



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

Pharmacology

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ABSTRACT

BACKGROUND: The objective was to study the prescribing pattern of antidepressants in psychiatric unit of a tertiary care teaching hospital, Haldwani

METHODS: An observational study of 205 patients was carried out at psychiatry outpatient and inpatient department.

RESULTS: Among 205 patients, most commonly prescribed antidepressant was paroxetine. Among concomitant drugs, clonazepam (74.6%) were most commonly prescribed followed by olanzepine (5.4%) and paracetamol (3.9%). According to the WHO core prescribing pattern, average number of drugs per encounter was 2.02 and the percentage of drugs prescribed by generic name was 95.2%.

CONCLUSION: Paroxetine is more commonly used followed by escitalopram and fluoxetine. Most common concomitant drug prescribed was clonazepam. Selective serotonin reuptake inhibitors are preferred over other antidepressant because of their relative lesser side effects.

KEYWORDS

Antidepressants, Drug Utilization, Fluoxetine, Paroxetine

INTRODUCTION

Depression is a mental state, characterized by feelings of sadness, loneliness, despair, low self-esteem and self-reproach.^[1] Depression is classified in two groups-major depression [unipolar depression] and bipolar depression [manic depressive illness].^[2]

There are many antidepressants which are efficient in treating major depression e.g. tricyclic antidepressants (TCAs), serotonin-specific reuptake inhibitor (SSRIs), serotonin-nor epinephrine reuptake inhibitors (SNRI), serotonin receptor antagonist (SRT) and monoamine oxidase inhibitors (MAOI). All these drugs have some level of primary effect on the serotonergic or the noradrenergic neurotransmitter system.^[3]

There is scarcity of data regarding prescription pattern of antidepressants in kumaon region, so this study was done in the department of psychiatry and pharmacology of government medical college and Dr Susheela Tiwari Government hospital, Haldwani.

MATERIALS AND METHODS

This was an observational, prospective, hospital based study conducted after taking approval from Institutional Ethical Committee of Government Medical College and Dr Susheela Tiwari Government Hospital, Haldwani. Written Informed Consent was obtained from the patients. New patients prescribed with at least one antidepressant drug in psychiatric outpatient or inpatient department were recruited in the study. The study was conducted for a period of one year from January 2018 to December 2018. The prescribing practices were analyzed through WHO core prescribing indicators.

Collected data was entered in Microsoft Excel (MS Excel) spreadsheet. Statistical analysis was done in SPSS (Statistical Package For Social Studies) for Windows version 16.0. Categorical data was presented as percentage (%). 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

PRESCRIBING PATTERN OF ANTIDEPRESSANT DRUGS

In total sample size of 205 patients, most common antidepressants prescribed

were paroxetine 60(29.3%) followed by escitalopram 37(18%) and fluoxetine 30(14.6%). After SSRI, atypical antidepressants were commonly prescribed comprising of mirtazepine 30(14.6%) and bupropion 10(4.9%), followed by SNRI (desvenlafaxine 7.3% and 5.9%) and TCA (amitriptyline 5.3%). Since $p > 0.05$, it is statistically not significant (Table 1).

Table 1: Prescribing pattern of antidepressant drugs

Drug	Number	% used in pts (n=205)	p value
Paroxetine	60	29.3	>0.05
Escitalopram	37	18	>0.05
Fluoxetine	30	14.6	>0.05
Mirtazepine	30	14.6	>0.05
Desvenlafaxine	15	7.3	>0.05
Sertraline	14	6.8	>0.05
Duloxetine	12	5.9	>0.05
Amitriptyline	11	5.3	>0.05
Bupropion	10	4.9	>0.05

p value <0.05 is significant

UTILIZATION OF CONCOMITANT DRUGS

Clonazepam 153(74.6%) were most commonly prescribed concomitant drugs followed by olanzepine 11(5.4%) and paracetamol 8(3.9%). Other drugs prescribed were baclofen 7(3.4%), thiamine 7(3.4%), lorazepam 6(2.9%) and sildenafil 5(2.4%) (Table 2).

Table 2: Utilization of concomitant drugs

Concomitant Drugs	Number n = 205	% used in pts (n=205)	p value*
Clonazepam	153	74.6	>0.05
Olanzapine	11	5.4	>0.05
Paracetamol	8	3.9	>0.05
Baclofen	7	3.4	>0.05
Thiamine	7	3.4	>0.05
Lorazepam	6	2.9	>0.05
Ranitidine	5	2.4	>0.05
Sildenafil	5	2.43	>0.05
Risperidone	4	2	>0.05

Etizolam	4	2	>0.05
Pantoprazole	4	2	>0.05
Acamprosate	2	1	>0.05
Disulfiram	2	1	>0.05
Aripiprazole	1	0.5	>0.05

*p < 0.05 is significant

ANALYSIS OF PRESCRIPTIONS USING WHO CORE PRESCRIBING INDICATORS

We have analyzed the prescribing pattern in our study according to the WHO core prescribing pattern. Average number of drugs per encounter was 2.02 and the percentage of drugs prescribed by generic name was 95.2. Concomitant drugs e.g. lorazepam, thiamine and baclofen were also prescribed by intravenous route therefore prescriptions having such injectable form of drugs were 2.9%. In our study, 62.5% drugs were prescribed by essential drug list or formulary (Table 3).

Table 3: Analysis of prescription using WHO prescribing indicators

S.No	WHO prescribing indicators	Number or Percentage
1.	Average number of drugs per encounter	2.02
2.	Percentage of Drugs Prescribed by generic name	95.2
3.	Percentage of encounters with antibiotics prescribed	0
4.	Percentage of encounters with injections prescribed	2.9
5.	Percentage of Drugs Prescribed from essential drugs list or formulary	62.5

DISCUSSION

In our study, SSRI was the most common class of antidepressants prescribed in 127 (68.8%) patients. Among SSRIs, Paroxetine 60 (29.3%) was the most commonly used drug after Escitalopram 37 (18%) and Fluoxetine 30 (14.6%) since Paroxetine is the most potent serotonin inhibitor among other SSRIs and also has wide therapeutic index which may be beneficial when treating the patients of various mental disorders. The study done by Uchida et al.^[4] showed that SSRI and other newer antidepressants were prescribed for approximately 77.0% of all patients, similarly study done in Singapore hospital by Teck Hwee Soh et al.^[5] showed that in almost all (97.1%) prescribed antidepressants, SSRI were the most common (75.5%) antidepressants, followed by SNRI and TCA.

Indian studies e.g. Adarsh Tripathi et al.^[6] have also showed that SSRIs are the most common group of drugs prescribed in depression among which escitalopram was the most common medication used whereas the study done in eastern India by Siddharth Ghosh et al.^[7] revealed sertaline was the most prescribed antidepressant followed by amitriptyline while Study done in Maharashtra by Vasundhara Yerkade et al.^[8] in 300 patients showed that commonly prescribed drug was escitalopram in 121 (40.3%) patients followed by fluoxetine in 61 (20.3%) and clomipramine in 30 (10%) patients.

Among all concomitant drugs prescribed, clonazepam (153; 74.6%) constituted the major drug being prescribed followed by olanzepine (11; 5.4%) and paracetamol (8; 3.9%). The use of concomitant drugs was statistically insignificant. This finding is similar to the studies done by Siddharth Ghosh et al.^[7] and J.K. Trivedi et al.^[9] which reported that clonazepam is the most preferred agent whereas another study by Shaktibala Dutta et al. showed alprazolam being most commonly prescribed antianxiety drug among 196 prescriptions.^[10]

The average number of drugs per prescription is an important index for the scope of review and educational intervention in prescribing practices. The overall number of drugs per prescription in our study was 2.02, which is lower compared to that reported in studies by Shaktibala Dutta et al.^[10] and Siddharth Ghosh et al.^[7] The major concerns regarding polypharmacy include the possibility of cumulative toxicity and increased vulnerability to adverse events as well as adherence issues, which emerge with increasing regimen complexity.^[11] In our study, although polypharmacy is observed, but in many instances it is necessary to manage the patient with multiple medications and that makes rational polypharmacy. Only 2.9% injectables were found to be prescribed in this study as oral

preparations have better acceptability among the patients and result in better compliance. 62.5% drugs prescribed were from the WHO Model List of Essential Medicines "(19th List)" 2015, which is higher than in the studies done by Ghosh et al.^[7] (55.39%) and Dutta et al.^[10] (44.9%). 95.2% drugs were prescribed by their generic names, which is in accordance with the WHO guidelines as rational prescribing requires prescription with generic names of drugs.

CONCLUSION

The current study finally concludes that Paroxetine was the most common antidepressant drug prescribed in our study. Prevalent drug prescribing practices were in concordance with WHO core prescribing indicators. The WHO prescribing indicators serves as an important parameter for assessing the overall prescribing pattern and its rationality at a concerned health care facility.

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