# PRESCRIPTION PATTERN OF PSYCHIATRIC DISORDERS IN GOVERNMENT TERTIARY CARE TEACHING HOSPITAL

**Treesa K.[1], A. Vikneswari[2]\*, Annemary Joseph[1], Agnus Babu[1] and Akshay H. N.[1]**

[1]V Pharm.D, Department of Pharmacy Practice, Bharathi College of Pharmacy, Mandya, Karnataka, India.
[2]\*Associate Professor, Department of Pharmacy Practice, Bharathi College of Pharmacy, Mandya, Karnataka, India.

**\*Corresponding Author: Dr. A. Vikneswari**

Associate Professor, Department of Pharmacy Practice, Bharathi College of Pharmacy, Mandya, Karnataka, India.

**ABSTRACT**

Psychiatric disorders are one of the most important cause of global morbidity and chronic disorder requiring treatment with psychopharmacological agents for prolonged period may extending up to lifetime. But, pattern of prescription varies based on different geographical areas, patient characteristics, type of disorders, culture, socioeconomic status, availability drugs and Physicians prescribing habit. Drug prescribing study helps to evaluate care evidence based, rational, cost effective treatment. Moreover drug prescribing pattern also help in identifying factors responsible for irrational practice of polypharmacy as well as problems associated with it. This present study was conducting with the objective to assess the prescribing pattern of antipsychotic drugs in psychiatric department, Mandya institute of medical science. It is a reterospective study and research period was about 6 months from October 2018. There are 150 psychiatric inpatients prescription were collected. Our study shows that majority were male (64.67%) and in the age group 35 – 55 years (46.67%). ADS was most commonly found disorder (40%) where benzodiazepine (28.93%) was most commonly prescribed drugs class. In benzodiazepine class lorazepam was most commonly prescribed drug (86.83%). Average number of drugs per prescription was 6.82%; injectable drug prescribed (44.96%). Percentage of drug prescribed from national list of essential medicine (48.87%). Prescribing pattern of antipsychotic drug didn't differ by gender or age group. Benzodiazepine was prescribing more commonly; lorazepam being the commonest antipsychotic drug prescribed.

**KEYWORDS:** Prescribing pattern, psychiatric disorder, Benzodiazepine.

## INTRODUCTION

Psychiatry is the medical speciality devoted to diagnosing, prevention and treatment of mental disorder; these include maladaptations related to mood, behaviour, cognition and perception. According WHO 450 million people corrently suffer from mental disorders and depressive disorders are the fourth leading cause of global disease burden.[1] Psychiatric disorders form an important public health priority. Of the top ten health conditions contributing disability adjusted life years (DALYs), four are psychiatric disorders. More than 33% of countries allocate more than 5% of total health budgets on mental health.[2]

The combined treatment of psychiatric medication and psychotherapy has become the most common mode of psychiatric treatment in current practice. Psychotic symptoms in wide range of conditions like bipolar disorder, schizophrenia, psychosis can be managed by antipsychotics. Adjuvant therapies like antidepressant, benzodiazepine, mood stabilizers, anticholinergics can also be prescribed.[3]

## METHODOLOGY

This is a reterospective study and research period was about six months. The present study was conducted in psychiatric department of MIMS teaching hospital. A specially designed patient case record form was administered for collection of demographic social – economic, past medication history, type, and prescribing pattern were noted from study patients based on the inclusion and exclusion criteria. The study was initiating after getting ethical approval from MIMS. 150 prescription were analyzed. Patients who were visiting the outpatient department of psychiatry were excluded from the study. Data collection has done from medical record room, prescription records of 2018. Microsoft word and excel have been used to generate tables, graphs etc.

## RESULT
## PATIENT DISTRIBUTION BASED ON GENDER AND DISEASE

The prescription data of 150 patients were analyzed in the current study, out of which 60 (40%) were with ADS, in which all were males.

**Table 1: Distribution based on psychiatric disorder and gender.**

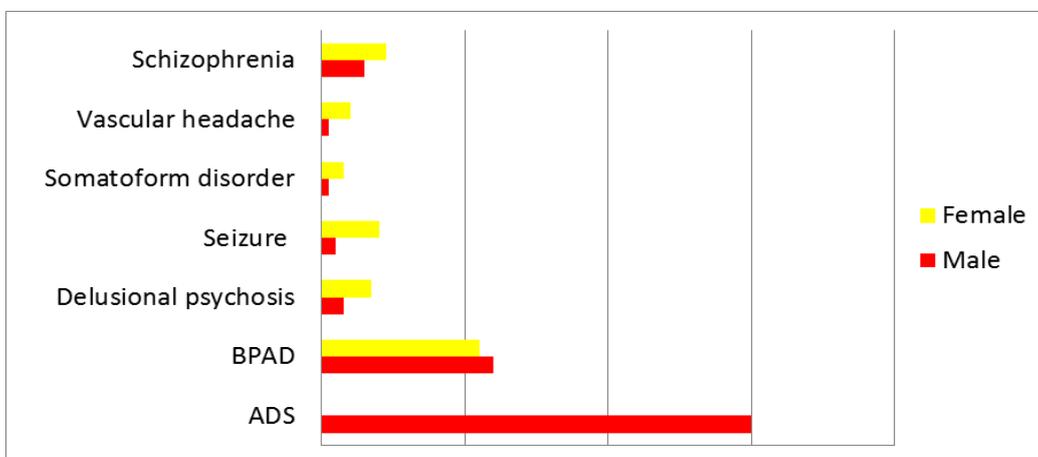| DISEASE | MALE | FEMALE |
|---|---|---|
| ADS | 60 | 0 |
| BPAD | 24 | 22 |
| Delusional psychosis | 3 | 7 |
| Seizure | 2 | 8 |
| Somatoform disorder | 1 | 3 |
| Vascular headache | 1 | 4 |
| Schizhophrenia | 6 | 9 |
| Total | 97 | 53 |



**Figure 1: Distribution based on psychiatric disorder and gender.**

**DRUG USE PATTERN IN PSYCHIATRIC PATIETNTS**
Among 150 psychiatric patients benzodiazepine was prescribed 28.93% followed by atypical antipsychotic 9.09%.

**Table 2: Drug use pattern in psychiatric patients.**

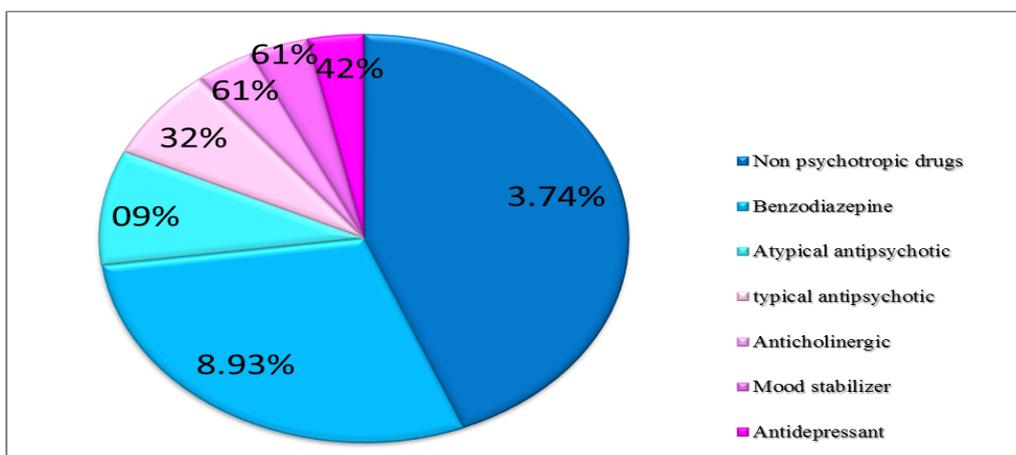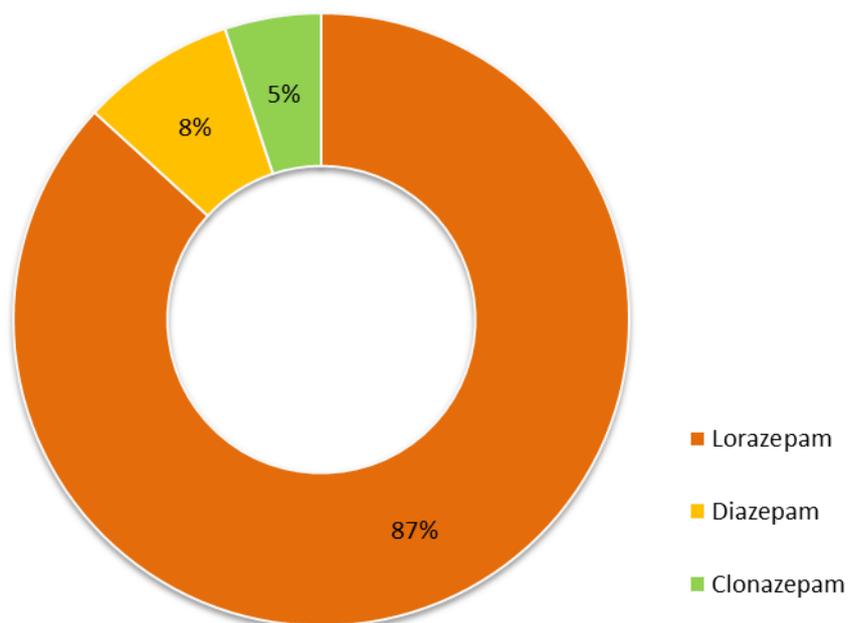| CLASSIFICATION OF DRUGS | PERCENTAGE |
|---|---|
| Non psychotropic drugs | 43.74% |
| Benzodiazepine | 28.93 |
| Atypical antipsychotic | 9.09 |
| Typical antipsychotic | 7.32 |
| Anticholinergic | 3.61 |
| Mood stabilizer | 3.61 |
| Antidepressant | 3.42 |



**Figure 2: Drug use pattern in psychiatry patients.**

**PRESCRIBING PREVALENCE OF INDIVIDUAL PSYCHOTROPIC**

**Table 3: Prescribing prevalence of individual psychotropic drug.**

| DRUG CATEGORY | DRUGS | NO.OF DRUGS(1023) | PERCENTAGE OF DRUG |
|---|---|---|---|
| Benzodiazepine n=296(28.93%) | Lorazepam | 257 | 86.83% |
| | Diazepam | 24 | 8.10% |
| | Clonazepam | 15 | 5.06% |
| Total | | 296 | |
| Atypical antipsychotic n=93(9.09%) | Risperidone | 23 | 24.7% |
| | Olanzepine | 70 | 75.2% |
| Total | | 93 | |
| Typical antipsychotic n=75(7.32%) | Haloperidol | 72 | 96% |
| | TFP | 3 | 4 % |
| Total | | 75 | |
| Anticholinergic n=77(3.61%) | THP | 35 | 94.5% |
| | Others | 2 | 5.4% |
| Total | | 37 | |
| Mood stabilizer n=37(3.61%) | Lithium | 18 | 48.7% |
| | Valproate | 10 | 27.02% |
| | Carbamazepine | 9 | 24.4% |
| Total | | 37 | |
| Antidepressant n=35(3.42%) | Fluoxetine | 23 | 65.7% |
| | Escitalopram | 12 | 34.2% |
| Total | | 45 | |

**BENZODIAZEPINE**



**Figure 4: Prescribing prevalence of Benzodiazepine.**
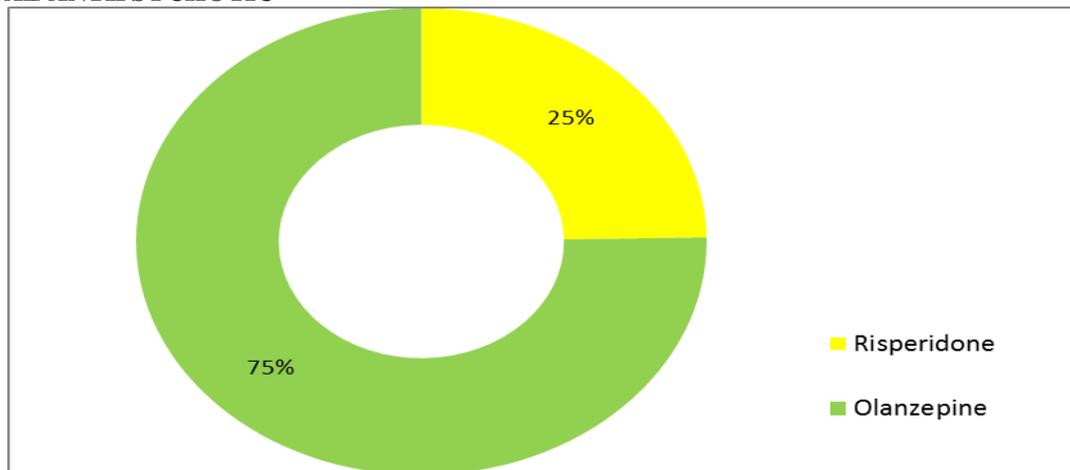
**ATYPICAL ANTIPSYCHOTIC**



**Figure 5: Prescribing prevalence of Atypical antipsychotic.**

**DRUG USE INDICATORS**

**Table 4: Drug use indicators.**

| DRUG USE INDICATORS | RESULTS |
|---|---|
| Average no. of drugs per prescription | 6.82% |
| Average no. of psychotropic drugs per prescription | 3.82% |
| Percentage of injectable drug prescribed | 44.96% |
| Percentage of drug prescribed from national list of essential medicine (NLEMI) | 48.87% |

**AVERAGE NO. OF DRUGS PER PRESCRIPTION**

Maximum no of drugs were prescribed for BPAD ie 10.66 drugs per prescription; Next to that, average no. of drugs per prescription for ADS was 6.71.

**Table 6: Average no. of drugs per prescription.**

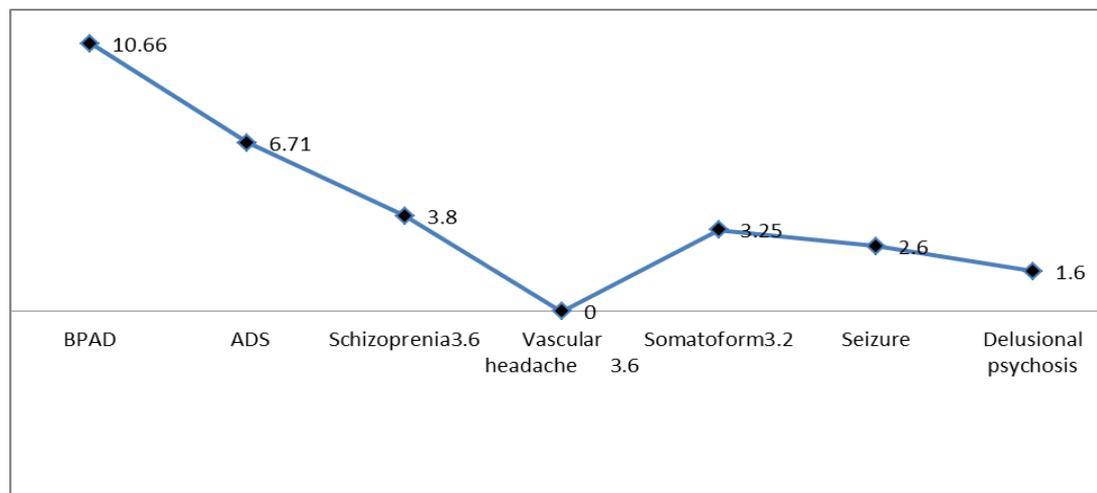| DISEASE | NO OF DRUGS | NO OF PRESCRIPTION | AVG NO OF DRUGS/ PRESCRIPTION |
|---|---|---|---|
| BPAD | 490 | 46 | 10.66 |
| ADS | 403 | 60 | 6.71 |
| Schizophrenia | 57 | 15 | 3.8 |
| Vascular headache | 18 | 5 | 3.6 |
| Somatoform | 13 | 4 | 3.25 |
| Seizure | 26 | 10 | 2.6 |
| Delusional Psychosis | 16 | 10 | 1.6 |



**Figure 7: Average no. of drugs per prescription.**

.

## DISCUSSION

A total of 150 cases were evaluated, the study showed that comparing to female patients males received more psychotropic medications (64.67%). Moreover psychotropic drugs are mainly prescribed between the age group 35 – 55 years.[4] Psychiatric disorder persists with severe detoriate of mental health at early stage. Most of the study populations were alcoholic and smokers so male patients were more prone to psychiatric disorder than female. Study subject of alcohol dependence. Study subject of ADS accounts for majority of the patients(40%) followed by BPAD(30.6%).[5] Majority of patients (28.93%) in this study, were receving benzodiazepine particularly lorazepam and diazepam followed by atypical antipsychotic(9.09%).[6] Similar to that Nazmum Nahar *et al.,* [5] reported that lorazepam was the 60% of benzodiazepine drug class prescribed. Our study showed that resperidone was the most commonly prescribed drug in atypical antipsychotic followed by olanzepine; similar to our study Sandeep Grover *et al.,* resulted that resperidone was the most commonly prescribed drug class in atypical Antipsychotics.[8]

In our study 48.87%, drugs were prescribed based on NLEMI.[9] Average no. of drugs per prescription was 6.82%. Percentage of injectable drug prescribed was 44.96%.[10]

## CONCLUSION

Psychiatric disorder persist with severe detoriation at early stages of life ie, in the age group of 35-55 years. ADS was commonly affected followed by BPAD. Benodiazepine were prescribed more commonly; lorazepam being the commonest among them. Other psychotropic drugs prescribed as adjuvant therapy atypical antipsychotic(olanzepine), typical antipsychotic (haloperidol).

## REFERENCES

1. P. Senthil kumar, R Sivasakthi, J Subadra devi and saranya S. Priya; Study on assessment of prescription pattern in psychiatric patients in tertiary care hospital. International Journal of Innovative Pharmaceutical and Chemical Science, 2017; 6(3): 91 – 92.
2. Anjali George, Chaithra S, T siva Kumar; Study on prescribing pattern in psychiatric disorder in a tertiary care hospital. International Journal of Innovative Pharmaceutical Science and Research, 2016; 4(6): 641 – 642.
3. Pinaki Sarkar, Kaustar Charabourty, Sarada Prasanna Swain; Pattern of psychotropic prescription in a tertiary care center. Indian Journal of Pharmacology, 2013; 45(3): 270 – 273.
4. Muhammed Tariquel Alam, Muhammad maruf; Pattern of prescribing psychotropic in outpatient department of tertiary psychiatry hospital. Bangladesh Journal of psychiatry, 2015; 29(1): 10-13.
5. Nazmun Nahar Alam, Ferdousb Ara MD. Jalal Uddinlqbal; Prescribing pattern of psychotrpic drugs used in non psychiatric patients among outpatients department of two teaching hospital in Bangladesh. Bangladesh Journal of Pharmacology, 2015; 10: 148-151.
6. Adelugba olanjida, Mele Mansifield, Obikoya Olubankole, Okpalawaekwc Udaka; Psychotropic drug prescription practice in psychiatric inpatients in Saskatchewan, Canada. Journal of Neuropsychopharmacology and Mental Health Science, 2016; 1(4): 1-3.
7. Saira Sajida: A reterospective case control study on the prescribing practice of antidepressants administered to cancer patients and non cancer patients in Australia International Journal of Health Research, 2016; 14: 5-9.
8. Sandeep Grover, Ajith Avarthi, Vishal sinhg, Vivek Agarwal; Indian psychiatric society multicentric study: Prescription pattern in India. Indian Journal of Pharmacology, 2017; 56(3): 253-264.
9. Nancy H covell, Carbos T Jackson, Arthur C Evans, Susan M S Essock; Antipsychotic prescribing practice in connecticut's public mental health system; Rates of changing medications and prescribing styles. Schizhophrenia bulletin, 2012; 28: 17-18.
10. Fahad D Alosaimi. Abdul Hadi Alhabbad; Patterns of psychotropic medication use in inpatient and outpatient psychiatric settings in Saudi Arabia; MAARIFA, 2016; 12: 897-907.