Prescribing practices in psychiatry outpatient department of a tertiary care teaching hospital of Southern Rajasthan, India

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Abstract

Introduction: Drug utilization studies can identify the problems and provide feedback to prescribers so as to create awareness about irrational use of drugs. This study was conducted to find out the prescribing pattern in out-patient department (OPD) of Psychiatry.

Materials and Methods: This prospective observational study was carried out in a tertiary care teaching hospital of southern Rajasthan. The data was collected in a case record form from patients of all age irrespective of gender who attended the psychiatry OPD. Assessment of prescription patterns was done as per the selected WHO-INRUD (World Health Organization-Indicators for rational use of drugs) drug use indicators.

Results: Depression (34%) was the most common diagnosis followed by schizophrenia (13.5%) and bipolar affective disorder (12%). Overall predominance of psychiatric disorders was found between 36-40 years age group with 20 male and 16 female patients. Mean age of depression patients was found 41.35 years and 37.07 for schizophrenia patients. Escitalopram (18.27%) was the maximally prescribed drug followed by Clonazepam (10.44%), Olanzapine (9.13%), Amitryptaline (7.83%). The average drug per prescription was 1.915 out of the total 383 drugs. 7.30% drugs were included in WHO Model list/National list of Essential Medicine. 0.78% drugs were prescribed by generic name. Not a single drug was given by injectable form and no antibiotic was prescribed to any patient.

Conclusion: Escitalopram was the most commonly prescribed drug as depression was found most common disorder. Drugs were less prescribed by generic names and less percentage of essential drugs in prescriptions but there was no polypharmacy in our study.

Keywords: Drug utilization studies, WHO-INRUD, Depression, Polypharmacy, Essential medicines.

Introduction

The study of prescribing pattern is a component of medical audit which seeks monitoring, evaluation and necessary modifications in the prescribing practices of the prescribers to achieve rational and cost effective medical care.[1,2] Thus the monitoring of prescription and drug utilization studies can identify the problems and provide feedback to prescribers so as to create awareness about irrational use of drugs.[3] The ultimate goal of drug utilization research must be to assess whether drug therapy is rational or not. To reach this goal, a method for auditing drug therapy towards rationality is necessary.

WHO has given three types of indicators namely prescribing indicators, patients care indicators, and facility indicators for rational use of the drugs.[4] Drug prescribing pattern differ due to patient characteristics, type of disease prevalent, cultural and environmental factors, socioeconomic status, availability of newer drugs and prescribing habit of physicians in different geographical areas.[5] New medications have increased efficacy, reduced dosing frequency and improved side effect profile. Drug utilization pattern should be evaluated from time to time to increase therapeutic efficacy and decrease adverse effects. Use of psychotropic drugs has increased in last decade for psychiatric disorders which form an important public health priority now.[6] In today's scenario, lots of new medicines are also available to treat psychiatric disorders. In various psychiatric illnesses conventional drugs have been replaced by newer atypical drugs.[7,8] Very few studies related to drug utilization in psychiatric patients have been reported from this southern region of Rajasthan, hence it was decided to undertake this study to find out the prescribing pattern in out-patient department of Psychiatry.

Materials and Methods

This prospective observational study was carried out in department of Pharmacology of a tertiary care teaching hospital in southern Rajasthan after obtaining approval from the institutional ethics committee. Patients were given prior information and consent was taken in written from the patient/or patient's relative. Patients of all age irrespective of gender who attended the psychiatry out-patient department during six months study period were recruited for this study. Patients not willing to give consent were excluded from this study. All cases with drug prescription were included and data was collected from the patient's case paper. The data was gathered in a case record form in terms of patient's demographic profile, O.P.D registration number, chief complaints, provisional diagnosis/or diagnosis and complete prescription like number of drugs, names of

individual drugs (generic/brand), any fixed dose combination (FDC) prescribed, dose, dosage form, dosing schedule and duration of treatment. Assessment of prescription patterns was done as per the selected WHO-INRUD drug use indicators. All the data collected was analyzed using mean, number and percentage values.

Results

In the present study 200 prescriptions were analyzed which included 383 number of drugs, the average being 1.915 drugs per prescription. The male: female ratio was 1.47 as the number of male patients was 119 and female patients were 81. Among the medical conditions/diagnosis of the patients, depression was the most common diagnosis; the number of patients being 68 (34%) and second in the row was schizophrenia which was 27(13.5%) in number and next in order was bipolar affective disorder being 24 (12%) in number. Mean age of depression patients was found 41.35 years and 37.07 for schizophrenia patients. Overall predominance of psychiatric disorders was found in age group between 36 - 40 years with 20 male and 16 female patients. An overall gradual increase in number of patient was observed upto the age of 40 years which declined gradually upto the elderly age group patients. (Table 1 and Fig. 1)

Among the prescribed drugs escitalopram was the maximally prescribed drug (70) 18.27%; Clonazepam 40(10.44%), Olanzapine 35(9.13%), Amitryptaline 30(7.83%), Trihexylphenidine23 (6.01%) being next in descending order. (Table 2)

Oral route was the only mode of administration in all the patients. Out of the total 383 drugs, 28 (7.30%) drugs are included in WHO Model list/National list of Essential Medicine. 3 (0.78%) drugs were prescribed by generic name. Not a single drug was given by injectable form and no antibiotic was prescribed to any patient. (Table 3)

Table 1: Distribution of most common diagnosis of study population according to gender and mean age

Sr. No.	Diagnosis	No. of patients N(%)	Male	Female	Mean age (yrs)
1.	Depression+ anxiety	68 (34)	39	29	41.35
2.	Schizophrenia	27 (13.5)	18	9	37.07
3.	Bipolar affective disorders	24 (12)	21	3	36.16
4.	Opioid withdrawal syndrome	10 (5)	10	0	36.4
5.	Somatisation disorders	10 (5)	4	6	32.3
6.	Generalized anxiety disorders	9 (4.5)	4	5	41.22
7.	Acute transient psychotic disorders	8 (4)	4	4	33.80
8.	Obsessive compulsive disorders	8 (4)	3	5	35.75
9.	Somatoform disorders	8 (4)	2	6	35.5

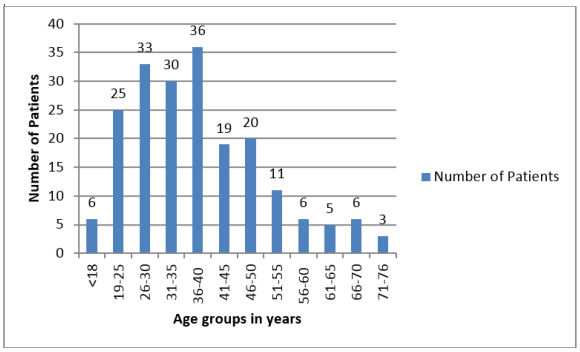

Fig. 1: Distribution of psychiatric patients according to age groups

Table 2: Most frequently prescribed drugs

Sr. No.	Drug	Number (%) N= 383
1.	Escitalopram	70 (18.27)
2.	Clonazepam	40 (10.44)
3.	Olanzapine	35 (9.13)
4.	Amitryptaline	30 (7.83)
5.	Trihexylphenidine	23 (6.01)
6.	Divalproex	21 (5.48)
7.	Etizolam	20 (5.22)

8.	Propranolol	18 (4.69)
9.	Fluoxetine	17 (4.43)
10.	Chlordiazepoxide	14 (3.65)
11.	Amisulpride	14 (3.65)
12.	Paroxetine	14 (3.65)

Table 3: Selected WHO core drug prescribing indicators

S. No.	WHO Core prescribing indicators	Results
1	Average number of drugs per encounter	1.915
2	Percentage of drugs prescribed by generic name	0.78
3	Percentage of encounters with an antibiotic prescribed	Nil
4	Percentage of encounters with an injection prescribed	Nil
5	Percentage of drugs prescribed from essential drug list	7.30%

Discussion

Drug utilization studies helps to understand the inclination of clinicians' towards prescribing specific drugs and to assess rationality of the prescriptions in terms of efficacy, potency, cost and diagnosis. It is of utmost importance because of availability of wide range of drugs with different classes for a particular treatment. Present study intends to analyse prescribing pattern in psychiatry OPD as four mental disorders are now considered among the ten top health conditions contributing to Disability Adjusted Life Years (DALYs).[9]

Demographic profile data of our study revealed that number of male patients who attended psychiatry OPD was more than female which is contradictory to other studies where female patients were more.[10-13] Study conducted by Goyal et al in Bastar region and another in Nepal has also shown higher number of male patients.[14] This difference may be probably attributed to socioeconomic, cultural and educational backgrounds and male-female ratio of the selected population. In addition males carry financial, social and familial liabilities and such obligations may also lead to more incidences of addictions for alcohol and smoking etc. in males.

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.[5,7,8] 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.

Among the disorders most common diagnosis observed in this study was depression and number of males was more than females which can be explained on the basis of overall number of male patients attending psychiatry clinic was more and also in many prescriptions diagnosis of depression was combined with anxiety. Moreover other studies[5,10,15] it was observed that most common diagnosis was depression. Study by Rode et al has shown that though total number of male patients were more than females but depression was seen more in females.[5] Incidence of schizophrenia was observed to greater extent in studies by Lahon et al[8] and Jena et al[11] and but in all the studies mentioned including ours three most common diagnosis was depression, schizophrenia and bipolar disorders.

Escitalopram (SSRI) was the most widely prescribed drug in this study and reason being quite obvious as maximum number of patients was of depression. SSRIs are the first line drugs for depression.[10] Other studies with majority of patients of depression except Mukherjee et al study which showed similar results; anxiolytics were the commonly prescribed drug.[10] The reason for this was anxiolytics were coprescribed with antidepressants in those studies but among the antidepressants mainly Escitalopram was selected [5,14] which is in accordance to current treatment guideline.[16] In our study other commonly prescribed drugs were clonazepam an anxiolytic and olanzapine antipsychotic which corresponds to next prevailing diagnosis of bipolar disorder and schizophrenia. Use of SSRIs matches with other studies.[5,8,10,11] In Thakkar et al[7] study TCAs were prescribed more than SSRIs which is not recommended by APA and NICE in management of mood disorders.[10] Among the antimaniacs, divalproex was prescribed more frequently than sodium valproate and lithium which is not in accordance to other studies[11,17] Selection of Divalproex instead of valproate can be considered better choice because of its better gastric tolerance.

None of the patients received any drug by parentral route and only oral route of drug administration was used in our psychiatric OPD which didn't matched with results of any above mentioned studies where use of parentral route varied between 0.45% and 9.35%. Ours is a tertiary care unit with well established emergency medicine department. Probably patients with acute conditions have arrived after working hours of OPD and been taken care of in EMD and hence no such encounter was observed in OPD. Apart from this patients were mostly adults who can take drugs orally

without any inconvenience. The average number of drug/prescription was 1.915 in this study. If two or more psychiatric medication belonging to same class or having similar actions for treating same disorder is considered as psychiatric polypharmacy.[18] In our study the average is below two hence obviating polypharmacy which indicates a rational prescribing trend. Also according to Lahon et al if diagnosis doesn't match with prescribed drugs and number of medicines is more than six in single prescription is considered as polypharmacy which was not observed in our study.[8,19] Drugs prescribed by generic name were 3 (0.78%) which is quite low as compared to other studies where it ranged between 28.75% and 100%. Generic drugs are cheaper and hence help in reducing the overall cost of treatment but according to USFDA they should be given if their quality can be ensured.[20] Selection of drugs from WHO Model list of Essential Medicine was 2.87% and 4.43% from National List of Essential Medicines, India (2015) which is very low as compared to other studies where it is between 38.5% and 73%. Lesser selection from essential drug lists questions the cost effectiveness as well as efficacy and safety of the prescribed drugs.

Conclusion

Depression was the most common diagnosis followed by schizophrenia and bipolar disorder. Escitalopram (SSRI) was the most commonly prescribed drug in this study as depression was found most common disorder. Drugs were less prescribed by generic names and less percentage of Essential drugs but there was no polypharmacy in our study. Some variations from other studies could be due to the demographic change and secondly our study was conducted in private medical college. So, we concluded that except few indicators most of the indicators were in favour of rational prescribing pattern in psychiatry department.

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