

Adverse Drug Reactions Associated with Psychotropic Medications in Neuropsychiatric Patients: A Retrospective Study

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Abstract:

Background: Chronic mental illnesses frequently necessitate long-term, ongoing medication. It is well recognized that using these drugs might have negative side effects. An adverse drug reaction (ADR) can have a major negative effect on a patient's quality of life if it is not identified. For family and community physicians who are currently in practice, their prevention and monitoring are essential. Therefore, the current study was conducted to determine the pattern of adverse drug reactions (ADRs) reported as a result of psychiatric medication.

Method: The purpose of this retrospective observational study is to examine every spontaneous adverse drug response (ADR) that was reported during a 12-month period from the psychiatry department to the ADR Monitoring Center at SRM Medical College in Bhawanipatna.

Results: There were 200 reported ADRs. The majority of the ADRs were observed from antipsychotics (47%) followed by antidepressants (21%) and Mood stabilizers medicines (38%). The most common ADR reported was sedation, EPS, and tremors (36%) followed by metabolic & weight gain (20%), gastrointestinal (36%), and cardiovascular (12%).

Conclusion: Understanding common adverse drug reactions (ADRs) aids in the better treatment of illnesses and psychotropics, as they have a variety of common ADRs. Early detection and timely action can aid the community physicians in the proper treatment of the patients and rational use of pharmaceuticals.

Keywords: Adverse Drug Reactions, Adverse Event, Anti-Depressants, Side Effects, Anti-Psychotics, Psychiatry, Pharmacovigilance.

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Introduction

For a variety of neuropsychiatric conditions, such as schizophrenia, mood disorders, anxiety disorders, and epilepsy with behavioral symptoms, psychotropic drugs are the mainstay of treatment [1]. These medications, which include mood stabilizers, antipsychotics, antidepressants, anxiolytics, and antiepileptics, are commonly prescribed in combination and are generally needed for long-term use [2]. While effective, psychiatric drugs are usually accompanied with adverse drug reactions (ADRs), which may undermine treatment adherence, increase morbidity, prolong hospital stay, and significantly influence quality of life [3].

Patients with neuropsychiatric diseases are particularly sensitive to ADRs due to polypharmacy, concomitant medical problems, altered drug metabolism, and prolonged exposure to drugs [4]. Common adverse drug reactions (ADRs) can range in severity from extrapyramidal symptoms, metabolic syndrome, hepatotoxicity, and cardiac

arrhythmias to moderate effects like drowsiness and gastrointestinal problems [5]

ADRs associated with psychiatric drugs are frequently underreported despite their clinical significance, particularly in standard clinical practice. Retrospective study of ADR trends can assist identify high-risk medications and patient demographics, ultimately improving pharmacovigilance and promoting rational prescribing [6]. In order to assess the pattern, frequency, severity, and cause of adverse drug reactions linked to psychotropic drugs in neuropsychiatric patients at a tertiary care facility, the current study was conducted.

Methods

Study Design and Setting: This was a retrospective observational study conducted at a SRM medical college, Bhawanipatna. Medical records of neuropsychiatric patients treated with psychotropic

medicines were evaluated throughout a 12-month period.

Study Population: Included were 200 patients with neuropsychiatric illnesses who were using at least one psychotropic drug.

Inclusion Criteria

- Patients aged ≥ 18 years
- Diagnosed with a neuropsychiatric disorder
- Receiving one or more psychotropic medications
- Documented evidence of suspected ADRs in medical records

Exclusion Criteria

- Incomplete medical records
- ADRs attributable to non-psychotropic medications
- Substance-induced psychiatric disorders

Data Collection

Data were extracted from case records and ADR reporting forms, including:

- Demographic details (age, sex)
- Psychiatric diagnosis
- Psychotropic medications prescribed
- Type and onset of ADRs
- Severity and outcome of ADRs

Assessment of ADRs

- Causality assessment was performed using the WHO-UMC causality scale
- Severity was assessed using the Modified Hartwig and Siegel scale
- ADRs were categorized based on the affected organ system

Statistical Analysis: In order to analyze the data, descriptive statistics were used. Frequencies and percentages were used to express the results.

Results

Demographic Characteristics: Of the 200 cases, 120 (60%) were men and 80 (40%) were females. Most of the patients were between the ages of 21 and 40.

Table 1: Demographic Profile of Patients (n = 200)

Variable	Number (%)
Gender	
Male	124 (62%)
Female	76 (38%)
Age Group (years)	
18–20	20 (10%)
21–40	90 (45%)
41–60	62 (31%)
>60	28 (14%)

Distribution of Psychiatric Diagnoses: Schizophrenia and related psychotic diseases were the most common diagnosis

Table 2: Distribution of Neuropsychiatric Disorders

Diagnosis	Number (%)
Schizophrenia & psychotic disorders	72 (36%)
Bipolar affective disorder	48 (24%)
Major depressive disorder	44 (22%)
Anxiety disorders	22 (11%)
Epilepsy with psychiatric comorbidity	14 (7%)

Psychotropic Drug Classes Implicated in ADRs: Antipsychotics were responsible for the most adverse drug reactions.

Table 3: Drug Classes Associated with ADRs

Drug Class	ADRs n (%)
Antipsychotics	94 (47%)
Antidepressants	42 (21%)
Mood stabilizers	38 (19%)
Anxiolytics	20 (10%)
Antiepileptics	8 (4%)

Pattern of Adverse Drug Reactions: Neurological ADRs were the most usually reported.

Table 4: System-Wise Distribution of ADRs

System Affected	Number (%)
Neurological (EPS, tremors, sedation)	72 (36%)
Metabolic & weight gain	40 (20%)
Gastrointestinal	36 (18%)
Cardiovascular	24 (12%)
Dermatological	16 (8%)
Others	12 (6%)

Causality and Severity Assessment

Table 5: Causality Assessment (WHO-UMC Scale)

Category	Number (%)
Certain	14 (7%)
Probable	94 (47%)
Possible	76 (38%)
Unlikely	16 (8%)

Table 6: Severity Assessment (Hartwig and Siegel Scale)

Severity	Number (%)
Mild	110 (55%)
Moderate	72 (36%)
Severe	20 (10%)

Discussion

The present retrospective investigation reveals the large burden of ADRs linked with psychotropic medicines in neuropsychiatric patients. Males and younger adults had a higher prevalence of adverse drug reactions (ADRs), which may be related to their increased use of healthcare services and exposure to psychiatric medications.

Antipsychotics were the most frequently implicated medication class, consistent with earlier investigations. The most frequent adverse drug reactions (ADRs) were extrapyramidal symptoms, drowsiness, and metabolic disorders, highlighting the importance of routine monitoring and prompt intervention [7]. Despite being chosen for their better safety record; second-generation antipsychotics were a major contributor to metabolic adverse drug reactions.

The majority of ADRs were classified as mild to moderate in severity and probable in causation assessment. The therapeutic importance of careful ADR monitoring is shown by the fact that about 10% of ADRs were severe enough to need hospitalization or medication withdrawal [8].

Conclusion

Neuropsychiatric patients regularly experience adverse drug reactions to psychotropic drugs, with antipsychotics being the most commonly implicated agents. A considerable percentage of ADRs were severe and possibly avoidable, even though the majority were mild to moderate. To improve patient safety and treatment adherence, routine monitoring, early detection, and prudent prescribing procedures are crucial. Improving clinician knowledge and

ADR reporting mechanisms can be crucial to enhancing the safety of psychiatric medications.

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