Journal of Cardiovascular Disease Research

ISSN:0975 -3583,0976-2833 VOL 15, ISSUE 02, 2024

DRUG UTILIZATION STUDY ON USE OF PSYCHIATRIC DRUGS AT A TERTIARY LEVEL INDIAN HOSPITAL

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Received- 01.02.2024 | Accepted- 21.02.2024 | Published- 28.02.2024

ABSTRACT

Introduction: Drug utilization patterns vary depending on factors such as patient demographics, prevalent diseases, cultural influences, socioeconomic status, drug availability, and physician prescribing habits. However, understanding their real-world usage, efficacy, and safety requires ongoing research. There is a growing concern about the prevalence of psychiatric disorders and their impact on public health, emphasizing the need for judicious prescribing of psychotropic medications.Therefore, our objective was to examine the drug prescribing trends across different psychiatric conditions.

Methodology: We conducted a prospective observational study over four months at a psychiatric outpatient department, analyzing medical records of 345 patients to assess prescription patterns. We employed the World Health Organization drug indicators for analysis.

Results: Among the patients studied, the majority fell within the 20–40 age group. Depression was the most common psychiatric disorder followed by anxiety. Antidepressants were the most frequently prescribed psychotropic drugs, followed by anxiolytics. On average, 1.9 psychotropic drugs were prescribed per patient.

Conclusion: Antidepressants emerged as the predominant psychotropic medications prescribed, with a notable preference for generic drugs in our study population..

Keywords: Drug Utilization Pattern, Psychotropic Drugs, Depression, Anxiety.

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INTRODUCTION

Mental health conditions often lead to substantial challenges in socioeconomic functioning and interpersonal relationships. The prevalence of these disorders is notably higher in low and middle-income nations, contributing significantly to morbidity rates. Psychiatric disorders constitute a significant portion of the top ten health conditions affecting disability-adjusted life years, with four being psychiatric in nature [1-4].

Currently, psychiatrists are focusing on evidence-based psychotropic medications, considering factors such as drug utilization practices, efficacy, and safety in clinical settings [5,6]. The process of prescription writing plays a crucial role in clinical care, emphasizing the importance of rational prescribing practices. This is particularly vital due to concerns such as medication misuse, overuse, and underuse, which can lead to treatment failures, disease exacerbation, health risks, financial burdens on patients, and resource wastage, including hospitalizations [7-9].

The primary goal of drug utilization research is to promote rational medication use within communities, providing insights into prescribing trends. Quality assessment through performance reviews and feedback is becoming increasingly integral to clinical practice, as retrospective analysis of clinical records can highlight the strengths and weaknesses of drug utilization practices. Medical audits are essential for monitoring and evaluating prescription habits, guiding necessary adjustments to promote rational and effective therapeutic approaches [10-13].

Analyzing drug utilization patterns in outpatient settings of tertiary care teaching hospitals yields valuable data for developing guidelines that enhance prescription practices in a rational, effective, and cost-efficient manner. Drug utilization studies are instrumental in assessing drug efficacy, identifying variations in prescribing trends, and understanding patterns of polypharmacy [14-15].

The objective of this study was to evaluate the prescribing patterns of psychotropic medications, aiming to contribute to evidence-based clinical practices.

MATERIALS AND METHODS

This study was conducted as a hospital-based prospective observational research at a tertiary level Indian hospital. The study spanned three months. A total of 345 patients diagnosed with psychiatric disorders were included in the study. The inclusion criteria encompassed patients of any gender visiting the psychiatric outpatient department (OPD) and those receiving one or more psychopharmacological treatments in this setting. Patients receiving inpatient care, non-pharmacological therapies, or those exhibiting agitation or uncooperativeness were excluded from the study.

ISSN:0975 -3583,0976-2833 VOL 15, ISSUE 02, 2024

Data collection involved a thorough review of patient case notes, medication charts, laboratory reports, previous outpatient and inpatient records, and other pertinent documents. These details were recorded using a structured pro forma designed for analyzing drug utilization patterns. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) Version 19. The World Health Organization (WHO) drug use indicators were employed as a benchmark for scrutinizing the prescriptions.

RESULTS

A total of 345 patients meeting the inclusion criteria were included in this study. The majority of patients fell within the 21–40 age group, as shown in Table 1.

Depression emerged as the most prevalent psychiatric disorder, followed by anxiety disorders. The most frequently prescribed class of psychotropic drugs was antidepressants, followed by anxiolytics, as indicated in Table 2.

Table 3 highlights that among antidepressants, fluoxetine and escitalopram were the most commonly prescribed drugs. Clonazepam, alprazolam, and propranolol were the most commonly prescribed drugs among anxiolytics. Risperidone, olanzapine, quetiapine, and amisulpride were the most commonly prescribed antipsychotics. Sodium valproate and lithium were the most commonly prescribed mood stabilizers.

The average number of psychotropic drugs per prescription was 1.9, as depicted in Table 4. Generic names were predominantly used in prescriptions, and the majority of psychotropic drugs prescribed were from the World Health Organization's 18th list of essential medicines, detailed in Table 4.

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Table 1: Age distribution of study population

Age group	No. of patients	Percentage
0–20 years	29	8.41
21–40 years	153	44.35
41–60 years	116	33.62
>60 years	47	13.62
Total	345	100

Table 2: Psychiatric disorders among study population

Psychiatric Disorders	n	%
Alcohol Withdrawal Syndrome	36	10.43
Anxiety	93	26.96
Depression	130	37.68

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Insomnia	21	6.09
Others	12	3.48
Schizophrenia	53	15.36

Table 3: Drug utilization pattern of psychotropic drugs

Drug Utilization Indicators	Resultss
Total no. of prescriptions examined	345
Total no. of drugs prescribed	833
Average no. of drugs/ prescription	2.41
Average no. of psychotropic drugs/prescription	1.9
% of psychotropic drugs prescription by generic name	87.51
% of injectable drugs prescription	2.24
% of prescriptions containing psychotropic FDCs	0.03
% of psychotropic drugs prescribed as per essential drug list	78.72

Table 4: Category wise utilization pattern of psychotropic drugs

Categories	Drugs	No. of drugs	%
Anticonvulsants	Topiramate, valproic acid	42	12.17
Anti-craving	Acamprosate	50	14.49
Antidepressants	Escitalopram, Fluoxetine	316	91.59
Anti-muscarinics	Trihexyphenidyl	83	24.06
Antipsychotics	Amisulpride, olanzapine, quetiapine, risperidone	142	41.16
Anxiolytics	Clonazepam, lorazepam, and propranolol	175	50.72
Mood stabilizers	Lithium, Sodium valproate	68	19.71
Vitamin and mineral supplements	Vitamin-B12	33	9.57

DISCUSSION

Psychotropic medications continue to be fundamental in treating psychiatric disorders. In our investigation, we enrolled a total of 345 patients. Our analysis of drug utilization patterns indicated that antidepressants were the most frequently prescribed class of psychotropic drugs, followed by anxiolytics, antipsychotics, and mood stabilizers. Notably, the prescription trend for antipsychotics in our study demonstrated an increased preference for atypical antipsychotics over typical ones. Risperidone, olanzapine, quetiapine, and amisulpride emerged as the most commonly prescribed antipsychotics, with fewer prescriptions for typical antipsychotics noted. Polypharmacy can lead to challenges such as poor compliance, drug interactions, adverse reactions, underutilization of effective treatments, and medication errors. Our findings underscored a significant usage of generic drugs, which can reduce overall therapy costs.

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The inclusion of psychotropic FDCs in prescriptions was minimal, possibly due to their limited availability in the market. Concerns regarding adverse effects and cost-effectiveness likely contributed to the low utilization of depot injection formulations. Notably, the proportion of drugs prescribed from the World Health Organization (WHO) essential drug list was substantial, aligning with the list's aim to promote rational medication use.

Our study predominantly included patients aged 21–40 years, consistent with prior research by Kumar et al. [16] and Sarumathy et al. [17]. Depression emerged as the most prevalent psychiatric disorder in our study, followed by anxiety and other psychotic disorders, corroborating findings from previous multicentric studies conducted by the Indian Psychiatric Society [18]. Our observations regarding the prescribing frequencies of various psychotropic medications were similar to those reported by Rode et al. [19], with anxiolytics, antidepressants, antipsychotics, anticholinergics, and antimania drugs being prescribed at rates of 30.04%, 25.46%, 25.37%, 11.54%, and 7.6%, respectively.

According to WHO guidelines, the average number of antipsychotic drugs per prescription should range from 1.6 to 1.8 per setting. Our study's average of 1.9 fell close to this recommended range. Additionally, approximately half of the prescriptions in our study comprised 1–3 drugs, indicating an increasing trend in polypharmacy, particularly in the 20–40 years age group. This trend is consistent with findings from Deshmukh and Ismail [15] and aligns with preliminary surveys on antipsychotic prescribing patterns among Indian psychiatrists [20].

Fluoxetine and escitalopram were the most commonly prescribed antidepressants in our study (38%), consistent with findings from multicentric studies conducted by the Indian Psychiatry Society. Among mood stabilizers, lithium and sodium valproate were frequently prescribed, in line with Trivedi et al.'s study [18,21]. Vitamins, minerals, hematinics, and other supplements constituted a small proportion (0.4%) of all prescribed medications. Thiamine was primarily administered to patients with alcohol dependence to prevent Wernicke-Korsakoff syndrome due to severe thiamine deficiency in chronic alcoholics [22]. Our findings align with previous studies [23-25].

CONCLUSION

Antidepressants emerged as the predominant psychotropic medication in our study. The prevalence of polypharmacy among psychiatric outpatients should be minimized to avoid issues such as poor compliance, heightened drug interactions, and increased side effects. It's important to note that our study had a limited duration and primarily focused on patients in the OPD. Therefore, it serves as a foundational study, laying the groundwork for future drug utilization research that encompasses longer durations and larger sample sizes. This expanded research

ISSN:0975 -3583,0976-2833 VOL 15, ISSUE 02, 2024

scope aims to bring greater benefits to patients with psychotic disorders and contribute to overall advancements in psychiatric care.

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