

## A PRESCRIBING PATTERN OF DRUGS IN DEPRESSION, MOOD DISORDER AND SCHIZOPHRENIA: A PROSPECTIVE STUDY

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### ABSTRACT

**Background:** Now a days, psychiatric disorders became the major causes of morbidity. The availability of the data pertaining to prescribing pattern of drugs in psychiatric disorders is limited. The information provided related to rational prescribing and evidence based medicine by prescription monitoring studies. In this experiment, we focused our study on prescribing pattern in depression and schizophrenia. The out-patients who visited in the department of tertiary care hospital to get treatment, the common reasons among them are depression, mood disorder and schizophrenia. **Objective:** To check the prescribing pattern of drugs in depression, mood disorder and schizophrenia are in accordance with WHO guidelines. **Methods:**

It is a prospective observational study conducted in psychiatric outpatient department over a period of three months. Patient data collection form was used to collect the data. Different softwares used like SAS 9.2, MS Excel etc... in the analysis of the data. **Results:** The study was conducted on 64 patients. Patient diagnosed with depressions are 11, patients diagnosed with mood disorder are 11 and patients diagnosed with schizophrenia are 4 and others 38. The maximum frequency was observed in the age group of 25-44 years. The drug classes, serotonin reuptake inhibitors and benzodiazepines were used to treat these diseases. **Conclusion:** The prescribing pattern used in the treatment of depression, mood disorder and schizophrenia is under the WHO guidelines. Drugs should be prescribed by Trade name.

**KEYWORDS:** Prescribing Pattern, Depression, Mood Disorder, Schizophrenia, Benzodiazepines.

## INTRODUCTION

Psychiatric disorders are characterized by alterations in the neurotransmitter levels of brain and show prominent effect on the physical appearance of the person. Now-a-days, majority of people are suffering from different psychiatric problems like Anxiety, Depression, Mood disorder, and Schizophrenia. Psychotropic drug prescription patterns are fundamentally different across countries and even regions due to various factors including health care policies, availability and cost of drugs, psychiatric training and preferred treatment modalities. Psychotic disorders have different etiologies, each of which demands a unique treatment approach. Common psychotic disorders include mood disorders (major depression or mania) with psychotic features, anxiety disorders, Delirium and Dementia with psychotic features, brief psychotic disorder and schizophrenia.<sup>[1,2]</sup>

### Depression Disorder

Classic views as to the cause of major depressive disorder focus on the monoamine neurotransmitters Norepinephrine (NE), Serotonin (5-HT), and to a lesser extent, Dopamine (DA) in terms of both synaptic concentrations and receptor functioning. (Marshall C et al, 2008). A low mood is the central feature of depression disease often accompanied by a loss of interest and pleasure in normally enjoyable activities.<sup>[3,4]</sup>

### Mood Disorder

Bipolar disorder is a mood disorder characterized by one or more episodes of mania or hypomania, often with a history of one or more major depressive episodes. It is a chronic illness with a course characterized by relapses and improvements or remissions. Mood episodes can be manic, depressed, or mixed. The existence of repeated manic episodes alone is sufficient to be termed a bipolar disorder.<sup>[5]</sup>

### Schizophrenia

Schizophrenia is a chronic disorder of thought and affect, causing a significant disturbance in the individual's ability to function vocationally and interpersonally. In most cases schizophrenia is a chronically debilitating disorder and is one of the most devastating of psychiatric illnesses. Conceptually, schizophrenia might better be thought of as a clinical

syndrome, comprising several disease entities that manifest with psychotic symptoms, including hallucinations, delusions, and disordered thinking.<sup>[6]</sup>

## METHODOLOGY

A prospective study was conducted in an outpatient department of psychology at tertiary care hospital in bhimavaram for a period of 6 months.

The sample prescriptions were investigated using a checklist for the following items:

- Date of Prescription,
- Patient's Name,
- Patient's Address,
- Patient's Age,
- Patient's Sex,
- Doctor's Name,
- Doctor's Signature In Ink,
- Dosage Form,
- Dosage Strength,
- Dosing Interval,
- Duration of Therapy
- Generic name of drug.

The study population included all patients whose diagnosis/clinical history suggests a neuropsychiatric disorder and those patients for whom an antipsychotic agent was prescribed for either as the main drug or concomitantly with other drugs. Along with this interaction with patients were also done whenever required.

## Methods

<b>Study Type</b>	:	Prospective observational study
<b>Study Period</b>	:	6 months
<b>Study Site</b>	:	Bhimavaram Hospital
<b>Inclusion Criteria</b>	:	All psychiatric patients
<b>Exclusion Criteria</b>	:	Pregnant women, pediatrics
<b>Study Design</b>	:	A prospective observational study conducted in the out-patient department of tertiary care hospital. The Institutional Ethical Committee of Sri Vishnu College of Pharmacy authorized this observational study.

### Procedure

- Visit the patients in outpatient department.
- Get the information about patient background.
- Gather information of different types of symptoms.
- Find out the prescribed drugs to patients.

### Data Collection

Permission from the hospital authorities was obtained to collect the data from participant after informing trial objectives to the participants.

The following data were collected

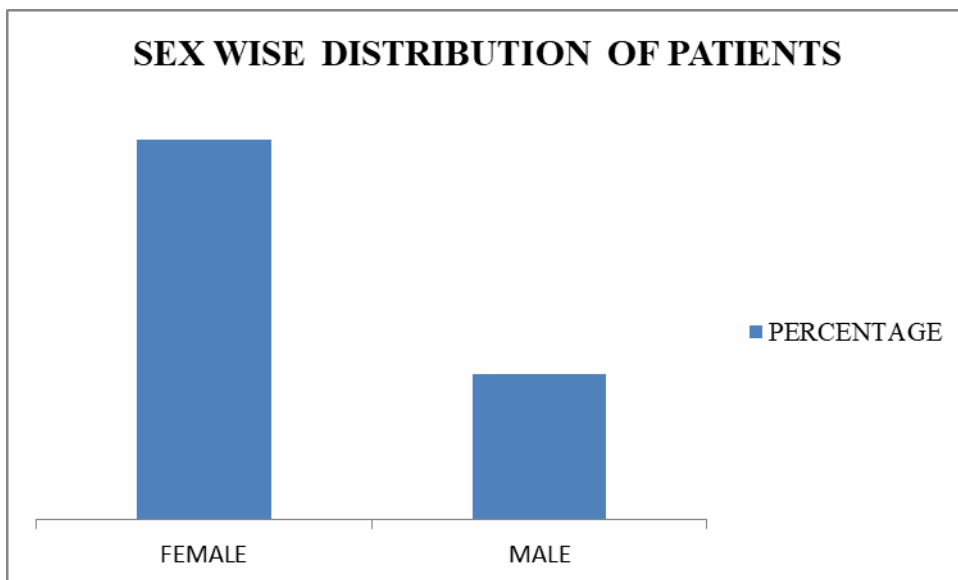
- Patient Socio demographic data: Age, Sex, Occupation.
- Diagnosis: initial/final diagnosis
- Class of psychiatric drugs prescribed
- Duration of treatment
- Other drugs administered

### RESULTS

In our current study, to focus on prescribing pattern of psychotropic drugs, a total of 125 patients attending the psychiatric outpatient department are included among them 64 patients with Anxiety, Depression, Mood disorder and Schizophrenia are considered.

**TABLE-1: SEX WISE DISTRIBUTION OF PATIENTS.**

SEX	FREQUENCY	PERCENTAGE
Female	33	51.56
Male	31	48.44

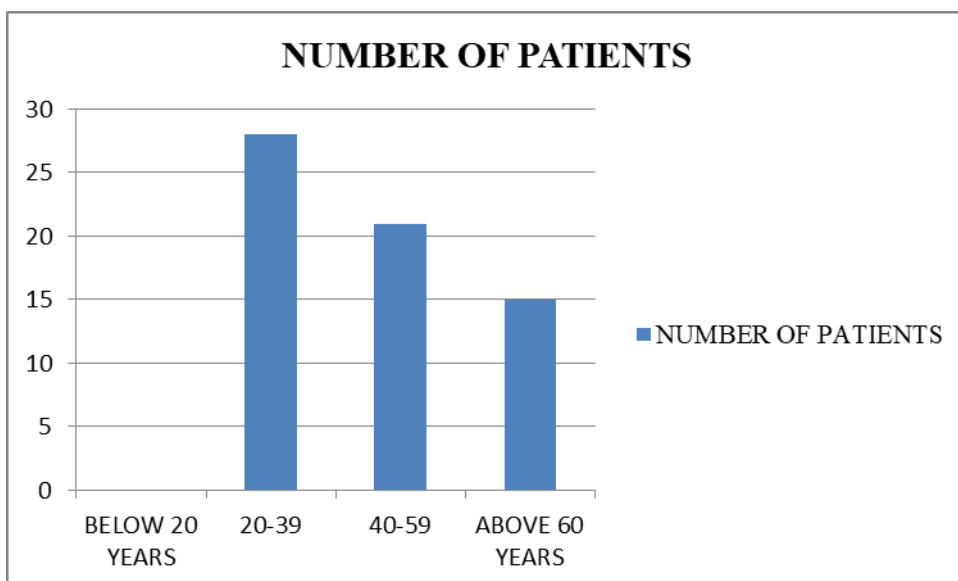


**FIGURE-1: GRAPHICAL REPRESENTATION SEXWISE DISTRIBUTION**

Table-1 & Fig-1 reported that both female patients (51.56%) and male patients (48.44%) are almost equally affected by psychiatric disorders.

**TABLE-2: NUMBER OF PATIENTS BASED ON THEIR AGE GROUPS.**

AGE GROUP	NUMBER OF PATIENTS
Below 20 Years	0
20 to 39 Years	28
40 to 59 Years	21
Above 60 Years	15
Total	64



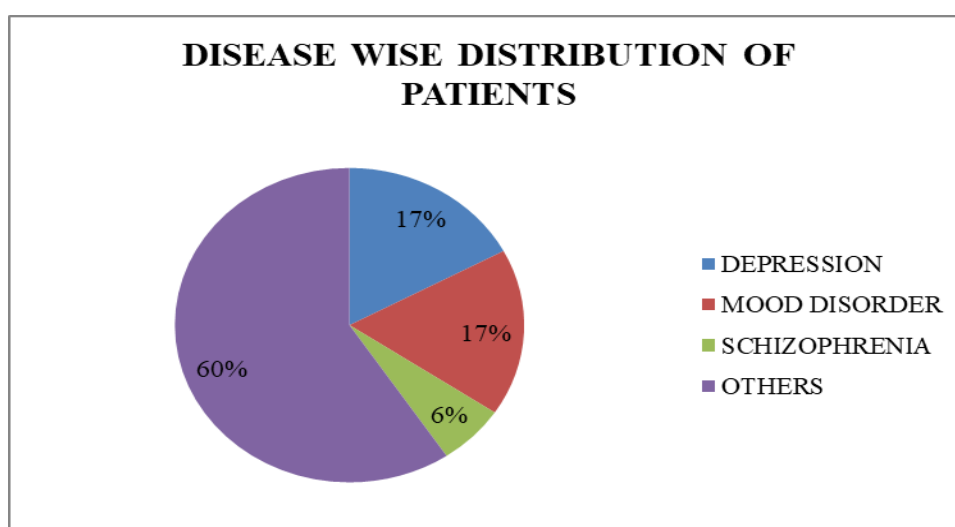
**FIGURE-2: GRAPHICAL REPRESENTATION AGE WISE DISTRIBUTION**

Table-2 & Fig-2 were reported that the patients under age group 20-39 years (43.75%) are mostly affected by psychiatry problems.

When the demographic profiles of the patients were done, it was found that 43.75% patient's age groups were fewer than forties.

**TABLE-3: DISEASE WISE DISTRIBUTION OF PATIENTS.**

IMPRESSION	FREQUENCY	PERCENTAGE
Depression	11	17.19
Mood Disorder	11	17.19
Schizophrenia	4	6.25
Others	38	59.38



**FIGURE-3: DISEASE WISE DISTRIBUTION OF PATIENTS**

Table-3 & Fig-3; reported that the percentage of patients with Depression (17%), Mood disorder (17%) and Schizophrenia (6%) and others(60%).

**TABLE-4: CLASS OF DRUGS USED IN DEPRESSION.**

CLASS	FREQUENCY	PERCENTAGE
Atypical Antipsychotic	4	6.25
Benzodiazepine	8	12.50
Benzodiazepine + Antimuscarinic Agent	3	4.69
Benzodiazepine + Beta Adrenergic Blocker	1	1.56
Benzodiazepine + Selective Serotonin Reuptake Inhibitor	1	1.56
Imidazopyridine	1	1.56
Inorganic Compound	1	1.56
Selective Serotonin Reuptake Inhibitor	16	25.00
Selective Serotonin Reuptake Inhibitor + Benzodiazepine	14	21.88
Serotonin-Norepinephrine Reuptake Inhibitor	12	18.75
Typical Antipsychotic + Tricyclic Antidepressant	3	4.69

**TABLE-5: DRUGS USED IN DEPRESSION.**

DRUG	FREQUENCY	PERCENTAGE
Amisulpride	2	3.13
Chlordiazepoxide + Clidinium	3	4.69
Clonazepam	1	1.56
Desvenlafaxine	2	3.13
Duloxetine	9	14.06
Escitalopram	12	18.75
Escitalopram + Clonazepam	14	21.88
Etizolam	3	4.69
Etizolam + Escitalopram	1	1.56
Etizolam + Propranolol	1	1.56
Fluoxetine	4	6.25
Flupenthixol + Melitracen	2	3.13
Lithium Carbonate	1	1.56
Oxazepam	4	6.25
Quetiapine	2	3.13
Venlafaxine	1	1.56
Zolpidem	2	3.13

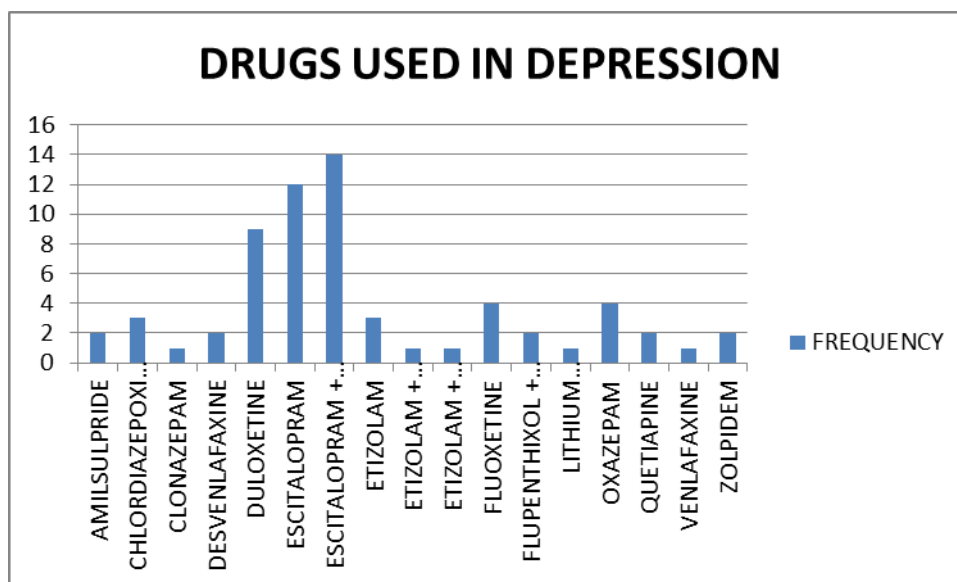
**FIGURE-4: GRAPHICAL REPRESENTATION FOR DRUGS USED IN DEPRESSION.**

Table: 4, reported that the Depression patients are mostly prescribed with SSRI's (25.40%) followed by combination of SSRI + Benzodiazepines (22.22%) and Serotonin Norepinephrine reuptake inhibitors (19.05%) and their frequencies are 16,14 and 12 respectively.

Table: 5 & Fig: 4, reported that the Depression patients are mostly prescribed with combination of Escitalopram + Clonazepam (22.22%), followed by individual drugs Escitalopram (19.05%), Duloxetine (14.29%) and their frequencies are 14, 12 and 9 respectively.

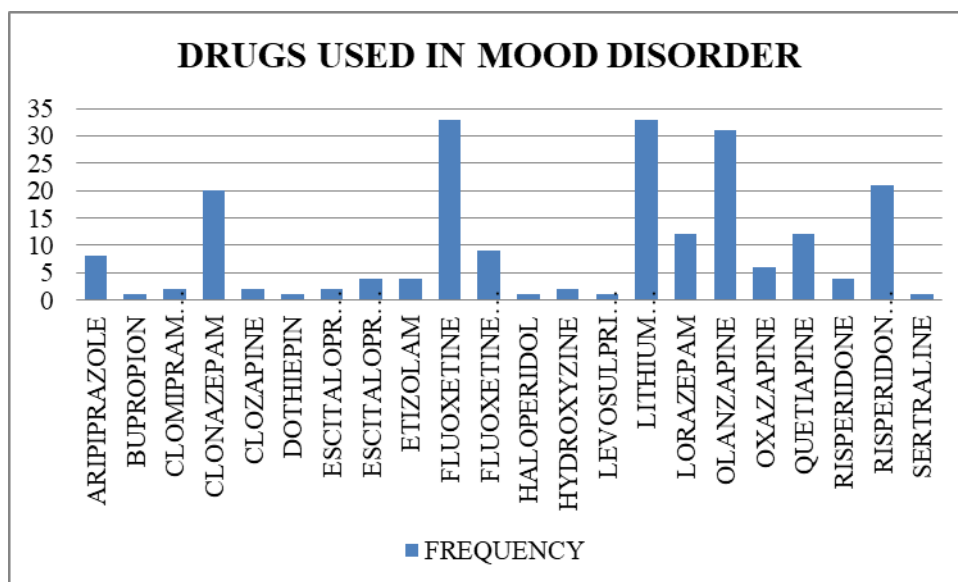
**TABLE-6: CLASS OF DRUGS USED IN MOOD DISORDER.**

CLASS	FREQUENCY	PERCENTAGE
Antihistamine	2	0.95
Antipsychotic	4	1.90
Antiphychotic + Antimucarinic Agent	21	10.00
Atypical Antidepressant	1	0.48
Atypical Antipsychotic	54	25.71
Benzodiapine	42	20.00
Inorganic Compound	33	15.71
Selective Serotonin Reuptake Inhibitor	36	17.14
Selective Serotonin Reuptake Inhibitor + Atypical Antipsychotic	9	4.29
Selctive Serotonin Reuptake Inhibitor + Benzodiazepine	4	1.90
Tricyclic Antidepressant	3	1.43
Typical Antipsychotic	1	0.48

**TABLE-7: DRUGS USED IN MOOD DISORDER.**

DRUGS USED IN MOOD DISORDER	FREQUENCY	PERCENTAGE
Aripiprazole	8	3.81
Bupropion	1	0.48
Clomipramine	2	0.95
Clonazepam	20	9.52
Clozapine	2	0.95
Dothiepin	1	0.48
Escitalopram	2	0.95
Escitalopram + Clonazepam	4	1.90
Etizolam	4	1.90
Fluoxetine	33	15.71
Fluoxetine + Olanzapine	9	4.29
Haloperidol	1	0.48
Hydroxyzine	2	0.95
Levosulpride	1	0.48
Lithium Carbonate	33	15.71
Lorazepam	12	5.71
Olanzapine	31	14.76
Oxazapine	6	2.86
Quetiapine	12	5.71
Risperidone	4	1.90
Risperidone + Trihexyphenidyl	21	10.00
Sertraline	1	0.48





**FIGURE-5: DRUGS USED IN MOOD DISORDER,**

Table: 6, reported that the patients with Mood disorder are mostly prescribed with Atypical Antipsychotics (25.71%) followed by Benzodiazepines (20%) and SSRI’s (17.41%) and their frequencies are 54, 42 and 36 respectively.

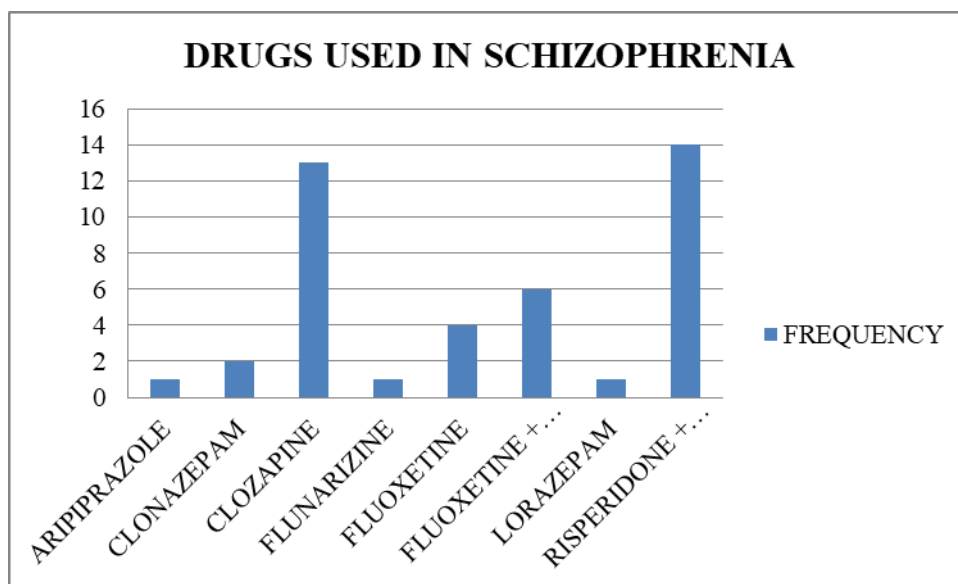
Table: 7 & Fig: 5, reported that the patients with Mood disorder are mostly prescribed with Fluoxetine (15.71%) and Lithium carbonate (15.71% followed by Olanzapine (14.76%) and their frequencies are 33, 33 and 31 respectively.

**TABLE-8: CLASS OF DRUGS USED IN SCHIZOPHRENIA.**

CLASS	FREQUENCY	PERCENTAGE
Antihistamine	1	2.38
Atypical Antipsychotic	14	33.33
Benzodiazepine	3	7.14
Selective Serotonin Reuptake Inhibitor	4	9.52
Selective Serotonin Reuptake Inhibitor + Atypical Antipsychotic	6	14.29
Typical Antipsychotic + Antimuscarinic Agent	14	33.33

**TABLE-9: DRUGS USED IN SCHIZOPHRENIA.**

DRUGS USED IN SCHIZOPHRENIA	FREQUENCY	PERCENTAGE
Aripiprazole	1	2.38
Clonazepam	2	4.76
Clozapine	13	30.95
Flunarizine	1	2.38
Fluoxetine	4	9.52
Fluoxetine + Olanzapine	6	14.29
Lorazepam	1	2.38
Risperidone + Trihexyphenidyl	14	33.33



**FIGURE-6: DRUGS USED IN SHIZOPHRENIA**

Table: 8, reported that the patients with Schizophrenia are mostly prescribed with Atypical Antipsychotic agent (33.33%) and Typical Antipsychotic agent + Antimuscarinic agent (33.33%) followed by SSRI + Atypical Antipsychotic agent (14.29%) and their frequencies are 14, 14 and 6 respectively.

Table: 9 & Fig: 6, reported that the schizophrenic patients are mostly prescribed with combination of Risperidone + Trihexyphenidyl (33.33%) followed by Clozapine (30.95%), Fluoxetine + Olanzapine (14.29%) and their frequencies are 14, 13 and 6 respectively.

## DISCUSSION

### Depression

The World Health Organization (WHO) puts depression at the top of the list - it is the most common illness worldwide and the leading cause of disability. The organization estimates that 350 million people around the world are affected by depression.<sup>[7]</sup>

In Depression patients commonly prescribed class of drugs were SSRIs because At most, 11%–30% of patients with depression or related conditions who take SSRIs actually benefited at normal doses.<sup>[8]</sup>

In Depression patients commonly prescribed combination of drugs were SSRIs + Benzodiazepine because more patients in the combined treatment group showed a > 50% reduction from their baseline depression severity at 4 weeks than did those in the antidepressant alone group.<sup>[9]</sup>

In Depression patients Serotonin Noradrenaline Reuptake Inhibitors are commonly used because they are well effective on major depressive disorder with less adverse effects in clinical use. SNRIs are well tolerated in general. SNRIs can be considered to be the first-line antidepressant drugs<sup>10</sup>.

### Mood Disorder

The life time risk of developing mood disorder is 0.2 to 10.9%. The central feature of an bipolar disorder is an alteration in mood.

In Mood disorder patients commonly prescribed class of drugs were Atypical Antipsychotics because Emerging data suggest that the atypical antipsychotic agents have a role in the acute and long-term treatment of bipolar depression.<sup>[11]</sup>

In Mood disorder commonly prescribed another class of drugs were Benzodiazepines because they are effective in treating anxiety symptoms.<sup>[12]</sup>

### Schizophrenia

Schizophrenia is a complex illness which varies greatly in presentation. The atypical antipsychotics are drugs of choice for first presentation psychotic illness.<sup>[13]</sup>

In Schizophrenia patients commonly prescribed class of drugs were Atypical Antipsychotics because Treatment with antipsychotics has been demonstrated to reduce rates of relapses and rehospitalisations in a substantial number of patients over periods of many years.<sup>[14]</sup>

In Schizophrenia patients commonly prescribed combination of drugs were Atypical Antipsychotics + Antimuscarinic agents. Risperidone was well tolerated by most patients, and side effects, when reported, were mild and extrapyramidal symptoms reported could be easily controlled with oral trihexyphenidyl hydrochloride.<sup>[15]</sup>

In schizophrenia patients commonly prescribed with combination of Atypical Antipsychotics + SSRIs because this combination is effective in treating Schizophrenia and they reveal some evidence for increased efficacy of conventional antipsychotics after addition of SSRIs.<sup>[16]</sup>

## CONCLUSION

- The study states that the occurrence of psychiatry disorders is almost equal in males and females. And also the study states that adult patients are more prone to psychiatry disorders (Anxiety, Depression, Mood disorder, Schizophrenia).
- In our study Depression patients are commonly prescribed with class of SSRI's(25%) in which Escitalopram(19%) and Fluoxetine(6%) were prescribed, followed by combination of class of SSRI's + Benzodiazepines(22%) in which Escitalopram + Clonazepam(22%) were prescribed and Serotonin norepinephrine reuptake inhibitors(19%) in which Duloxetine(14%), Desvenlafaxine (3%) were prescribed.
- Schizophrenia patients are commonly prescribed with class of Atypical Antipsychotics (33%) in which Clozapine (30%) were prescribed followed by combination of class of Typical antipsychotic agent + Antimuscarinic agent (14%) in which Risperidone + Trihexyphenidyl(33%) were prescribed.

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