RESEARCH ARTICLE

A study of prescription patterns of psychotropic medications in psychiatric outpatient department in a tertiary care center in North Karnataka

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ABSTRACT

Background: Utilization pattern of drugs varies from place to place and is influenced by differing patient characteristics, type of disease prevalent, cultural and environmental influences, socioeconomic status, availability of newer drugs, and prescribing habit of physicians. However, their utilization in actual clinical practice, effectiveness, and safety in real-life situation need continuous studies. Hence, our aim to analyze the drug prescribing pattern in various psychiatric illnesses. **Aims and Objective:** In the present days, there is a growing concern over the magnitude of psychiatric illnesses occurring and the health indicators that implicate the importance of rational prescribing of psychotropic drugs. **Materials and Methods:** Our study was prospective observational study which was conducted for a period of 4-months in a psychiatric outpatient department. A total of 530 patients medical records were assessed for analyzing the prescription pattern. Usage of using the World Health Organization drug indicators was followed. **Results:** In the present study, majority of the patients (44.5%) were in the age group of 20–40 years. Depression was the (37.1%) most prevalent psychiatric disease followed by anxiety (27.4). Antidepressants (38%) were the most commonly prescribed antipsychotic medication followed by anxiolytics (21%). It was found that average number of the psychotropic drugs per prescription was 1.8. **Conclusion:** Antidepressants were the most commonly used psychotropic drugs. Generic drugs were prescribed more.

KEY WORDS: Drug Utilization Pattern; Psychiatric Outpatients; Psychotropic Drugs

INTRODUCTION

Mental disorders are usually associated with significant impairment in socioeconomic skills and person to person interactions.[1] It is found that the majority of mental disorders arise from low and middle-income countries.[2] Psychiatric disorders represent as worrying major cause of morbidity.[3] It is observed that among the top ten health disorders accountable to the disability adjusted life years and four are belonged to psychiatric disorders.[4] Psychiatrists are now looking for psychotropic medications which are evidence-based on drug utilization practices, effectiveness, and their safety in clinical scenarios.[5,6] The art of prescription writing and plays pivotal role in clinical practice. The rationality of prescribing pattern is gaining so much importance in the present days because, bad prescribing habits such as misuse, overuse, and underuse of medicines which ultimately pays the way for therapeutic failure, exacerbation of the disease, health hazards, economic burden on the patients, and wastage of resources, hospitalization.[7-9] The principle aim of drug utilization research is to facilitate rational drug use in society. The studies on drug utilization enrich us about various prescribing trends.[10]

Assessing the quality of care through performance review and feedback should become an important aspect of clinical practice.[11] It is by retrospectively analyzing the clinical records can serve the potential merits and demerits of drug utilization practices.[12] The prime focus of medical audit is that it imbibes the monitoring and evaluation of the drug prescribing habits and points toward the necessary modifications in prescribing practices to achieve rational, effective therapeutic practice.[13] The generated data from utilization patterns of drugs at outpatient departments (OPDs) of tertiary care teaching hospitals will definitely serve as important yardstick to formulate guidelines for improving the pattern of prescriptions more rationally and effective and cost-effective.[14] Drug utilization studies help us to know the efficacy of drugs and exhibit the variations in prescribing trends and patterns of polypharmacy.[11,15-17] The present study was conducted to assess the prescribing pattern of psychotropic drugs.

MATERIALS AND METHODS

This hospital-based prospective observational study was carried out in outpatients of the Psychiatry Department of Gulbarga Institute of Medical Sciences, Kalaburagi, Karnataka. The study was done over a period of 4 months from November 2018 to February 2019. Institutional Ethics Committee permission was taken before the conduct of the study. A total of 530 patients were enrolled in the study. Patients diagnosed with a psychiatric disorder were enrolled. Inclusion criteria were patients of either gender attending the OPD of psychiatric setting and patients treated with one or more psychopharmacological regimens in psychiatric OPD were selected in the study. Exclusion criteria were patients treated on an inpatient basis and patients treated with non-psychopharmacological therapy, patients who were agitated, and uncooperative were excluded from the study. Patient's case notes, medication charts, lab reports, previous outpatient and inpatient records, and other relevant documents were reviewed, and details were recorded in a predesigned structured pro forma to analyze the drug utilization pattern. The statistical package for the social science Version 20.0 was used to analyze data. The World Health Organization (WHO), drug use indicators served us as the yardstick for analyzing the prescriptions.

RESULTS

A total of 530 patients were enrolled in the study who satisfied the inclusion criteria. The majority of patients belonged to the age group of 21–40 years (44.5%) in Table 1.

Depression (37.1%) was the most common psychiatric disorder followed by anxiety disorders (27.4). Antidepressants (38%) were the most commonly prescribed psychotropic drug class followed by anxiolytics (21%), respectively, in Table 2.

In Table 3, among the antidepressants, fluoxetine, and escitalopram were the most commonly prescribed drugs. Among the 21% of anxiolytics, clonazepam, alprazolam, and propranolol were the most commonly prescribed drugs. Among the 17% of antipsychotics (risperidone, olanzapine, quetiapine, and amisulpride) were the most commonly prescribed drugs.

Among the mood stabilizers (0.8%), sodium valproate, and lithium were the most commonly prescribed drugs. The average number of psychotropic drugs per prescription was 1.8 [Table 4]. Drugs prescribed in their generic name constituted 88.20%, while the prescriptions with injectable drugs accounted for 5.04%, and 0.2% of the prescription contained psychotropic fixed-dose combination (FDC). About 77.8% of the psychotropic drugs were prescribed from WHO's 18th list of essential medicines in Table 4.

DISCUSSION

Psychotropics remain a mainstay in the treatment of psychiatric illness. In this study, a total of 530 patients were enrolled. In our study, drug utilization pattern showed that antidepressants (fluoxetine and escitalopram) - (38%) as the most commonly prescribed psychotropic drug class, followed by anxiolytics (21%), antipsychotics (17%), and mood stabilizers (0.8%). Prescribing pattern of antipsychotics in our study showed increased usage of atypical antipsychotics (17%) compared to typical antipsychotics. Risperidone, olanzapine, quetiapine, and amisulpride were the most commonly prescribed antipsychotics. Prescriptions with the usage of typical antipsychotics were found to be less. Polypharmacy can defiantly lead to poor compliance, drug interactions, adverse drug reactions, under-use of effective treatments, and medication errors. Generic drug usage reduces the overall cost of therapy and our study revealed a high

Table 1: Age-wise distribution		
Age (years)	No. of patients	Percentage
0–20	44	8.3
21–40	236	44.5
41–60	178	33.6
>60	72	13.9

Table 2: Prevalence of psychiatric disorder		
Psychiatric disorder	No. of patients	Percentage
Depression	200	37.4
Anxiety	143	27.4
Schizophrenia	82	15.5
Alcohol withdrawal syndrome	55	10.4
Insomnia	32	6.1
Others	18	3.4

Table 3: Drug use pattern of psychotropics in psychiatric outpatient department

Drug use indicators	Result
Total number of prescriptions analyzed	530
Total number of drugs prescribed	1280
Average number of the drugs per prescription	2.21
Average number of the psychotropic per drugs per prescription	1.8
Percentage of the psychotropic drugs prescribed by generic name	88.20%
Percentage of injectable drugs prescribed (%)	2.04
Percentage of the prescriptions containing psychotropic fixed-dose combination	0.02%
Percentage of psychotropic drugs prescribed from essential drug list	77.8%

Table 4: Utilization of psychotropics in psychiatric outpatient department

Category	Drug	Number of drugs (%)
Antidepressants	Fluoxetine and escitalopram	486 (38)
Anxiolytics	Clonazepam, lorazepam, and propranolol	269 (21)
Antipsychotics	Risperidone, olanzapine, quetiapine, and amisulpride	218 (17)
Anti-muscarinics	Trihexyphenidyl	128 (10)
Mood stabilizers	Sodium valproate and lithium	104 (08)
Anti-craving	Acamprosate	77 (6)
Anticonvulsants	Topiramate and valproic acid	64 (5)
Vitamin and mineral supplements	Vitamin-B12	51 (4)
Total		1280

percentage of generic drug usage (88.4%). The prescriptions containing psychotropic FDCs were very minimal 0.02% which may be due to unavailability of expected FDC in the market. Concerns about the adverse effects and cost-effectiveness of parenteral routes of drug administration are probably the reason for the low utilization of "depot injection" formulation in the study (2.04%). The percentage of drugs prescribed from the WHO essential drug list was found to be 77.8 and the primary purpose of the WHO essential drug list is to promote rational use of medicines.

According to present findings, wherein 44.5% of patients belonged to 21–40 years of the age group which was found similar to the study conducted by Kumar et al.[18] and Sarumathy et al.[19] In our study, depression (37.4) showed as the most common psychiatric disorder followed by anxiety (27.4) and other psychotic disorders. Our present study, findings are in accordance with previous multicentric studies conducted by the

Indian psychiatric society where affective disorders, followed by neurotic, stress-related, and somatoform diseases.[20] Our study observations were found to be similar to the one study done by Rode et al.,[21] which showed the prescribing frequency of anxiolytics, antidepressants, antipsychotics, anticholinergics, and antimania drugs as 30.04%, 25.46%, 25.37%, 11.54%, and 7.6%, respectively. The WHO guideline reveals that the number of antipsychotic drugs per prescription should be within 1.6–1.8/setting. Our study findings showed that it is 1.8, which is in accordance with standard guidelines. In our study, around 50% of the prescriptions consisted of 1–3 drugs. These findings suggested a rise in the incidence of polypharmacy which is more in 20–40 years age group, which is supported by a study conducted by Deshmukh and Ismail.[16,17] Our this observation is found to be same with the results from the preliminary survey on antipsychotic prescribing pattern conducted among Indian psychiatrists.[22] The most commonly prescribed antidepressant medication according to our study was fluoxetine and escitalopram (38%) which was similar to the findings from a multicentric study conducted by the Indian psychiatry society.[20] However, among the mood stabilizers, lithium, and sodium valproate were commonly prescribed, which is in concordance with the study conducted by Trivedi et al.[20,23] Vitamins, minerals, and hematinics and other supplement comprised of 0.4% of all prescribed medications. Thiamine was mostly given to patients of alcohol dependence as it prevents the development of Wernicke Korsakoff syndrome due to severe thiamine deficiency in chronic alcoholics.[24] Our other study findings are in accordance with the previous studies done Chaturvedi and Sharma,[25] and by Sabu et al.[26] The present author has conducted animal experimental study to explore the anti-depressant activity of memantine-N-Methyl-D-aspartate antagonist in depression-induced mice.[27]

The strength of the present study is – it analyzes most of the psychotropic drugs prescribed from WHOs 18th list of essential medicines list. The study also highlights on the good clinical efficacy and better drug tolerability of the new generation antipsychotic, antidepressant, and anti-craving medications being utilized. This study has three important limitations. Firstly, the study period was too short. Secondly, the study findings could not be applied to the wider community as the study was restricted to outpatients only at the Department of Psychiatry, Gulbarga Institute of Medical Sciences, Kalaburagi. The third limitation is – our study considered only usage of generic drugs because, our hospital is government setup, generic drugs only were used.

CONCLUSION

The commonly used psychotropic drug in the present study was antidepressants. The incidence of polypharmacy should be minimized in psychiatric outpatients as it might result in poor compliance, increased drug interactions, and

side effects. Our study was carried out for a short duration and study subjects were largely confined to OPD. Thus, the present study provides a baseline to conduct drug utilization studies periodically for a longer duration in a larger sample size to benefit the psychotic patients and mankind.

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