug prescribed (Table 3).

Table 3: Antipsychotic drug utilization in various psychotic diso rder

S. No	Indications	Olanzapine	Risperidone	Amisulpride	Aripiprazole	Lurasidone	Quetiapine	Haloperidol	Clozapine
1.	Psychosis	20 (40%)	13 (26%)	11 (22%)	-	5 (10%)	2 (4%)	1 (2%)	2(4%)
2.	Psychosis NOS	25 (59.52%)	8 (19.05%)	11 (26.19%)	-	-	-	1 (2.38%)	-
3.	BPAD- current episode mania	9 (27.27%)	7 (21.21%)	4 (12.21%)	-		13* (39.39%)	1 (3.03%)	0
4.	Schizophrenia	7 (25.93%)	11 (40.74%)	10 (37.04%)	2 (7.40%)	1 (3.70%)	2 (7.40%)	3 (11.11%)	1 (3.70%)
5.	ATPD	11 (69.70)	5 (29.41%)	3 (17.65%)	-	1 (5.88%)	-	1 (5.88%)	1 (5.88%)
6.	Substance induced psychosis	4 (44.44%)	3 (33.33%)	-	-	-	1 (11.11%)	1 (11.11%)	-
7.	Depression with psychotic symptom	6 (66.66%)	2 (22.22%)	1 (11.11%)	-	-	-	-	
8.	Post partum psychosis	6 (100%)	-	-	-	-	-	-	-
9.	Psychosis + OCD	1 (50%)	1 (50%)	-	-	-	-	-	-
10.	Psychosis with seizure disorder	2 (100%)	-	-	-	-	-	-	-
11.	Adjustment disorder	1 (100%)	-	-	-	-	-	-	-
12.	Dissociative disorder	1 (100%)	-	-	-	-	-	-	-
13.	Anxiety	-		-	-	-	1 (100%)	-	
14.	Catatonia	1 (100%)	-	-	-	-	-	-	-
15	Body dysmorphic syndrome	1 (100%)	-	-	-	-	-	-	-

.p<0.05% is significant

Chi square test applied

Monotherapy was instituted in 183(90.1%) patients with olanzapine 83(48.2%) as the most commonly utilized antipsychotic drug followed by risperidone 38(22.09%) and amisulpride 37(21.5%). Dual and triple therapy was prescribed in 16(7.9%) and 3(1.5%) patients respectively.

Among concomitant drugs,benzodiazepines (39.33%) were the most common group of drugs prescribed followed by mood stabilizers (21.3%) and antidepressant (13.3%). Among benzodiazepine, clonazepam (34.0%) was the most commonly prescribed drug and divalproex (13.3%) was most commly prescribed drug among antidepressant group. Other drugs prescribed were- trihexphenidyl (9.3%), fluoxetine (7.3%), lithium (7.3%), multivitamin (6%), lorazepam (5.3%), promethazine (5.3%), mirtazapine (3.3%), NAC (3.3%), escitalopram (2%), baclofen (2%), sodium valproatre (0.6%) and duloxetine (0.6%)

The prescribing pattern in our study was analyzed according to the WHO core prescribing pattern. Average number of drugs per encounter were 1.74 and the percentage of drugs prescribed by generic name were 95%. No antibiotics were prescribed. Antipsychotic drugs and concomitant drugs were also prescribed by parentral route(0.04%). In our study, 44.03% drugs were prescribed by essential drug list or formulary.(Table 4)

Table 4: Analysis of prescription by WHO core prescribing pattern

S.No	WHO prescribing indicators	Number or Percentage
1.	Average number of drugs per encounter	1.74
2.	Percentage of Drugs Prescribed by generic name	95.0
3.	Percentage of encounters with antibiotics prescribed	0
4.	Percentage of encounters with injections prescribed	0.04
5.	Percentage of Drugs Prescribed from essential drugs list or formulary	44.03%

DISCUSSION

In our study maximum no. of patients were male (51.5%) with majority of patients in age group 18-30 years(Table 1). This age group distribution is similar to study done by Ghosh s etal [9] showing similar result of maximum no. of patients in age group 18-30 years . Most of the patients were hindu as in Uttrakhand majority of people follows Hinduism[10]and since the hospital is the only tertiary care centre in Kumaun region covering most of the hilly rural areas , majority of patients are from rural areas. 22.3% patients had family history similarly to the study done by Barua etal who also reported marital problems as one of the cause of psychiatric illness , which reflected in our study as 55.45% patients were married.

Olanzapine was the most commonly prescribed drug in 94(46.5%) patients similar to various studies [1,9,11]. (Table 2) In our study majority of patients were diagnosed with psychosis(24.8%) followed by psychosis NOS(20.8%) which is different from study by Rodes etal[11] in which depression was the most common indication .

Olanzapine was the most commonly prescribed drug in patients diagnosed with psychosis, psychosis NOS, ATPD, depression with psychotic symptoms, dissociative disorder (Table 3) which is similar to study by Lohan et al.[12]. BPAD patients were prescribed with quetiapine as the commonly prescribed drug which is similar to study done in Rawalpindi[13]

In our study, monotherapy was followed in 90.1% patients with olanzapine being the most common drug prescribed. 7.9% followed dual therapy, and only 1.5% were given triple therapy. Association of monotherapy with various psychotic disorders was significant. In the study done in Korea[8], 79.7% of patients were treated with monotherapy.

In our study, benzodiazepine comprising clonazepam (34%)and lorazepam (5.3%)constitutes 39.33% of concomitant drug resembling the study done in Korea[8] in which 30.3% patients were prescribed BZD. A similar result was seen in Rodes etal[11] and Grover et al.[14]

We found that average number of drugs prescribed per encounter was 1.74 which was in accordance with the WHO guidelines.The optimum level for this indicator is ≤ 3.[15] . The percentage of drugs prescribed by generic name was 93.4%. which was similar to the results of Grover et al.[14] However, WHO recommends 100% prescription of drugs by generic names.The optimum level of injectables should be $\leq 10\%$.[15] In our study, it was 0.04% as most of the patients were from OPD. The drugs prescribed in our study were from National list of essential medicine 2015 constituted 44.03% which is similar to study by Rodes et al.(40.3%)[11].

CONCLUSION

This study revealed distinct prescriptin pattern in kumaun region. prescribing practices at our hospital were in accordance with the WHO core prescribing indicators which is quite commendable. But since the study was unicentric, result can not be utilized as generalized result.

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