SSR Institute of International Journal of Life Sciences
ISSN (O): 2581-8740 | ISSN (P): 2581-8732
Navreet *et al*., 2025
doi: 10.21276/SSR-IIJLS.2025.11.4.34

Original Article

open access

Antidepressant Prescription Patterns and Clinical Outcomes in a Tertiary Care Psychiatry Outpatient Department: A Drug Utilization Study

Navreet[1], Shaktibala Dutta[2], Amit Singhal[3]*, Rajni Kumari Rai[4], Brijesh Saran[5], Srihari Dutta[6], Jyotsna Sharma[7], Ajay Kestwal[8], Sumit Singhal[9], Vishal Kapoor[10]

[1]PG 3rd Year MD, Dept of Pharmacology, Santosh Medical College, Santosh Deemed to be University, Ghaziabad, India
[2]Professor and HOD, Dept of Pharmacology, Shri Guru Ram Rai Institute of Medical and Health Sciences, Patel Nagar, Dehradun, India
[3]Associate Professor, Dept of Pharmacology, Santosh Medical College, Santosh Deemed to be University, Ghaziabad, India
[4]Assistant Professor, Department of Pharmacology, GS Medical College, Pilkhuwa, Hapur, India
[5]Associate Professor, Department of Psychiatry, Santosh Hospital, Delhi NCR, India
[6]Regional Health Specialist, Immunization and Primary Health Care System Strengthening, UNICEF, Middle East and North Africa
[7]Prof. & HOD (Pharmacology), G S Medical College, Pilkhuwa, Hapur, India
[8]Assistant Professor, Department of Pharmacology, Santosh Medical College, Ghaziabad, India
[9]Senior Tutor, Department of Pharmacology, Santosh Medical College, Ghaziabad, India
[10]PG 2nd Year MD, Department of Pharmacology, Santosh Medical College, Ghaziabad, India

***Address for Correspondence:** Dr. Amit Singhal, Associate Professor, Department of Pharmacology, Santosh Medical College, Santosh Deemed to be University, Ghaziabad, NCR Delhi- 201001, India
E-mail: dramitkmmc@gmail.com

Received: 12 Feb 2025/ Revised: 24 Apr 2025/ Accepted: 17 Jun 2025

ABSTRACT

Background: Depression impacts 280 million people globally, leading to disability and a high economic burden. Antidepressants remain the primary treatment, but adherence and side effects limit effectiveness. To examine prescribing patterns in patients with depressive disorder at a tertiary care hospital's psychiatry outpatient department.

Methods: This prospective, observational study was conducted in patients with depressive disorders at the Department of Psychiatry, Santosh Medical College & Hospital, Ghaziabad, from October 2023 to November 2024. Data on demographic characteristics, prescribed medications, and adherence to World Health Organization core prescribing indicators were collected. Depression severity was assessed using the Hamilton Depression Rating Scale (HAM-D) and the Montgomery-Åsberg Depression Rating Scale (MADRS) at baseline and after six weeks. The data were collected using a specialized proforma.

Results: A total of 217 patients (mean age 40.39 years; 50.69% female) were evaluated. Most were single, unemployed, and from low-income groups. The majority of patients (97.97%) received monotherapy, predominantly via the oral route (71.43%). The most frequently prescribed antidepressants were fluoxetine (32.72%), followed by citalopram (32.26%). Significant symptom improvement was observed over six weeks, with mean HAM-D scores decreasing from 19.82 to 9.74 and MADRS scores from 25.09 to 10.89.

Conclusion: The study emphasizes the importance of individualized antidepressant prescribing, considering clinical needs, socioeconomic context, and patient-specific factors to optimize therapeutic outcomes.

Key-words: Antidepressant, prescription pattern, SSRIs, NLEM, MADRS

How to cite this article
Navreet, Dutta S, Singhal A, Rai RK, Saran B, et al. Antidepressant Prescription Patterns and Clinical Outcomes in a Tertiary Care Psychiatry Outpatient Department: A Drug Utilization Study. SSR Inst Int J Life Sci., 2025; 11(4): 8029-8035.

Access this article online
https://iijls.com/

INTRODUCTION

Depression is a major cause of disability, and around 280 million people suffer from depression globally [1,2]. It is characterized by a persistent low mood, loss of interest or pleasure, cognitive difficulties, feelings of guilt or hopelessness, sleep and appetite disturbances, fatigue, and, in severe cases, suicidal thoughts [2]. The global prevalence of depression is estimated at 3.8%, with a higher frequency among women (6%) than men (4%) [2].

doi: 10.21276/SSR-IIJLS.2025.11.4.34

In India, 56 million people i.e., 4.5% of the population, is affected by depression as per the recent report of the World Health Organization (WHO) [3]. The primary sociodemographic association were female gender and divorced marital status [4]. The burden of depression extends beyond individual suffering, impacting daily functioning, work productivity, and quality of life (QOL) [2].

Pharmacological intervention, the cornerstone of depression management, includes antidepressants such as selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs), serotonin modulators, atypical antidepressants, and N-methyl-D-aspartate antagonists. These medications enhance neurotransmitter activity, particularly serotonin and norepinephrine [4]. With appropriate intervention, 70-80% of people with major depressive disorder show significant improvement in their depressive symptoms [4].

Enhancing treatment accessibility and selecting the most appropriate therapeutic options are crucial for healthcare decision-makers, and economic evaluations play a vital role in guiding these decisions [5]. Hence, the present study aimed to analyse antidepressant prescription patterns among individuals diagnosed with depressive disorder visiting the psychiatry outpatient department (OPD) at a tertiary care hospital.

MATERIALS AND METHODS

Study design and setting- This prospective, observational study was conducted in patients diagnosed with psychiatric disorders at the Department of Psychiatry, Santosh Medical College & Hospital, Ghaziabad from October 2023 to November 2024. The study was approved by the Institutional Ethics Committee on Clinical Investigation (Approval no. F. No.SU/R/2023/2489[28]) and conducted by the Declaration of Helsinki and International Conference on Harmonization guidelines. Written informed consent was obtained from each patient before study recruitment.

Sample size calculation- The sample size for this study was determined using the proportion formula, resulting in a total of 217 participants.

Inclusion and exclusion criteria- Patients who visited the psychiatry OPD and were diagnosed with a psychiatric disorder by a specialist, prescribed at least one medication for mental illness, and received treatment for depressive illness for the first time were included. Additional inclusion criteria were patients aged 18 years or older at the time of OPD visits and those willing to provide informed consent or whose legal representatives consented. Patients with prescription errors, accidental or deliberate overdose, those unable to convey details of ADRs or drug-related problems (DRPs) following psychiatric drug use, and prescriptions that did not meet the inclusion criteria were excluded from the study.

Data collection- Demographic details, diagnosed depressive disorders, and prescribed antidepressants were recorded from patient prescriptions or legal guardians. Co-morbidities, concomitant medications, and relevant test reports were documented. Management of DRPs by treating physicians was also noted.

Instruments used- The Hamilton Depression Rating Scale (HAM-D) is a 17 to 24-item tool used to assess depression severity. A HAM-D score of 8–16 indicates mild depression, 17–23 denotes moderate severity, and ≥24 reflects a severe depressive episode [6].

The Montgomery-Åsberg Depression Rating Scale (MADRS) is a 10-item tool used to assess the severity of depressive symptoms, with a total score ranging from 0 to 60. Scores classify depression severity as remission (0–8), mild (9–17), moderate (18–34), and severe (>35) [7].

Statistical analysis- Data was analysed using SPSS version 25 (IBM, USA). Descriptive statistics were used to summarize patient demographics and treatment profiles. The severity of depression based on HAM-D and MADRS was analysed for associations with triggering factors using the Pearson Chi-square test. The frequency of ADRs and drug usage patterns based on WHO core indicators were assessed. The association between socio-demographic variables and drug usage patterns was evaluated using the Pearson Chi-square test. A 95% confidence interval was used, and a p-value≤0.05 was considered statistically significant.

doi: 10.21276/SSR-IIJLS.2025.11.4.34

RESULTS

A total of 217 patients were included in the study, with a mean age of 40.39±5.96 years. The sociodemographic and clinical characteristics of the patients are presented in Table 1. Gender distribution was nearly equal, with 110 (50.69%) females and 107 (49.31%) males. The majority were single (53.46%) and unemployed (61.75%). Most patients belonged to the low-income group (65.44%), while 25.35% were in the middle-income group and 9.22% in the high-income group. Regarding social habits, 14.29% reported alcohol consumption, and 10.14% were smokers. Comorbidities were present in 24.32% of cases, with hypertension (13.82%) being the most common, followed by migraine (7.37%), parkinson's (1.84%), and epilepsy (1.38%) (Table 1).

Table 1: Sociodemographic and clinical characteristics of the patients

Parameters	No. of patients (N=217)
Age (years), mean (SD)	40.39 (5.96)
Sex	
Female	110 (50.69)
Male	107 (49.31)
Marital status	
Single	116 (53.46)
With partner	101 (46.54)
Professional status	
Employed	83 (38.25)
Un-employed	134 (61.75)
Income status	
Low	142 (65.44)
Medium	55 (25.35)
High	20 (9.22)
Social habit	
Alcoholic	31 (14.29)
Smoker	22 (10.14)
Presence of Co-morbidities	
Yes	53 (24.32)
No	164 (75.68)
Comorbidities	
Hypertension	30 (13.82)
Migraine	16 (7.37)
Parkinson Disease	4 (1.84)
Epilepsy	3 (1.38)
Antidepressant therapy prescription	
Mono-therapy	212 (97.97)
Combination therapy	5 (2.03)
Routes of drug administration	
Oral	155 (71.43)
Injectable	58 (26.73)
NLEM	
Yes	130 (60.6)
No	85 (39.4)

Data presented as n (%).
NLEM, National list of essential medicines.

A majority of patients (97.97%) received monotherapy for antidepressant treatment. The oral route was predominant (71.43%), while injectable formulations accounted for 26.73% of prescriptions. Antidepressants listed in the National List of Essential Medicines (NLEM) were prescribed in 60.6% of cases, indicating moderate adherence to essential medicine guidelines (Table 2).

Table 2: Analysis of antidepressant prescriptions based on WHO core drug use indicators

Drug use indicators	Results of analysis
Total number of prescriptions analyzed (n=217) Total number of antidepressant drugs prescribed (n=222)	
Average number of antidepressant medicines per prescription	1.02
Prescription containing FDC in the study	5 (2.3)
Percentage of prescriptions with drug dosage form	100%
Percentage of prescriptions prescribed from NLEM (2022)	130 (59.91)
Percentage of prescription written with generic name	22 (10)
Percentage of prescription written with injectable	58 (26.73)

Data presented as n (%).
FDC, fixed dose combinations; NLEM, National list of essential medicines.

doi: 10.21276/SSR-IIJLS.2025.11.4.34

The most frequently prescribed antidepressants belonged to the SSRI class, with fluoxetine (32.72%) and citalopram (32.26%) being the most common. Other prescribed antidepressants included amitriptyline (10.60%) and imipramine (5.99%), while escitalopram (5.53%), sertraline (5.53%), paroxetine (5.07%), and the clonazepam-fluoxetine combination (2.30%) were less frequently used (Fig. 1).

Efficacy assessment using the HAM-D and MADRS demonstrated significant improvement over six weeks. The mean HAM-D score decreased from 19.82 to 9.74, and the MADRS score declined from 25.09-10.89 (Fig. 2).

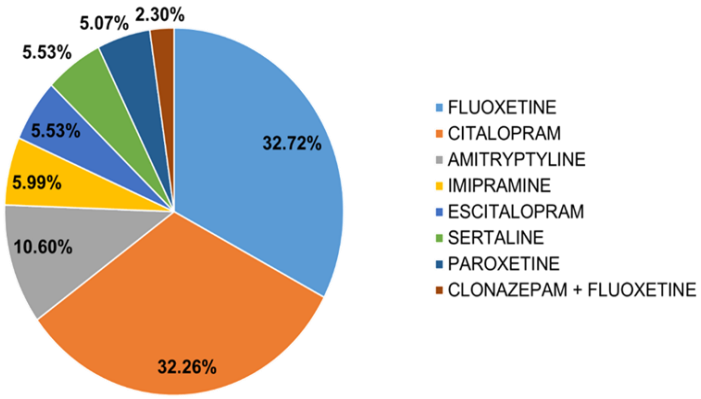

Fig. 1: Antidepressant drug usage pattern

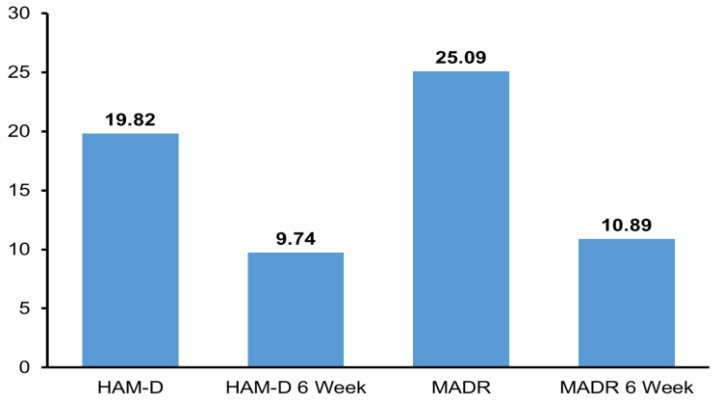

Fig. 2: HAM-D and MADR score at admission & follow-up of 6 weeks of antidepressant treatment

The low-income group had a baseline HAM-D score of 20.27, which reduced to 10.11 at six weeks, while the middle-income group improved from 18.11 to 8.64, and the high-income group from 21.35 to 10.11. Similarly, for the MADRS score, the low-income group had the highest initial score of 25.67, decreasing to 10.96 after six weeks, while the middle-income group showed a reduction from 20.42 to 10.53, and the high-income group improved from 25.65 to 11.45 (Fig. 3).

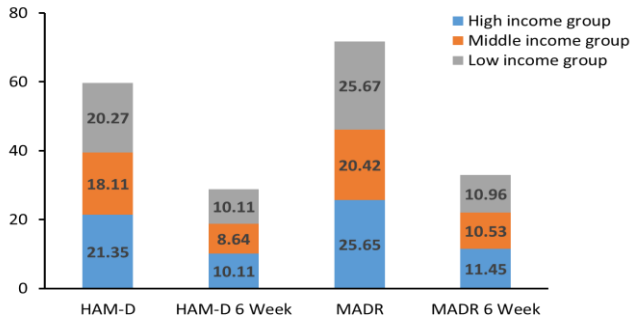

Fig. 3: Pattern of severity of depression score in different income groups (n=217)

HAM-D, Hamilton Depression Rating Scale; MADRS, Montgomery-Åsberg Depression Rating Scale

doi: 10.21276/SSR-IIJLS.2025.11.4.34

DISCUSSION

The study of prescription patterns helps to identify the medication usage practice in the real-world setting [8]. In the present study, the mean age of patients was 40.39±5.96 years, with almost equal gender distribution. However, a study by Seema *et al*. reported a slightly lower mean age of 39.5±12 and a higher proportion of female patients (68.2%). The current study found a higher proportion of patients in the low-income group, unemployed, and single, consistent with findings from a previous study [9].

In the present study, monotherapy was the predominant treatment approach for antidepressant use. This contrasts with previous literature, which reported that monotherapy was primarily used for mild depression, while dual and triple therapy were preferred for moderate and severe cases [10]. In addition, another study found polytherapy to be more common than monotherapy, highlighting variations in prescribing patterns across different settings [11].

In South Africa, SSRIs and TCAs are widely prescribed for depression [12]. In the current study, fluoxetine was the most frequently prescribed antidepressant, followed by citalopram, both belong to the class of SSRIs. This contrasts with the study, which demonstrated that escitalopram co-administered with clonazepam was the most frequently prescribed antidepressant, followed by fluoxetine [13]. Furthermore, another study observed escitalopram followed by sertraline as the most common antidepressant for depression [8].

In the current study, HAM-D and MADRS scores demonstrated significant improvement over six weeks, with mean reductions from 19.82 to 9.74 and 25.09 to 10.89, respectively. This finding is consistent with the interim analysis, where both scales demonstrated strong positive correlations and consistent reductions in depression severity following therapeutic interventions [14]. Additionally, literature suggests that higher psychiatric hospitalizations predict poorer QOL improvements, whereas having a partner is associated with better psychological and environmental well-being [15].

The present study reported an average of 1.02 antidepressants per prescription; it was in line with the study conducted by Vishal *et al*. [11]. Fixed-dose combinations were prescribed in a limited proportion of cases (2.1%), consistent with the findings of Vishal *et al*. [11]. In the present study, while 100% of prescriptions specified drug dosage forms, only 10% were written using generic names. In contrast, a study by Thakkar *et al*., reported much higher rates (76.01) of generic prescribing [16]. According to the present study, the majority of prescriptions (59.91%) were based on the NLEM. Similarly, another study reported that the use of drugs from the Indian and WHO essential medicines lists was notably high. The main objective of the NLEM is to ensure the rational use of medicines by prioritizing cost-effectiveness, safety, and efficacy [16].

This study has several strengths, including the use of validated assessment tools (HAM-D and MADRS) to measure depression severity, ensuring reliable evaluation of treatment outcomes. Additionally, the study included patients diagnosed with various depressive disorders, allowing for a broader understanding of prescription patterns. Furthermore, data collection from both urban and rural populations enhances the study's applicability across diverse socioeconomic backgrounds.

The relatively small sample size may limit the generalizability of findings, and a larger, multicentre study could provide more robust conclusions. While the study included various depressive disorders, the uneven distribution of diagnoses may not accurately represent specific subgroups, such as MDD. The exclusion of psychiatric comorbidities further restricts applicability to patients with complex presentations. Additionally, the study focused on prescription patterns without fully assessing the impact of physical comorbidities on disability and treatment outcomes. The short follow-up period limits insights into long-term efficacy and QOL improvements. Future studies should incorporate extended follow-ups and subjective QOL assessments for a more comprehensive evaluation of treatment outcomes.

CONCLUSIONS

This study provides valuable insights into current antidepressant prescribing practices in a tertiary care psychiatry outpatient setting. The findings reveal a high prevalence of monotherapy, with SSRIs—particularly fluoxetine and citalopram—being the most frequently prescribed agents. Significant clinical improvement in depressive symptoms was evident after six weeks, as demonstrated by reduced HAM-D and MADRS scores.

doi: 10.21276/SSR-IIJLS.2025.11.4.34

Socioeconomic factors, such as income and employment status, influenced the severity of depression and treatment response. Despite moderate adherence to NLEM guidelines, the low rate of generic prescriptions highlights the need for improved cost-effective prescribing. Overall, the study underscores the importance of individualized, evidence-based treatment approaches, guided by both clinical presentation and socioeconomic context. Further large-scale, multicentre studies with longer follow-up periods are warranted to better understand the long-term outcomes and quality of life in patients receiving antidepressant therapy.

CONTRIBUTION OF AUTHORS

Research concept– Navreet, Shaktibala Dutta
Research design– Navreet, Amit Singhal
Supervision– Jyotsna Sharma
Materials– Navreet, Amit Singhal, Rajni Kumari Rai, Ajay Kestwal
Data collection– Amit Singhal, Rajni Kumari Rai, Vishal Kapoor
Data analysis and interpretation– Jyotsna Sharma, Sumit Singhal
Literature search– Amit Singhal, Rajni Kumari Rai, Brijesh Saran
Writing article– Navreet, Shaktibala Dutta
Critical review– Jyotsna Sharma, Srihari Dutta
Article editing– Amit Singhal, Rajni Kumari Rai, Vishal Kapoor
Final approval– Jyotsna Sharma, Amit Singhal

REFERENCES

[1] Remes O, Mendes JF, Templeton P. Biological, psychological, and social determinants of depression: A review of recent literature. Brain Sci., 2021; 11(12): 1633.
[2] World Health Organization. Depressive disorder (depression). 2023. Available at: https://www.who.int/news-room/fact-sheets/detail/depression. Last accessed on 25 March 2025.
[3] Bashar MA, Mehra A, Aggarwal AK. Integrating mental health into primary care for addressing depression in a rural population: An experience from North India. Indian J Psychiatry, 2019; 61(3): 319–21.
[4] Sheffler ZM, Patel P, Abdijadid S. Antidepressants. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2025. Available from: https://www.ncbi.nlm.nih.gov/books/NBK538182/.
[5] Knapp M. Health economics as a tool for decision-making in mental health care. Ment Health Econ, 2017; 179–90.
[6] Zimmerman M, Martinez JH, Young D, Chelminski I, Dalrymple K. Severity classification on the Hamilton Depression Rating Scale. J Affect Disord., 2013; 150(2): 384–88.
[7] Carneiro AM, Fernandes F, Moreno RA. Hamilton depression rating scale and Montgomery-Asberg depression rating scale in depressed and bipolar I patients: Psychometric properties in a Brazilian sample. Health Qual Life Outcomes, 2015; 13: 42.
[8] Tripathi A, Avasthi A, Desousa A, Bhagabati D, Shah N, et al. Prescription pattern of antidepressants in five tertiary care psychiatric centres of India. Indian J Med Res., 2016; 143(4): 507–13.
[9] Mehdi S, Manohar K, Shariff A, Wani SUD, Almuqbil M, et al. Analysis of antidepressants utilization for patients visiting psychiatric out-patient clinic in a tertiary care hospital. Healthc (Basel), 2022; 10(10): 2081.
[10] C T, Karnan D, G R, K MP, Kumar A. A study on prescribing pattern and drug utilization among depressed patients in a tertiary care teaching hospital. Int J Basic Clin Pharmacol, 2021; 10(11): 1282–85.
[11] Kulkarni VA, Baig MS, Deshpande P. Study of the prescription pattern of antidepressants in a tertiary care hospital: A prospective observational study. Int J Res Med Sci., 2023; 11(4): 1251–56.
[12] Bagwathpersad N. Antidepressant prescribing in Gauteng: a public sector drug utilization review. 2016; Available at: https://wiredspace.wits.ac.za/server/api/core/bitstreams/c8d4e8a2-8661-4a2c-8336-30bb96a6a285/content.
[13] Priyanka, Vohra DA, Chawla S. Drug utilization and prescription pattern of antidepressants in psychiatric department of a tertiary care teaching hospital: An observational study. J Popul Ther Clin Pharmacol., 2022; 29(2): 452–64.
[14] Santi NS, Biswal SB, Naik BN, Sahoo JP, Rath B. Comparison of Hamilton Depression Rating Scale and Montgomery-Åsberg Depression Rating Scale: Baked straight from a randomized study. Cureus, 2023; 15(9): 45098.

doi: 10.21276/SSR-IIJLS.2025.11.4.34

[15]Dogaru IA, Puiu MG, Manea M, Dionisie V. Current perspectives on pharmacological and non-pharmacological interventions for the inflammatory mechanism of unipolar depression. Brain Sci., 2022; 12(10): 1403.

[16]Thakkar KB, Jain MM, Billa G, Joshi A, Khobragade AA. A drug utilization study of psychotropic drugs prescribed in the psychiatry outpatient department of a tertiary care hospital. J Clin Diagn Res., 2013; 7(12): 2759–64.