

A Retrospective Observational Study on the Prescribing Patterns, Polypharmacy, ADR of Antipsychotic Medications and Impact on MHQoL

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ABSTRACT:

Psychiatric disorders are important cause for disability and therapeutic burden in developing countries like India. Various antipsychotic drugs are used to treat mental disorders which are notable to cause side effects and adverse drug reactions (ADR). Due to the limited data available on the prevalence of ADR in psychiatric prescription drugs, this study was conducted to evaluate the prescription patterns, polypharmacy and ADR due to antipsychotic medications. The retrospective observational study was conducted in Govt.Medical College and Govt General Hospital, Ongole, Prakasam, Andhra Pradesh from July 2022-December 2023 on 205 prescriptions. the patient demographic details like age, gender and disease status were noted. Prescriptions were evaluated for ADR, polypharmacy with more than 2-3 drugs of same class. All the participants were divided into 2 groups A, which received counselling and B, which didnot receive any counselling. The participants were evaluated for Mental Health Quality of Life (MHQoL). This retrospective study of 205 participants analyzed gender, age, and psychiatric disorder distribution, revealing that females (57.56%) and the 31-40 age group (43.41%) were predominant. Manic and bipolar disorders were the most common, and diabetes was the leading comorbidity. Polypharmacy, particularly with antipsychotics, antidepressants, and anti-anxiety drugs, was prevalent. The study also found that 90.77% of antipsychotics were prescribed generically, though only 52.64% were on the Essential Drugs List. Counseling significantly improved Mental Health Quality of Life (MHQoL) scores, highlighting its effectiveness in enhancing mental health outcomes compared to those without counseling. The study highlights the need for vigilant monitoring of ADRs, particularly from polypharmacy with antidepressants, which are mostly mild and preventable. It emphasizes ongoing studies and adherence to international guidelines in antipsychotic prescriptions, along with baseline investigations, to optimize patient care and improve health outcomes.

1. Introduction

Illnesses related to the mental health are the most important cause of nonlethal to lethal burden of disease in Indian and across the world. Surveys states that 1/7 of the Indian population suffered mental illness of any severity and nature in 2017 (GBD, 2020).

Psychiatric diseases are chronic in nature, often resulting in the disability of the patient due to hallucinations, impaired cognitive function, delusions and diminished reasoning and social functioning (Dong et al., 2019). Usually, in comparison to general population, psychiatric patients are prone to risks of early/premature mortality due to suffering from poor health outcomes which includes cardiac and metabolic side effects arising due to the use of antipsychotic medications (Galletly et al., 2012).

Various classes of drugs like antipsychotics, antianxiotics, sedative and hypnotics and antidepressants are used to control the psychotic features like the mood disorders, psychological distress and anxiety and depression (Stroup and Gray, 2018). On the other hand, psychotic disorders require the chronic use of drugs that range from several months to years and this extended use of drugs causes wide spectrum of adverse drug reactions (ADR) which often directly link to the therapeutic antipsychotic drugs (Math and Srinivasaraju, 2010). Even at the therapeutic dose of the medicines to treat acute to chronic depression/anxiety, the occurrence of ADRs is often observed that results in non compliance of the patient to the prescribed drugs or in most cases abortion of antipsychotic therapy (Sridhar et al., 2016).

The antipsychotic drugs were classified into first generation of antipsychotics (FGA) and second generation of antipsychotics (SGA) which are primarily used to treat all kinds of mental disorders despite the observation of ADRs due to the lack of efficacious alternatives. Specifically FGA were known to cause extrapyramidal symptoms and often neuroleptic malignant syndrome whereas SGA causes side effects like diabetes, obesity, hyperlipidemia (Leucht et al., 2013). Thus these ADR are to be monitored promptly to develop the necessary interventional modules for countering, preventing and minimizing the possible symptoms of ADR and thereby reducing the treatment costs (Senagupta et al., 2011). There are studies that evaluate the prevalence of psychiatric disorders, disease burden and prescribing patterns on specific population that sampled limited people like the patients in healthcare clinics, PHCs and among students (Al-Subaie et al., 2020). Though there are concerned studies, yet there is a limited data that is available that evaluate the prescribing patterns of the psychotropic drugs, rationale prescriptions towards concurrent diseases and related ADR in India. Thus the primary goal of this study was to describe the prescription pattern of antipsychotic medications for various psychiatric disorders using interviews and accessing the electronic medical records.

2. Materials and Methods

This cross-sectional prospective observational study was carried out in 18-60 years to evaluate the prescribing patterns of antipsychotic medications and resulting ADRs over a period of 18 months from July 2022-December 2023. The data was collected using a structured checklist which was piloted ahead of the study. The prescriptions were evaluated based on the structured checklist with items like legibility of hand writing, date of visit, complete patient demographic details, doctors signature, legible drug names, dose and dosage and duration of treatment. Ethical clearance (S.No. ICE/GMC-UGL/43/2023) was obtained from the IEC, Govt. Medical College and Govt General Hospital, Ongole, Prakasam, Andhra Pradesh (ECR/1351/Inst/AP/2020).

Study population

The sample size for the present study was calculated based on the One Proportions formula (Taj et al., 2022) and the required sample size was estimated to be 196. Thus inclusion and exclusion criteria was applied and patients were enrolled for the study.

Patient enrollment:

Patient attending the psychiatric department between ages 18-60 years with a confirmed diagnosis of psychiatric condition were enrolled after getting informed consent from those willing to participate in the study. Lactating women, Pediatrics and geriatrics and those who were not willing to participate in the study were excluded.

The prescriptions of the patients were carefully evaluated and following data was collected.

1. Demographic details
2. Psychiatric condition
3. Details of antipsychotic drug prescribed.
4. Duration of treatment
5. ADRs noted and confirmed
6. Other drugs administered

Outcomes:

1. Prescribing pattern of psychotic medications were evaluated from name of the drug, dose, frequency and condition to which the drug was prescribed
2. Classification of antipsychotic medication and disorders were evaluated from the drugs that are prescribed and respective disorders mentioned in the prescriptions.
3. Polypharmacy in Psychotic drugs was confirmed when there are more than 2 psychotic medications in same or different pharmacological class of drugs.
4. ADR data was evaluated based on the confirmation and direct linkage of the ADR to the medication by the clinical psychiatrist or validation of the patient statement linking the drug and ADR. The collected ADR data was processed as per Hartwig Severity Scale to classify them into mild (level 1 & 2), Moderate (level 3-5) and Severe (level 6 & 7) (Hartwig et al., 1992)

As a part of counselling, the patients were divided into 2 groups A and B where in group A received counselling about psychiatric conditions and management. Group B did not receive any counselling and both were asked to describe the mental condition with the help of 7 parameters relating to the quality of life and 4 levels of answering. self image in own perspective, mood changes, independence, relationships status and health, day to day activities, physical health of the patient and hope to live happily are considered as 7 parameters. Questions like 'I'm very positive and good person' and 'I'm helpless and bad in my acts' determine the level of self image. Scores on various levels were converted to numerics '0'-indicating the least of 7 parameters, '21' -indicating the highest in mental health related quality of life (MHQoL) (Enzing et al., 2022).

Statistical analysis:

The collected variables in the study were entered into the IBM Statistical Package for Social Sciences (SPSS) Version 22 software and analyzed for significance and dependence using Chi-square test where p-value less than 0.05 was considered as statistically significant.

3. Results**Patient demographic details**

In this retrospective observational study involving 205 participants, the distribution of gender and age among the patients was examined. The majority of the participants were female, accounting for 57.56% (n=118) of the sample, while males constituted 42.43% (n=87). Regarding the age distribution, the largest group of patients fell within the 31-40 years age range, representing 43.41% (n=89) of the sample. This was followed by patients aged 41-50 years, who made up 27.31% (n=56) of the participants. A smaller proportion of the study

population was aged 18-30 years (18.04%, n=37) and 51-60 years (11.21%, n=23). The duration of psychotic disease varied among participants, with the majority (70.24%, n=144) having a disease duration of 1-3 years. A smaller percentage had been affected for 3-5 years (17.56%, n=36), while 12.19% (n=25) had a disease duration of more than 5 years.

Table 1: Patient demographic details

Variable	Frequency (n=205)	Percentage (%)
Gender		
Male	87	42.43
Female	118	57.56
Age (years)		
18-30	37	18.04
31-40	89	43.41
41-50	56	27.31
51-60	23	11.21
Duration of Psychotic disease (years)		
1-3	144	70.24
3-5	36	17.56
>5	25	12.19

Prevalence of Psychiatric disorders as per ICD10 CM

The study population exhibited a diverse range of psychiatric disorders and comorbidities as per the ICD-10 CM coding. Among the psychiatric disorders, the most prevalent was manic disorder (F30.9), affecting 22.92% (n=47) of the participants. This was closely followed by bipolar disorder (F31.9), which accounted for 20.48% (n=42) of cases. Psychosis (F22) and schizophrenia (F20.9) were also common, observed in 16.09% (n=33) and 15.60% (n=32) of the population, respectively. Major depression (F32.9) was present in 12.19% (n=25) of the participants. Less common disorders included anxiety disorder (F41.9) at 3.41% (n=7), mental retardation with psychosis (F70.9) at 2.43% (n=5), and unspecified psychotic disorders (F29) at 2.92% (n=6). Other conditions like epilepsy with psychosis (G40909), substance abuse (F15.10), alcohol abuse (F10.129), and dementia (F03.90) were found in smaller fractions of the population.

Regarding comorbidities, diabetes (E11.9) was the most prevalent, affecting 38.04% (n=78) of the participants. Hypertension (I10) was the second most common comorbidity, present in 20.97% (n=43) of the patients. Kidney problems (N29) were identified in 19.02% (n=39) of the population, followed by hyperlipidemia (E78.5) in 9.26% (n=19), thyroid disorder (E07.9) in 6.82% (n=14), and Alzheimer's disease (G30.9, F02.80) in 5.85% (n=12). These findings highlight the substantial burden of both psychiatric disorders and comorbid conditions within the study population.

Table 2: Prevalence of Psychiatric diseases in study population

ICD10 CM Code	Disease	Frequency (n=205)	Percentage (%)
Psychotic disorders			
F41.9	Anxiety disorder	7	3.41
F10.129	Alcohol Abuse	2	0.97
F31.9	Bipolar disorder	42	20.48

F03.90	Dementia	1	0.48
G40909	Epilepsy with psychosis	4	1.95
F32.9	Major depression	25	12.19
F30.9	Maniac disorder	47	22.92
F70.9	Mental retardation with psychosis	5	2.43
F22	Psychosis	33	16.09
F20.9	Schizophrenia	32	15.60
F15.10	Substance Abuse	1	0.48
F29	Unspecified psychotic disorders	6	2.92
Comorbidities			
E11.9	Diabetes	78	38.04
I10	Hypertension	43	20.97
G30.9, F02.80	Alzheimer's disease	12	5.85
E07.9	Thyroid disorder	14	6.82
N29	Kidney problems	39	19.02
E78.5	Hyperlipidemia	19	9.26

Variations in Antipsychotic drugs

The study population received a range of antipsychotic medications, categorized into first-generation antipsychotics (FGA), second-generation antipsychotics (SGA), antidepressants, mood stabilizers, anti-anxiety drugs, and sedatives/hypnotics. Among the FGAs, Chlorpromazine was the most commonly prescribed, used by the participants (n=113). Other FGAs included Flupentixol (30.46%, n=85), Haloperidol (17.2%, n=48), Promethazine (6.81%, n=19), and Sulpiride (5.01%, n=14), cumulatively covering 37.83% of the total prescriptions. SGAs were prescribed to 17.48% of the participants, with Clozapine being the most prevalent (30.23%, n=39), followed by Amisulpride (20.93%, n=27), Risperidone (18.6%, n=24), Olanzapine (16.27%, n=21), and Quetiapine (13.95%, n=18).

Antidepressants were prescribed to 29.79% of the population, with Duloxetine (20%, n=44) being the most frequently used. Other notable antidepressants included Venlafaxine (18.63%, n=41), Amitriptyline (14.09%, n=31), Citalopram (13.18%, n=29), Escitalopram (12.27%, n=27), and Fluoxetine (11.36%, n=25). For mood stabilization, 6.63% of the participants were prescribed mood stabilizers, with Sodium valproate being the most common (42.85%, n=21). Carbamazepine (32.65%, n=16) and Lamotrigine (24.48%, n=12) were also used.

Anti-anxiety drugs accounted for 8.13% of the prescriptions, with Clonazepam being the most prevalent (55%, n=33), followed by Lorazepam (45%, n=27). Additionally, Diazepam was prescribed as a sedative/hypnotic to 10.45% (n=23) of the patients. These findings underscore the diverse pharmacological approaches employed to manage psychiatric conditions within the study population, with a significant reliance on FGAs, SGAs, and antidepressants.

Table 3: Various antipsychotic medications prescribed among the study population

Medication	Frequency (n=205)	Percentage (%)
First Generation Antipsychotics (FGA)		37.83
Chlorpromazine	113	40.5
Flupentixol	85	30.46
Haloperidol	48	17.2
Promethazine	19	6.81
Sulpiride	14	5.01
Second Generation Antipsychotics (SGA)		17.48
Amisulpride	27	20.93
Clozapine	39	30.23
Olanzapine	21	16.27
Quetiapine	18	13.95
Risperidone	24	18.6
Antidepressants		29.79
Amitriptyline	31	14.09
Citalopram	29	13.18
Duloxetine	44	20
Escitalopram	27	12.27
Fluoxetine	25	11.36
Venlafaxine	41	18.63
Mood Stabilizers		6.63
Carbamazepine	16	32.65
Lamotrigine	12	24.48
Sodium valproate	21	42.85
Anti-anxiety Drugs		8.13
Clonazepam	33	55
Lorazepam	27	45
Sedatives and Hypnotics		
Diazepam	23	10.45

Prevalence of Polypharmacy in antipsychotic drugs

The most common polypharmacy combination was Antipsychotics+Anti-anxiety drugs, prescribed to 17.07% (n=35) of the participants. Multiple Anxiolytics were also frequently prescribed, observed in 16.09% (n=33) of the cases. Combinations of Antipsychotics+Antidepressants were used in 13.65% (n=28) of the prescriptions, while Multiple Antidepressants were seen in 14.14% (n=29) of cases. Other significant combinations included Antipsychotics+Mood Stabilizers (8.78%, n=18), Antipsychotics+Antidepressants+Anxiolytics (10.73%, n=22), and Antipsychotics+Antidepressants+Anxiolytics+Mood Stabilizers (4.97%, n=10). The use of Antipsychotics+Sedatives was less common, occurring in 5.36% (n=11) of prescriptions, while Multiple Antipsychotics were prescribed in only 1.46% (n=3) of cases. A small portion of the population, 7.8% (n=16), did not receive polypharmacy and were on single-drug regimens. The analysis shows a significant trend towards polypharmacy in the treatment of psychiatric conditions, with a p-value of 0.014, indicating that the observed patterns are statistically significant.

Table 4: Prevalence of polypharmacy in prescriptions of study populations

Drug class	Frequency (n=205)	Percentage (%)
Antipsychotics+Antidepressants	28	13.65
Antipsychotics+Anti-anxiety drugs	35	17.07
Antipsychotics+Mood Stabilizers	18	8.78
Antipsychotics+Sedatives	11	5.36
Multiple Antipsychotics	3	1.46
Multiple Antidepressants	29	14.14
Multiple Anxiolytics	33	16.09
Antipsychotics+Antidepressants+Anxiolytics	22	10.73
Antipsychotics+Antidepressants+Anxiolytics+Mood stabilizers	10	4.97
Non-Polypharmacy	16	7.8
p-value	0.014	

Antipsychotic prescription analysis as per WHO indicators

The analysis of the WHO indicators for antipsychotic prescriptions in the study population revealed important insights into prescribing practices. On average, each prescription contained 5.38 ± 1.02 medications, indicating a tendency towards multiple drug prescriptions per patient. Specifically, the average number of antipsychotic medications per prescription was 3.75 ± 1.33 , highlighting the frequent use of multiple antipsychotics in treatment plans. A key observation was that 90.77% (n=669) of the antipsychotic medications were prescribed using their generic names, reflecting adherence to best practices in generic prescribing. In terms of antibiotic use, the average number of antibiotics prescribed per prescription was relatively low, at 0.82 ± 0.41 . Regarding the use of the Essential Drugs List (EDL), 63.55% (n=572) of the drugs prescribed were from the EDL, indicating that a majority of the medications were selected from a list of recommended essential drugs. However, only 52.64% (n=388) of the antipsychotics prescribed were from the EDL, suggesting that nearly half of the antipsychotic prescriptions involved medications not included in the EDL. These findings underscore a high rate of polypharmacy, with significant reliance on generic names for antipsychotic prescriptions, though there is room for improvement in aligning antipsychotic prescriptions with the EDL recommendations.

Table 5: WHO indicators for the antipsychotic observed in the prescriptions

WHO indicator	Frequency	Percentage (%)
Medications in each prescription	5.38 ± 1.02	
Antipsychotic medications	3.75 ± 1.33	
Antipsychotics prescribed using generic name	669	90.77
Antibiotics prescribed in each prescription	0.82 ± 0.41	
Drugs prescribed from EDL	572	63.55
Antipsychotics prescribed from EDL	388	52.64

Prevalence of ADR with antipsychotic medications

In the study population, the prevalence of adverse drug reactions (ADRs) was notable, with 51.71% (n=106) of participants experiencing ADRs, while 48.29% (n=99) reported no ADRs. The occurrence of ADRs varied in severity, with the majority being classified as mild (73.5%, n=78), followed by moderate ADRs (22.6%, n=24), and a small percentage of severe ADRs (3.77%, n=4). The p-values associated with these observations indicate that the differences in ADR severity levels were not statistically significant, except for mild ADRs, where a p-value of 0.043 suggests a borderline significance.

When examining the total number of antipsychotic drugs prescribed (n=737), 13.83% (n=102) were associated with ADRs, a finding that was statistically significant (p-value < 0.001). In contrast, the vast majority of antipsychotic drugs (86.16%, n=635) did not result in any reported ADRs. This indicates that while ADRs are common, the majority of antipsychotic prescriptions were well-tolerated by the participants.

Table 6: Prevalence of ADR with the prescribed antipsychotic drugs

Adverse Drug Reaction (ADR)	Frequency (n=205)	Percentage (%)	p-value
No ADR	99	48.29	0.853
ADR cases	106	51.71	
Mild (1 & 2)	78	73.5	0.043
Moderate (3-5)	24	22.6	0.091
Severe (6 & 7)	4	3.77	0.424
Total no. of antipsychotic drugs in all the prescriptions			737
Antipsychotic drugs with ADRs	102	13.83	<0.001
Antipsychotic drugs without ADRs	635	86.16	

In the study population, a variety of adverse drug reactions (ADRs) were associated with the prescribed medications. The most commonly reported ADR was weight gain, affecting 13.2% (n=14) of the participants. Dizziness was the second most prevalent ADR, observed in 8.49% (n=9) of the cases, followed by dryness of mouth, uneasiness, and vertigo, each affecting 7.54% (n=8) of the participants. Other notable ADRs included drooling of saliva (5.66%, n=6), urinary frequency (5.66%, n=6), and urinary incontinence (5.66%, n=6).

Less common ADRs were spasticity and tremors, both reported in 4.71% (n=5) of the participants. Constipation, dystonia, hair loss, headache, and hypertension were each observed in 3.77% (n=4) of the participants. Delirium and sedation were less frequent, each affecting 2.83% (n=3) of the participants. Rare ADRs included amenorrhoea, facial edema, seizure, and galactorrhoea, each observed in less than 2% of the participants.

When examining specific antipsychotic medications and their associated ADRs, Fluoxetine was found to have the highest incidence, with 11.76% (n=12) of users experiencing ADRs. Amitriptyline also had a significant rate of ADRs, affecting 10.72% (n=11) of its users. Other medications with notable ADR frequencies

included Escitalopram (9.8%, n=10), Haloperidol (8.82%, n=9), Clozapine, Lorazepam, and Olanzapine (each 6.86%, n=7), and Duloxetine (5.88%, n=6). Amisulpride had the lowest reported ADR frequency, with 4.9% (n=5) of its users experiencing side effects.

Table 7: Various ADRs observed in the prescriptions of participants

Adverse Drug Reaction (ADR)	Frequency (n=205)	Percentage (%)
Amenorrhoea	2	1.88
Constipation	4	3.77
Delirium	3	2.83
Dizziness	9	8.49
Drooling of saliva	6	5.66
Dryness of mouth	8	7.54
Dystonia	4	3.77
Facial edema	2	1.88
Galactorrhoea	1	0.94
Hair loss	4	3.77
Headache	4	3.77
Hypertension	3	2.83
Sedation	2	1.88
Seizure	2	1.88
Spasticity	5	4.71
Tremors	5	4.71
Uneasiness	8	7.54
Urinary frequency	6	5.66
Urinary incontinency	6	5.66
Vertigo	8	7.54
Weight gain	14	13.2

Table 8: ADR caused by the antipsychotic medication

Antipsychotic medication	ADR Frequency (n=205)	Percentage (%)
Amisulpride	5	4.90
Amitriptyline	11	10.72
Clozapine	7	6.86
Duloxetine	6	5.88
Escitalopram	10	9.80
Fluoxetine	12	11.76
Haloperidol	9	8.82
Lorazepam	7	6.86
Olanzapine	7	6.86

MHQoL in psychiatric patients

The study evaluated the impact of counseling on the Mental Health Quality of Life (MHQoL) scores of participants, comparing two groups: Group A, consisting of participants who underwent counseling, and Group B, consisting of those who did not undergo counseling. In

Group A, 98 participants received counseling, whereas only 5 participants in Group B did so, with a statistically significant difference (p -value < 0.001). Conversely, Group B had a higher number of participants who did not receive counseling ($n=8$) compared to Group A ($n=94$), which was also statistically significant (p -value < 0.001).

Prior to counseling, the MHQoL scores were similar between the two groups, with Group A of 4.77 and Group B of 4.82, showing no statistically significant difference (p -value = 0.321). However, after counseling, Group A showed a substantial improvement in MHQoL scores, rising to an average of 12.67. In contrast, Group B, which did not receive counseling, exhibited a much smaller increase, with an average post-counseling MHQoL score of 6.06. The difference in post-counseling MHQoL scores between Group A and Group B was statistically significant (p -value = 0.028). Moreover, the change in MHQoL within Group A was highly significant, with a p -value of 0.008, indicating that counseling had a substantial positive effect on MHQoL. In Group B, however, the change in MHQoL was not statistically significant, with a p -value of 0.744.

These findings suggest that counseling significantly improved the MHQoL of participants in Group A, highlighting the effectiveness of counseling interventions in enhancing mental health outcomes compared to those who did not receive counseling.

Table 9: Effect of Counselling on the MHQoL of the participants

Group	Group A	Group B	p-value
Participated	98	5	<0.001
Not participated	94	8	<0.001
MHQoL score before counselling	4.77	4.82	0.321
MHQoL score after counselling	12.67	6.06	0.028
p-value	0.008	0.744	--

4. Discussion

The current study was conducted to identify ADR and polypharmacy in psychiatric patients with respect to the antipsychotic drugs in different age population. The majority of the participants included in age group of 31-40 and 41-50 indicating that middle aged people are more prone to psychiatric disorders and the patients of this age group show more importance to the healthcare services (Sharma et al., 2014). Also this percentage accounted for over 70% of total participants which is inline with previous studies showing 78% of psychiatric illnesses were observed in age group of 30-50 years (Piparva et al., 2011) and 88% of the participants with psychiatric disorders were in between 20-50 years (Bodke and Bhosle, 2014). The present study suggested that the most prescribed antipsychotic drugs were of first generation antipsychotics (FGAs) (37.8%), among them chlorpromazine was the highest prescribed drug. Among the second generation antipsychotics, clozapine (39%) and olanzapine (21%) were highly prescribed which is in line with the previous studies (Paton et al., 2003; Varghese et al., 2019). Literature shows that order of prescription is olanzapine followed by clozapine followed by risperidone and quetiapine.

Our study indicated that polypharmacy existed in the prescribing patterns of antipsychotics especially 2-3 types of antipsychotics of same pharmacological use existed in more than 35% of the prescriptions. only 7.8% of all the Prescriptions were observed with non-polypharmacy

of antipsychotic medications. Studies suggested that more than 94% of the patients were treated with more than one antipsychotic medication typical and atypical type. Commonly haloperidol, olanzapine, promethazine and benzodiazepines were used as polypharmacy drugs (Mohamed et al., 2018). As per WHO reports, a higher number of drugs were recommended by the physicians complies with polypharmacy likely developing ADR and interactions. There are also evidences that polypharmacy is more prevalent to manage comorbidities and multiple ailments at the same time (Ofori-Asenso et al., 2016; Atal and Atal, 2016).

The WHO on the other hand uses core indicators that are used to determine the drug use and prescribing patterns of antipsychotic medications (Atif et al., 2016). About half of the prescribed drugs in this study especially antipsychotics were derived from EDL category. It is very well identified that the generic medicines lowers the overall therapeutic cost in India and other developing countries. Generic alternatives are advantageous if the quality was controlled and validated properly (R et al., 2017). This study was supported by literature which suggested that over 90% of the prescribed antipsychotics were based on the generic origin.

The present study recorded various ADRs like weight gain, dizziness, dryness of mouth, uneasiness, vertigo etc due to antipsychotic medications. The over all ADR cases were found to be 51.71% and the literature supports these results suggesting 6-40% of ADR incidence in Indian OPDs (Gawali et al., 2017; Mahakalkar et al., 2020; Prajapati et al., 2013). The variation was due to the difference in the culture and geographical location and local environment too. Although there is wide difference between the ADR incidence there is literature that exactly supports our study results with 51% of participants showed ADRs (Sridhar et al., 2016). Out of all the ADRs noted CNS effects like dizziness followed by sedation and headache contributed to about 59% supporting our study results of dizziness (8%) and headaches (3.77%) contributing to overall ADRs (Gawali et al., 2017; Ambwaniet al., 2021). This could be due to the fact that antipsychotic drugs act on CNS thus causing ADRs relating to the CNS. Our study reported the most prominent ADR of antipsychotic drugs as weight gain that supports our results that showed weight gain as major ADR with 13.2% contribution to all ADRs (Mahakalkar et al., 2020; Sridhar et al., 2016).

In our study the major category of the antipsychotic drugs that showed ADRs are antidepressants like fluoxetine (11.76) and amitriptyline (10.72%) followed by antipsychotic drug escitalopram (9.8%). This is supported by the literature that states antidepressants are major cause for the ADRs (Sharma et al., 2014). In contrary to this, there are studies that suggest antipsychotics, escitalopram (20%) produces notable ADRs which is similar in our present study (Senagupta et al., 2011; Prajapati et al., 2013). This study specifically examined ADRs in a psychiatric OPD, revealing that antidepressants were the most common drug group associated with ADRs. Most of the ADRs reported were mild and preventable (Sidhu et al., 2023). The study highlights the limited evidence on the burden of ADRs associated with psychiatric medications. Given that ADRs are a preventable cause of patient harm and a drain on healthcare resources, it is essential to consider potential ADRs in differential diagnoses to reduce their impact and enhance patient Mental Health and Quality of Life (MHQoL).

5. Conclusion

The study concludes that the majority of ADRs in the psychiatric outpatient setting are linked to the polypharmacy of antidepressants. These ADRs are typically mild and preventable. It underscores the importance of vigilant monitoring and the inclusion of potential ADRs in differential diagnoses to minimize patient harm and optimize the use of healthcare resources. Ongoing studies on antipsychotic prescription patterns are crucial for monitoring the use of these medications in clinical practice. The findings discussed are valuable for primary care physicians, helping them prescribe the most appropriate medications by considering both the efficacy and safety profiles, as well as the patient's clinical characteristics and baseline investigations. Adhering to international guidelines for antipsychotic prescriptions and conducting baseline investigations before starting treatment can significantly enhance patient health outcomes.

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CONFLICT OF INTEREST

Authors declare that there is no conflict of interest

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