

Research Article

Prescription Pattern of Antidepressant Drugs in Patients With Depression at a Tertiary Care Teaching Hospital: A Cross-Sectional Drug Utilization Study

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ABSTRACT

Background: Depression is one of the leading causes of disability worldwide and contributes substantially to impaired quality of life, reduced productivity, increased healthcare utilization, and suicide risk. Antidepressants remain the cornerstone of management; however, irrational prescribing practices such as polypharmacy, prolonged benzodiazepine use, unnecessary fixed-dose combinations (FDCs), low generic prescribing, and inadequate adherence to treatment guidelines continue to be important concerns in psychiatric practice. Drug utilization studies are useful tools for evaluating prescribing trends, assessing rationality of prescriptions, and promoting evidence-based use of psychotropic medications.

Objective: To evaluate the prescription pattern of antidepressant drugs among patients diagnosed with depressive disorders attending a tertiary care teaching hospital and to assess prescribing practices using WHO/INRUD indicators.

Methods: A hospital-based, observational, cross-sectional drug utilization study was conducted in the Psychiatry Outpatient Department of a tertiary care teaching hospital over a period of 18 months. Six hundred prescriptions of adult patients diagnosed with depressive disorders and receiving antidepressant therapy were analyzed. Data regarding demographic profile, antidepressant utilization, psychotropic co-prescriptions, fixed-dose combinations, generic prescribing, essential medicine use, drug availability, and prescription cost were collected using a structured case record form. Prescriptions were evaluated using WHO/INRUD prescribing indicators and WHO Anatomical Therapeutic Chemical (ATC) classification methodology. Data were analyzed using descriptive statistics and expressed as mean $\pm$ standard deviation, percentages, and proportions.

Results: The mean age of patients was 37.33 ± 12.46 years, with most patients belonging to the 26–35 years age group. Females constituted 50.67% of the study population. A total of 1472 drugs were prescribed in 600 prescriptions, with an average of 2.45 ± 1.06 drugs per prescription. After separating FDCs into individual components, 1576 drugs were analyzed. Antidepressants constituted 40.87% of all prescribed drugs, followed by sedatives and hypnotics (21.06%). Selective serotonin reuptake inhibitors (SSRIs) were the most prescribed antidepressants (59.01%), followed by tricyclic antidepressants (29.81%). Escitalopram was the most frequently prescribed antidepressant overall, whereas Amitriptyline was the most common antidepressant used as monotherapy. Combination therapy was substantially more common than monotherapy. Benzodiazepines were widely co-prescribed, with Clonazepam accounting for the majority of sedative prescriptions. Generic prescribing remained low, and availability of antidepressants in the hospital pharmacy was inadequate.

Conclusion: SSRIs, particularly Escitalopram, were preferred because of their favorable efficacy and tolerability profile. However, concerns related to polypharmacy, extensive benzodiazepine use, low generic prescribing, irrational fixed-dose combinations, and inadequate drug availability were identified. Regular prescription audits, adherence to evidence-based treatment guidelines, improved generic

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prescribing, and better availability of essential psychotropic medicines are necessary to promote rational antidepressant use and reduce treatment costs.

Keywords: Depression, antidepressants, prescription pattern, drug utilization, SSRIs, psychotropic drugs, rational prescribing, WHO prescribing indicators

INTRODUCTION

Depression is a common psychiatric disorder characterized by persistent sadness, loss of interest in pleasurable activities, impaired concentration, sleep disturbances, fatigue, reduced self-esteem, and feelings of hopelessness. In severe cases, depression may lead to self-harm and suicide. Depression affects individuals across all age groups and socioeconomic backgrounds and is among the leading causes of disability worldwide^{1,2}.

According to the World Health Organization (WHO), more than 300 million people globally suffer from depressive disorders, contributing substantially to years lived with disability and global disease burden¹. The prevalence of depression has risen significantly in recent decades due to rapid urbanization, occupational stress, social isolation, financial instability, changing family structures, substance abuse, and increased awareness regarding mental health disorders.

Depression adversely affects social, occupational, and interpersonal functioning. It is frequently associated with chronic medical conditions such as diabetes mellitus, cardiovascular diseases, hypertension, epilepsy, thyroid disorders, chronic pain syndromes, and malignancies. The coexistence of depression with chronic illnesses negatively impacts treatment outcomes, medication adherence, quality of life, and healthcare expenditure.

The etiopathogenesis of depression is multifactorial and involves abnormalities in serotonergic, noradrenergic, and dopaminergic neurotransmission along with neuroendocrine disturbances, inflammatory pathways, genetic predisposition, environmental influences, and psychosocial stressors³. Management of depression includes psychotherapy, cognitive behavioral therapy, behavioral interventions, electroconvulsive therapy, and pharmacotherapy. Antidepressants remain the mainstay of treatment in moderate-to-severe depressive disorders³.

The major classes of antidepressants include tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), monoamine oxidase inhibitors (MAOIs), and atypical antidepressants. TCAs such as Amitriptyline and Imipramine are

effective but are associated with anticholinergic adverse effects, sedation, orthostatic hypotension, and cardiotoxicity in overdose³. The introduction of SSRIs including Escitalopram, Fluoxetine, Sertraline, and Paroxetine improved the safety and tolerability of antidepressant therapy and these drugs are now widely recommended as first-line agents in international treatment guidelines³.

Selection of antidepressant therapy depends upon multiple factors including severity of illness, previous response to treatment, associated psychiatric or medical conditions, adverse effect profile, cost, availability, and patient preference. Combination therapy involving antidepressants with benzodiazepines, antipsychotics, or mood stabilizers is frequently employed in psychiatric practice, especially in patients presenting with anxiety symptoms, insomnia, psychotic features, bipolar depression, or treatment-resistant depression^{11,13,14}.

Rational use of medicines is an important component of quality healthcare. WHO defines rational prescribing as the use of medications appropriate to clinical needs, in doses tailored to individual requirements, for an adequate duration, and at the lowest possible cost⁴. However, irrational prescribing practices such as polypharmacy, excessive benzodiazepine use, unnecessary fixed-dose combinations, and low generic prescribing continue to remain important concerns in psychiatric care¹². Such practices increase the risk of adverse drug reactions, drug interactions, poor medication adherence, dependence, cognitive impairment, and economic burden on patients.

Drug utilization studies are valuable tools for assessing prescribing trends, evaluating adherence to treatment guidelines, identifying patterns of irrational prescribing, and promoting evidence-based use of medicines⁵. WHO prescribing indicators and Anatomical Therapeutic Chemical/Defined Daily Dose (ATC/DDD) methodology are widely utilized for evaluating drug utilization patterns and rationality of prescriptions.

Several studies conducted in India and other countries have reported increasing use of SSRIs because of their favorable efficacy and tolerability profile⁶⁻¹⁰. Escitalopram has emerged as one of the most prescribed antidepressants because of its high

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selectivity, favorable side-effect profile, lower drug interaction potential, and improved patient compliance⁶⁻⁹. Benzodiazepines continue to be frequently prescribed for rapid symptomatic relief of anxiety and insomnia associated with depression; however, prolonged use may result in tolerance, dependence, withdrawal symptoms, psychomotor impairment, and cognitive dysfunction¹¹.

Despite increasing antidepressant utilization in India, limited data are available regarding prescription patterns and rational use of psychotropic medications in tertiary care hospitals. Therefore, the present study was undertaken to evaluate antidepressant prescribing patterns, psychotropic co-prescriptions, generic prescribing trends, essential medicine utilization, and WHO prescribing indicators among patients with depression attending a tertiary care teaching hospital.

AIM AND OBJECTIVES

Aim: To evaluate the prescription pattern of antidepressant drugs in patients diagnosed with depression attending a tertiary care teaching hospital.

OBJECTIVES

- To assess the demographic profile of patients with depression.
- To evaluate antidepressant utilization patterns.
- To analyze concomitant psychotropic medication use.
- To assess prescribing practices using WHO/INRUD indicators.
- To evaluate generic prescribing and essential medicine utilization.
- To assess the availability of prescribed drugs in the hospital pharmacy.
- To estimate the average prescription cost incurred by patients.

MATERIALS AND METHODS

Study Design and Setting

This hospital-based observational, cross-sectional descriptive study was conducted in collaboration with the Department of Psychiatry of a tertiary care teaching hospital after obtaining approval from the Institutional Ethics Committee.

The study was conducted in the Psychiatry Outpatient Department over a period of 18 months from February 2016 to August 2017.

Study Population

Adult patients aged above 18 years diagnosed with depressive disorders and receiving antidepressant therapy were included in the

study after obtaining written informed consent.

Depressive disorders were diagnosed by consultant psychiatrists according to standard ICD-10 diagnostic criteria. Patients included cases of major depressive disorder, recurrent depressive disorder, depression with anxiety symptoms, dysthymia, and bipolar depression where antidepressants were prescribed.

Inclusion Criteria

- Patients aged above 18 years
- Patients diagnosed with depressive disorders
- Patients receiving one or more antidepressants
- Patients willing to provide written informed consent

Exclusion Criteria

- Patients unwilling to participate
- Patients unable to provide informed consent
- Patients with severe life-threatening illnesses
- Pregnant and lactating women requiring specialized psychiatric management

Sample Size

A total of 600 prescriptions were analyzed in accordance with WHO recommendations for drug utilization and prescription pattern studies.

Data Collection

Data were collected using a structured and predesigned case record form. Information recorded included:

- Demographic profile
- Clinical diagnosis
- Severity of depression
- Associated medical and psychiatric comorbidities
- Details of prescribed medications
- Dose and duration of therapy
- Generic or brand prescribing
- Fixed-dose combinations
- Drug availability in hospital pharmacy
- Average prescription cost

Severity of depression was clinically categorized as mild, moderate, or severe according to psychiatrist assessment and symptom burden.

Patient confidentiality and anonymity were strictly maintained throughout the study.

Drug Classification

Prescribed drugs were categorized into the following groups:

- Antidepressants
- Sedatives and hypnotics
- Antipsychotics
- Mood stabilizers

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- Other concomitant medications
- Antidepressants were further classified into:
 - SSRIs
 - TCAs
 - SNRIs
 - Atypical antidepressants

Drug classification was additionally performed according to the WHO Anatomical Therapeutic Chemical (ATC) system.

WHO Prescribing Indicators

Prescriptions were analyzed using WHO/INRUD prescribing indicators⁴. The following parameters were assessed:

- Average number of drugs per encounter
- Average number of antidepressants per prescription
- Percentage of drugs prescribed by generic name
- Percentage of drugs prescribed from National List of Essential Medicines (NLEM)
- Percentage of fixed-dose combinations prescribed
- Percentage availability of prescribed drugs in hospital pharmacy

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using descriptive statistics. Continuous variables were expressed as

mean $\pm$ standard deviation, whereas categorical variables were represented as percentages and proportions.

RESULTS

Demographic Characteristics

A total of 600 prescriptions were analyzed during the study period. The age of patients ranged from 18 to 79 years, with a mean age of 37.33 ± 12.46 years. Most patients belonged to the 26–35 years age group followed by the 36–45 years age group, indicating a high burden of depression among economically productive individuals (Fig 1). Females constituted 50.67% of the study population while males accounted for 49.33%.

Moderate depression was the most frequently encountered clinical presentation, followed by mild and severe depression. Patients with severe depression were more likely to receive multidrug therapy and psychotropic augmentation.

Associated medical illnesses included hypertension, diabetes mellitus, thyroid disorders, chronic pain syndromes, and epilepsy. Chronic pain syndromes and insomnia were more frequently associated with TCA prescribing, particularly Amitriptyline.

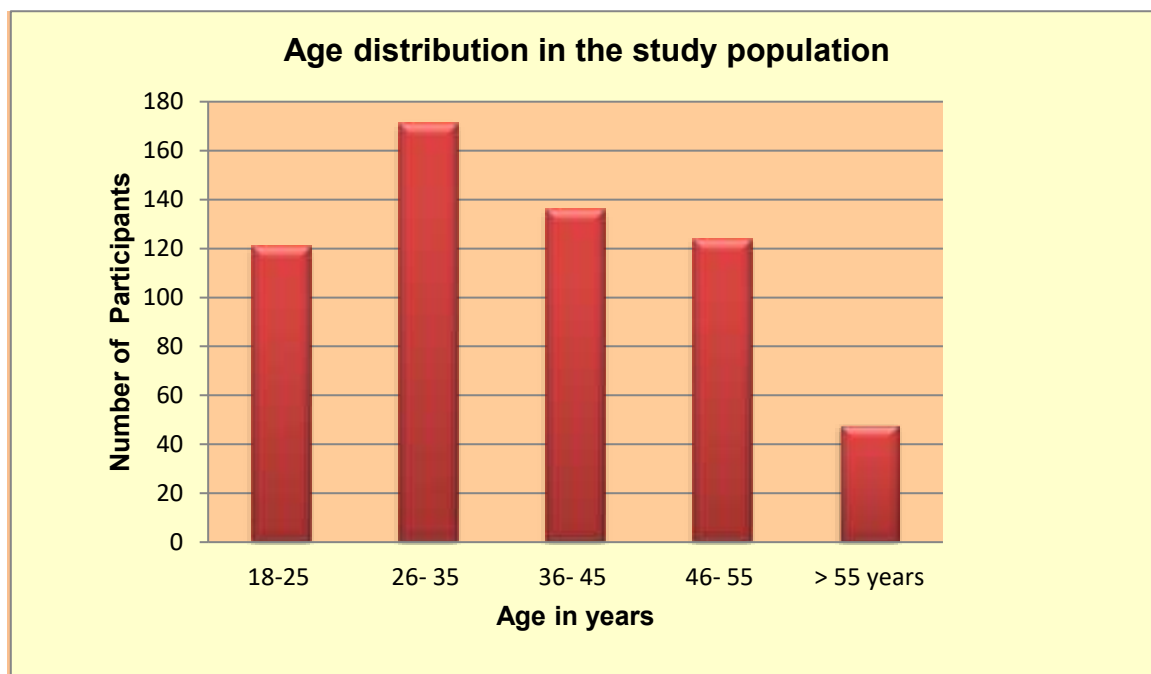


Figure 1: Age distribution in the study population (n=600)

Drug Prescribing Pattern

A total of 1472 drugs were prescribed across 600 prescriptions. The average number of drugs per prescription was 2.45 ± 1.06 , which exceeded WHO ideal standards and suggested a trend toward polypharmacy.

Most prescriptions contained two or three medications. The average number of antidepressants prescribed per prescription was 1.07 ± 0.29 .

After separating fixed-dose combinations into individual components, 1576 drugs were

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analyzed. Antidepressants constituted 40.87% of all prescribed drugs, sedatives and hypnotics 21.06%, antipsychotics 9.14%, mood stabilizers 2.79%, and other concomitant medications 26.14%.

Pattern of Antidepressant Utilization

SSRIs were the most prescribed antidepressants and accounted for 59.01% of antidepressant prescriptions. TCAs

constituted 29.81%, while SNRIs and atypical antidepressants each contributed 5.59% (Fig 2).

Among SSRIs, Escitalopram was the most frequently prescribed antidepressant followed by Fluoxetine, Sertraline, and Paroxetine. Escitalopram was preferred because of its favorable tolerability, lower incidence of adverse effects, better safety profile, and fewer drug interactions.

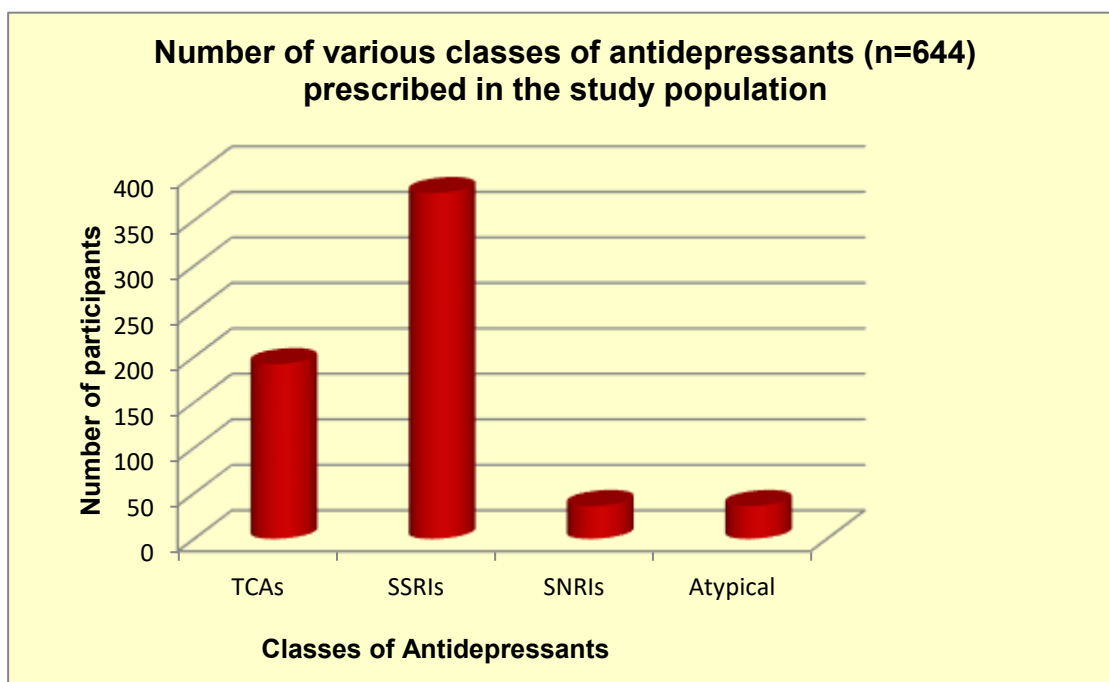


Figure 2: Number of various classes of antidepressants prescribed in the study population

Amitriptyline was the most prescribed TCA followed by Imipramine. TCAs continued to be utilized because of their effectiveness, lower cost, sedative properties, and utility in chronic pain syndromes.

Venlafaxine and Duloxetine were the commonly prescribed SNRIs, particularly in patients with associated anxiety symptoms and chronic pain disorders. Mirtazapine and Bupropion represented the major atypical antidepressants prescribed during the study period.

Monotherapy and Combination Therapy

Combination therapy was substantially more common than monotherapy. Of the 644 antidepressants prescribed, 492 (76.40%)

were used in combination with other psychotropic medications while 152 (23.60%) were prescribed as monotherapy (Table 1).

Amitriptyline was the most commonly prescribed antidepressant used alone. Combination therapy frequently involved antidepressants with benzodiazepines, antipsychotics, or mood stabilizers. Patients with severe depression, associated anxiety symptoms, insomnia, or psychotic features were more likely to receive multidrug regimens.

Sedatives and hypnotics were the most commonly co-prescribed psychotropic medications. Benzodiazepines were extensively used for rapid symptomatic relief during the early phase of antidepressant therapy.

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Table 1: Number of antidepressant drugs used as monotherapy Concomitant Psychotropic Drug Use

Antidepressant drug	Number	Percentage (%)
Amitriptyline	70	46.06
Escitalopram	32	21.06
Imipramine	20	13.15
Sertraline	16	10.53
Mirtazapine	6	3.95
Paroxetine	5	3.28
Desvenlafaxine	3	1.97
Total	152	100.00

Clonazepam accounted for 72.29% of sedative prescriptions, making it the predominant sedative-hypnotic agent. Alprazolam and Lorazepam were prescribed less frequently.

Among antipsychotics, Olanzapine was the most commonly prescribed drug followed by Risperidone and Quetiapine. These agents were mainly used as augmentation therapy in treatment-resistant depression and depression associated with psychotic symptoms.

Lithium was the most frequently prescribed mood stabilizer followed by Sodium Valproate.

Fixed-Dose Combinations

Forty-two fixed-dose combinations were prescribed during the study period. The most common FDC was Escitalopram + Clonazepam. Although such combinations may improve convenience and treatment adherence, they may reduce flexibility in dose adjustment and encourage prolonged benzodiazepine exposure (Table 2).

Table 2: Number of antidepressant drugs prescribed as FDC in the study population

FDC	Number	Percentage (%)
Escitalopram+ Clonazepam	16	38.09
Desvenlafaxine+ Clonazepam	12	28.58
Paroxetine+ Clonazepam	03	7.15
Amitriptyline+ Chlordiazepoxide	05	11.90
Fluoxetine+ Olanzapine	06	14.28
Total	42	100.00

Generic Prescribing and Essential Medicine Utilization

Only 53.53% of prescribed drugs were written by generic name. Generic prescribing among antidepressants was even lower at 39.75%. A considerable proportion of prescriptions involved branded formulations, thereby increasing treatment costs. Older antidepressants such as Amitriptyline and Imipramine were more commonly prescribed from the National List of Essential Medicines.

Drug Availability

Overall, 51.36% of prescribed drugs were available in the hospital pharmacy. Availability of antidepressants was particularly limited, with only 29.81% supplied through hospital pharmacies.

Newer antidepressants including Escitalopram and Sertraline often had to be purchased externally, increasing out-of-

pocket expenditure and potentially affecting treatment adherence.

Cost Analysis

The average cost per prescription was 188.42 INR. Patients receiving combination therapy incurred higher treatment costs compared with those receiving monotherapy. Poor availability of psychotropic medicines in hospital pharmacies increased dependence on private pharmacies and contributed substantially to financial burden.

Analysis of prescribed drugs according to the Anatomical Therapeutic Chemical (ATC)-Daily Defined Dose (DDD) classification

The Prescribed Daily Dose (PDD) / Daily Defined Dose (DDD) ratio of the prescribed drugs showed that majority of drugs i.e. 70% had PDD/DDD ratio <1 followed by 23.33% drugs whose PDD/DDD ratio was >1. Only 2

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drugs (6.67%) namely Ranitidine and Pantoprazole had PDD/DDD ratio of 1. Amongst the antidepressant drugs,

Escitalopram (1.02) and Sertraline (1.06) had PDD/DDD ratio almost nearing 1. (Fig 3)

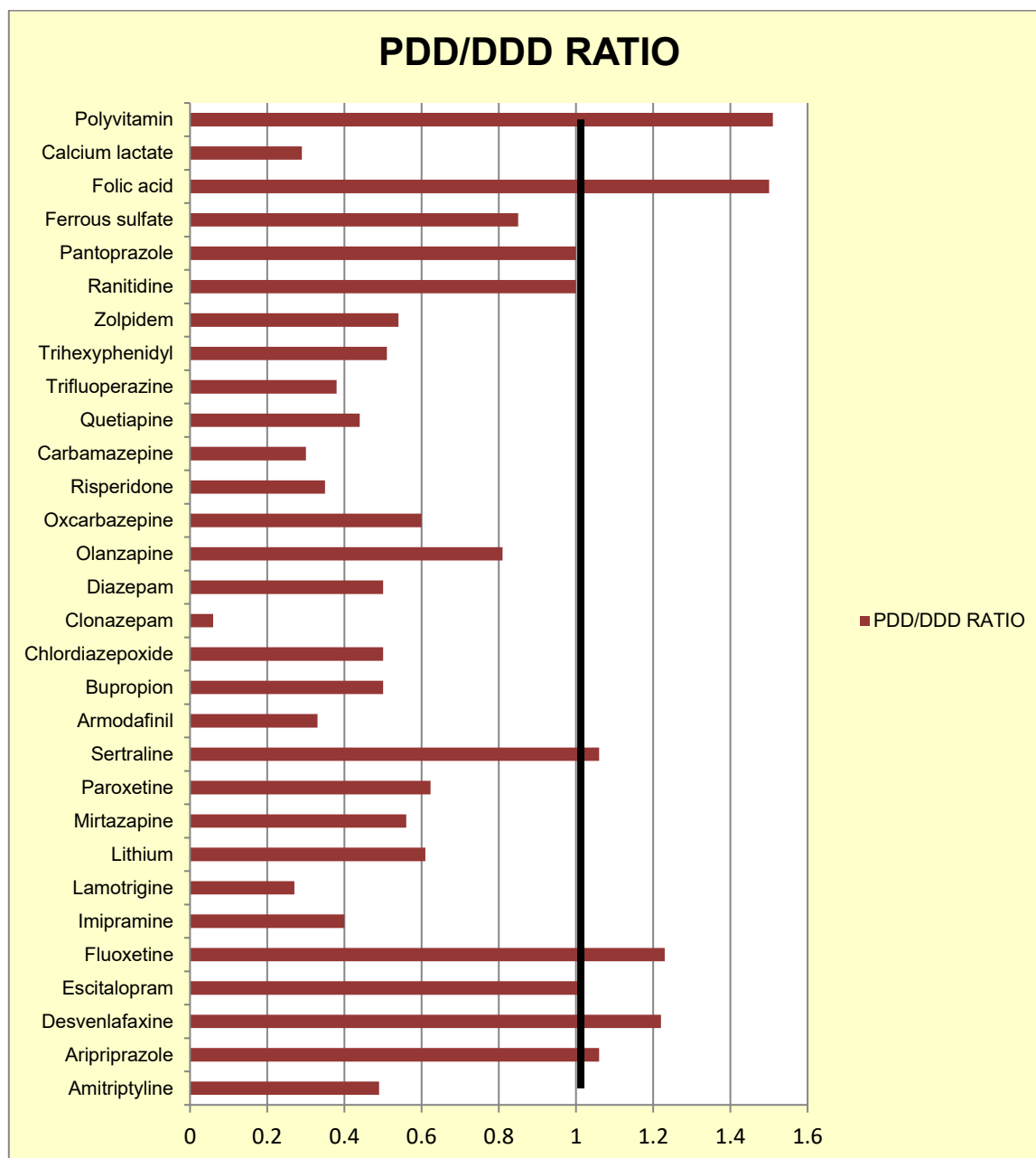


Figure 3: PDD/DDD ratio of drugs prescribed among study participants

WHO/INRUD drug use indicator

Average number of drugs per encounter was 2.45 ± 1.06 . Out of 1472 drugs prescribed to the study population, 53.53% were prescribed by generic name. Since our study was conducted in the Psychiatry outpatient department, there was no encounter with

either an antibiotic or an injection. 51.36% of drugs were prescribed from hospital formulary. 84.51% and 45.38% of drugs were prescribed from the National essential drug list of medicines, 2015 and WHO essential list of medicines, 2017 respectively. (Table 3)

Table 3: WHO/ INRUD drug use indicators.

Average number of drugs per encounter	2.45+ 1.06
Percentage of drug prescribed by generic name	53.53%
Percentage of encounter with an antibiotic prescribed	0
Percentage of encounter with injection prescribed	0
Percentage of drug prescribed from Hospital formulary	51.36%
Percentage of drug prescribed from National essential drug list (NLEM, 2015)	84.51%
Percentage of drug prescribed from WHO essential drug list (WHO- EML, 2017)	45.38%

Adverse Effects

Although formal pharmacovigilance assessment was not performed, commonly reported adverse effects included sedation, dry mouth, dizziness, gastrointestinal disturbances, weight gain, and daytime drowsiness. Sedation and anticholinergic adverse effects were more commonly associated with TCAs and benzodiazepines.

DISCUSSION

The present study evaluated antidepressant prescription patterns and psychotropic drug utilization among patients attending the Psychiatry Outpatient Department of a tertiary care teaching hospital. Drug utilization studies in psychiatry are particularly important because psychotropic medications are frequently used for prolonged durations and are often associated with issues related to polypharmacy, adverse effects, medication adherence, and economic burden.

The majority of patients in the present study belonged to the 26–35 years age group, highlighting the significant burden of depression among economically productive individuals. Similar age distribution patterns have been reported in earlier Indian and international studies^{6–10}. Younger and middle-aged adults are more vulnerable to occupational stress, financial insecurity, social pressures, interpersonal conflicts, and lifestyle-related psychological stressors, all of which may contribute to depressive disorders. The gender distribution in the present study was almost equal. Earlier epidemiological studies have generally reported a higher prevalence of depression among females. However, the nearly equal gender distribution observed in the present study may reflect improved awareness regarding mental health among males and greater willingness to seek psychiatric care. Social acceptance of psychiatric consultation has gradually improved over recent years, which may have contributed to increased healthcare-seeking behavior.

Moderate depression was the most common clinical presentation observed. Patients with severe depression were more likely to receive combination therapy and psychotropic augmentation. Severe depressive illness is frequently associated with insomnia, anxiety symptoms, psychotic manifestations, suicidal ideation, and poor functional status, which often necessitate multidrug therapy.

The average number of drugs per prescription in the present study exceeded WHO ideal recommendations and indicated a trend toward polypharmacy. Similar findings have been documented in psychiatric prescription pattern studies from tertiary care hospitals. Polypharmacy in psychiatry may sometimes be clinically justified because many patients present with comorbid anxiety, sleep disturbances, psychotic symptoms, or associated medical illnesses. Nevertheless, unnecessary polypharmacy increases the risk of adverse drug reactions, drug interactions, medication nonadherence, cognitive impairment, falls in elderly patients, and increased treatment cost¹². Rational prescribing therefore requires careful balancing of therapeutic benefit against potential risks.

Antidepressants constituted the largest proportion of prescribed medications, followed by sedatives and hypnotics. SSRIs emerged as the most frequently prescribed antidepressant group, accounting for more than half of antidepressant prescriptions. This finding is consistent with previous studies conducted in India and abroad^{6–10}. SSRIs have largely replaced older antidepressants because of their favorable tolerability profile, lower toxicity in overdose, reduced anticholinergic adverse effects, and improved patient adherence.

Among SSRIs, Escitalopram was the most commonly prescribed antidepressant. Similar trends have been observed in several Indian studies^{6–9}. Escitalopram possesses high selectivity for serotonin reuptake inhibition and is associated with minimal pharmacokinetic interactions, better

tolerability, and favorable efficacy in depression associated with anxiety symptoms. The widespread use of Escitalopram in the present study may therefore reflect clinician preference for medications with improved safety and patient compliance.

Despite the predominance of SSRIs, Amitriptyline remained the most common antidepressant prescribed as monotherapy. TCAs continue to retain clinical relevance because of their effectiveness in chronic pain syndromes, migraine prophylaxis, neuropathic pain, and insomnia. Amitriptyline is also relatively inexpensive compared with newer antidepressants, which may influence prescribing decisions in resource-limited settings. However, TCAs are associated with anticholinergic adverse effects, sedation, orthostatic hypotension, and cardiotoxicity in overdose, which limits their widespread utilization.

Combination therapy was considerably more common than monotherapy in the present study. Similar observations have been reported by Avanthi et al⁶. Combination regimens are frequently prescribed in patients with severe depression, anxiety-associated depression, treatment-resistant illness, and psychotic depression. Augmentation strategies involving benzodiazepines or atypical antipsychotics may provide symptomatic benefit in selected patients. However, irrational psychotropic combinations increase treatment complexity and may reduce medication adherence.

Benzodiazepines were widely co-prescribed, with Clonazepam accounting for the majority of sedative prescriptions. Benzodiazepines are commonly used during the early phase of antidepressant treatment because antidepressants often require several weeks before achieving full therapeutic effect. Short-term use of benzodiazepines may improve sleep, reduce anxiety, and enhance patient comfort. Nevertheless, prolonged use is associated with tolerance, dependence, withdrawal symptoms, psychomotor impairment, daytime sedation, and cognitive dysfunction¹¹. Elderly patients are particularly vulnerable to falls and cognitive adverse effects associated with benzodiazepine therapy. Therefore, benzodiazepine use should ideally be restricted to short durations with regular reassessment and gradual tapering.

Olanzapine was the most frequently prescribed antipsychotic in the present study. Atypical antipsychotics are increasingly being

utilized as augmentation agents in treatment-resistant depression and depression with psychotic features^{13,14}. Olanzapine may improve depressive symptoms when combined with antidepressants; however, long-term use requires careful monitoring because of metabolic adverse effects such as weight gain, dyslipidemia, and impaired glucose tolerance.

The study also demonstrated frequent utilization of FDCs, particularly Escitalopram + Clonazepam combinations. Such combinations are widely prescribed because they simplify treatment regimens and may improve patient adherence. However, FDCs reduce flexibility in dose adjustment and may inadvertently encourage prolonged benzodiazepine exposure even after improvement in anxiety symptoms. Rational use of FDCs requires careful patient selection and periodic review.

Generic prescribing remained suboptimal in the present study. Only about half of prescribed drugs were written by generic name, and generic prescribing among antidepressants was even lower. Similar findings have been reported in other Indian studies where clinicians often prefer branded formulations because of perceived quality differences or familiarity with specific brands. Low generic utilization contributes to increased healthcare expenditure, particularly in chronic psychiatric disorders requiring long-term treatment. Promotion of generic prescribing through institutional policies, clinician education, and prescription audits may help reduce treatment costs.

Availability of antidepressants in the hospital pharmacy was inadequate, especially for newer antidepressants such as Escitalopram and Sertraline. Consequently, many patients were required to purchase medicines from private pharmacies, thereby increasing out-of-pocket expenditure. Poor availability of essential psychotropic medicines can negatively affect treatment continuity and medication adherence, especially among economically disadvantaged patients.

The average prescription cost observed in the present study represented a substantial financial burden for many patients attending government healthcare facilities. Combination therapy and branded prescribing significantly increased prescription cost. Improved procurement systems and uninterrupted supply of essential psychotropic medicines through hospital pharmacies may help reduce healthcare expenditure and improve treatment adherence.

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Analysis using ATC/DDD methodology demonstrated that the majority of drugs had a PDD/DDD ratio below 1, indicating relatively conservative prescribing. Escitalopram and Sertraline showed PDD/DDD ratios close to 1, suggesting prescribing practices comparable with internationally accepted defined doses. ATC/DDD analysis is useful for comparing utilization patterns and identifying variations in prescribing behavior.

WHO/INRUD prescribing indicators provide valuable information regarding rationality of prescriptions. The absence of antibiotic and injectable prescriptions in the present study reflects the outpatient psychiatric setting. A large proportion of drugs were prescribed from the National Essential Medicines List, indicating reasonable adherence to essential medicine principles. However, the relatively low proportion of drugs prescribed from the WHO Essential Medicines List suggests scope for further optimization.

The present study provides important insight into real-world antidepressant prescribing practices in a tertiary care teaching hospital. The findings emphasize the need for rational psychotropic prescribing, reduction in unnecessary polypharmacy, cautious use of benzodiazepines, improved generic utilization, and better availability of essential psychotropic medicines.

Strengths of the Study

- Large sample size involving 600 prescriptions
- Utilization of WHO/INRUD prescribing indicators
- Evaluation of psychotropic co-prescriptions
- Assessment of generic prescribing and drug availability
- Inclusion of pharmacoeconomic aspects
- Real-world assessment of prescribing trends in tertiary psychiatric care

Limitations

The study had certain limitations:

- Being a single-center study, the findings may not represent prescribing trends in other healthcare settings.
- Clinical outcomes and therapeutic response were not assessed.
- Long-term adherence and relapse rates were not evaluated.
- Formal adverse drug reaction causality assessment was not performed.
- Severity assessment relied on clinical evaluation rather than standardized rating scales.
- Pharmacoeconomic evaluation was limited to direct prescription costs.

Recommendations

- Periodic prescription audits should be conducted to promote rational psychotropic prescribing.
- Generic prescribing should be encouraged to reduce treatment costs.
- Benzodiazepine use should be regularly reviewed to minimize dependence and long-term complications.
- Essential psychotropic medicines should be made consistently available through hospital pharmacies.
- Evidence-based treatment guidelines should be implemented uniformly in psychiatric practice.
- Continuing medical education programs on rational antidepressant use should be organized for healthcare professionals.
- Multicentric studies incorporating clinical outcomes, adherence, pharmacovigilance, and pharmacoeconomic analysis should be conducted in future.

CONCLUSION

The present study demonstrated that SSRIs were the most frequently prescribed antidepressants among patients with depressive disorders, with Escitalopram being the preferred agent because of its favorable efficacy and tolerability profile.

Combination therapy was widely practiced, and benzodiazepines, particularly Clonazepam, were frequently prescribed as adjunctive medications. Important concerns identified included polypharmacy, extensive benzodiazepine use, frequent use of fixed-dose combinations, low generic prescribing, and inadequate availability of antidepressants in hospital pharmacies.

Regular prescription audits, improved generic prescribing, rational benzodiazepine use, adherence to evidence-based treatment guidelines, and better availability of essential psychotropic medicines are necessary to optimize antidepressant therapy and reduce healthcare costs.

Further multicentric studies with long-term follow-up, pharmacovigilance assessment, and evaluation of treatment outcomes are recommended to better understand antidepressant utilization trends and improve psychiatric care.

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