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Study of Drug Use Pattern of Antidepressants In the Psychiatric Service In A Tertiary Care Hospital

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ABSTRACT

To study the prescribing pattern of antidepressants and their outcome differences in the Psychiatric unit of a Tertiary care hospital. A prospective observational study was carried out in the psychiatry outpatient department (OPD) of Rajah Muthiah Medical College and Hospital. A total of 85 patients were enrolled for the study to investigate the prescribing pattern of antidepressants using a predesigned format out of which 82 of them completed the study successfully. Majority of subjects affected in our study were young adults within the age group of 19-38 years followed by age group 38-58 years Females suffered from depression more than their male counterparts. It was also found that married individuals (74.39%) suffered more from depression than unmarried people Bipolar affective disorder (85.9%) was the most common diagnosis in this study .Monotherapy was practiced more frequently than polytherapy with 2or more drugs and conventional drugs like SSRIs are more preferred than newer antidepressants in the hospital with Escitalopram being the most commonly prescribed drug. Females suffer from depression more than their male counterparts while the age of onset is almost same. Escitalopram, a newer drug belonging to SSRI, is the most frequently prescribed antidepressant whereas duloxetine is the preferred drug from newer antidepressant class (SNRIs & NDRIs combination). All the three major anti-depressants groups are equipotent at 2 months HDRS scoring.

Keywords: Antidepressants, India, Prescribing patterns, SSRI

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INTRODUCTION

According to WHO, Drug utilization study is defined as the “study of marketing, distribution, prescription and used of drug in society highlighting on the resulting medical, social and economic consequences”. The principle aim of drug utilization study research is to facilitate the rational use of drugs. Drug utilization research affords a baseline reference points about effects of diverse interventions in prescribing the concerned drug.

Antidepressants are a group of psychotropic medications developed to treat the symptoms of depression. However, these are also used for the pharmacological treatment of a range of psychiatric disorders including anxiety disorders, obsessive compulsive disorders, adjustment disorders, somatoform disorders, eating disorders, impulse control disorders, chronic pain, neuropathic pain, attention deficit hyperactivity disorder, *etc*^[1]. Choice of antidepressant is based on the individual patient’s requirements, including the presence of concomitant diseases, existing therapy, suicide risk, and previous response to antidepressant therapy.

There has been a few studies done previously on the prescription pattern of antidepressant drugs in India^[2,3,4]. This study was undertaken to analyze the prescribing pattern of various antidepressant drugs in this part of South India. So that current trend can be identified which will be useful for the mental health professionals in understanding how the available drugs can be best put to use practically.

METHODS AND MATERIAL

The study was conducted in the Psychiatric Outpatient Department, Rajah Muthiah Medical College Hospital, Annamalai University, Annamalai Nagar, Tamil Nadu, which is a 1400 bedded multi-specialty tertiary care teaching hospital located in rural South India from the period of November 2015 to April 2016. The study was approved from the hospital authorities and human ethics committee.

Subject recruitment procedure:

The recruitment of subjects was carried out with the help of psychiatrist who has knowledge of the patient’s medical history. Patients who were prescribed any of the antidepressant medications irrespective of clinical indication either as monotherapy or in combination with other psychotherapeutic agents were included in the study. A prescribed proforma was prepared by the study team to collect and record the data

Patients who met the inclusion criteria were assessed for their competence to provide informed consent and if found competent, the study was explained to them in their local language. Informed

consent was taken prior to their inclusion into the study. Patient's identity is held in strict confidence and all measures are taken to protect the confidentiality of the patients

Inclusion criteria:

- Depression
- With comorbidities
- All cases during a particular period

Exclusion criteria:

- Children of age 13 and below.
- Medically ill people.
- Patients who are not willing to participate

Tools of data collection:

- Data collection form
- Hamilton Depression Rating Scale

Study method:

The consent was obtained after the explanation of complete study procedure to the patient and care givers. Then the patients medication record was collected after consulting with psychiatrist and the data collection form was filled in accordance with inclusion and exclusion criteria. After creating a rapport with the patient HAM-D (17) score and Morisky medication adherence score (MMAS-4) was obtained for both control (non-counseling) and the test (counseling) group. After that the prescribing pattern of antidepressant including adverse events was collected. All the data were tabulated and analysed statistically.

RESULTS AND DISCUSSION

A total number of 85 patients were enrolled in or study. Out of all the patients enrolled 82 of them completed the study. The upcoming results were from the ones who completed the study successfully.

Table 1: Gender and Age Distribution of Patients Enrolled in the study

Age (years)	No. of patients (%)	Male	Female
13 – 18	3(3.65)	2(5.40)	1(2.22)
19 – 38	40(48.7)	19(51.35)	21(46.66)
39 – 58	35(42.68)	15(40.54)	20(44.45)
59 – 78	4(4.87)	1(2.702)	3(6.67)
TOTAL	82	37(45.12)	45(54.87)

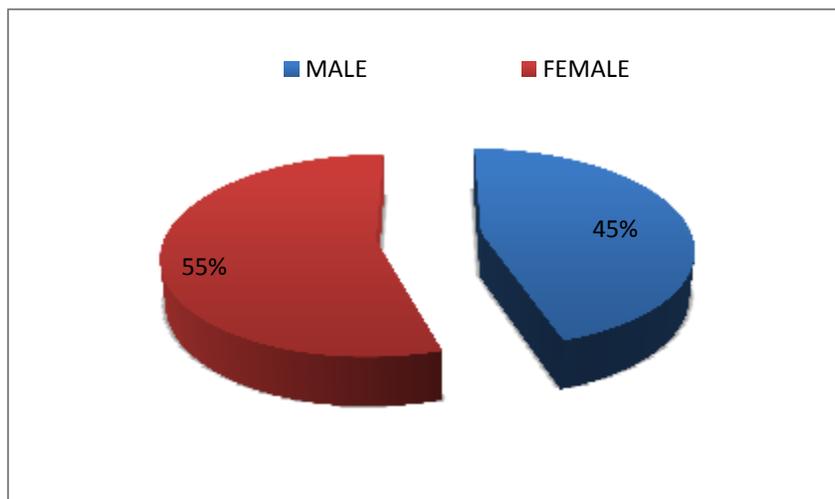


Figure 1: Gender Wise Distribution

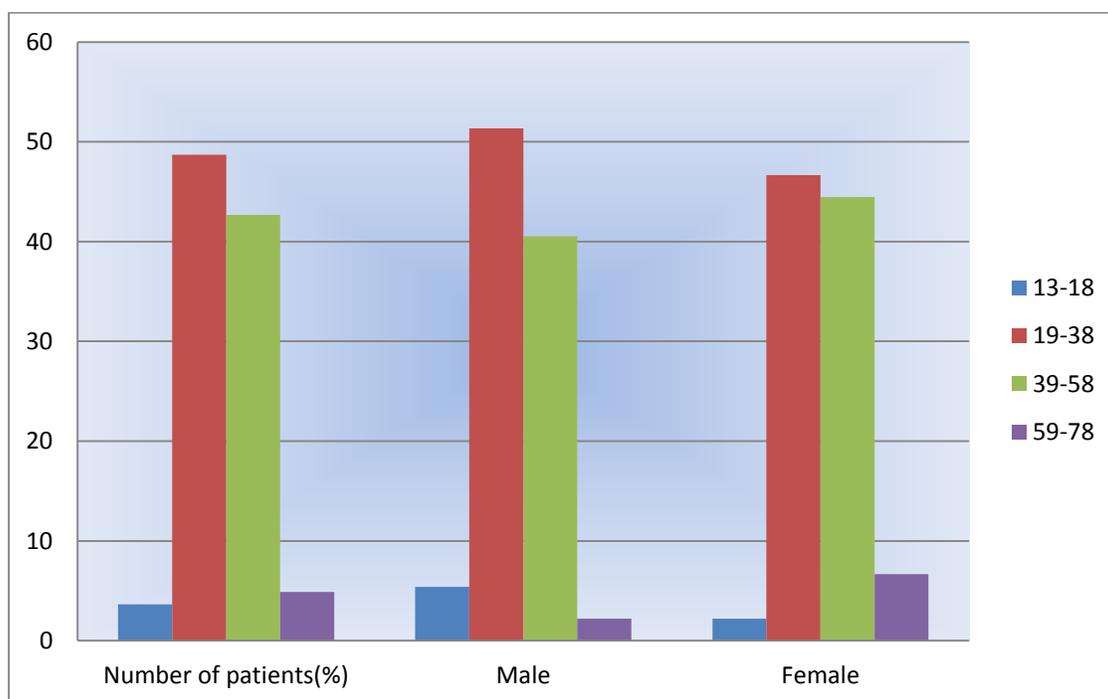


Figure 2: Gender and Age Distribution Patients Enrolled In the Study

Table 2: Marital Status of Patients Included in the Study

Marital status	Number of patients	Percentage (%)
Married	61	74.39
Unmarried	14	17.07
Previously married	7	8.53

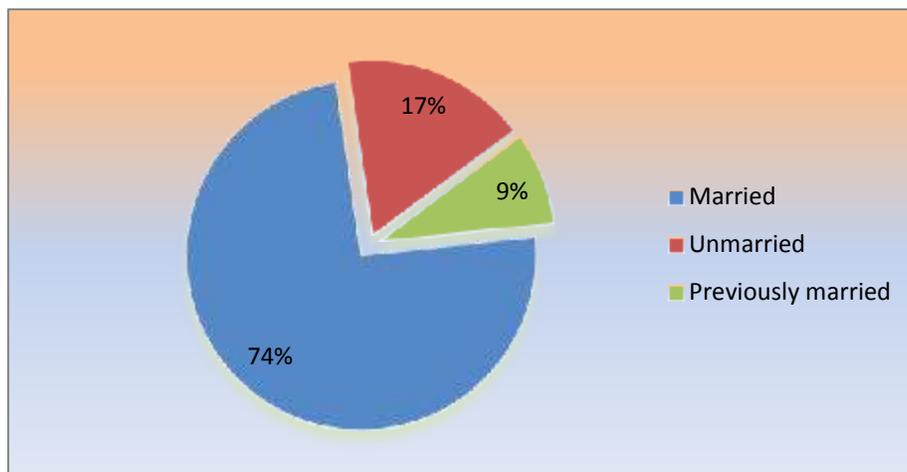


Figure 3: Percentage of Marital Status

Table 3: Morbidity Pattern of Disease In Enrolled Patients

Disease	ICD	Number of patients	Percentage
Schizoaffective Disorder	F 25	3	3.66
BPAD	F 31	22	26.83
Seizure Disorder with Moderate Depression	G 40	3	3.66
	F 32.1		
Moderate Depression with Somatic Symptoms	F 32.1	16	19.51
SDE	F 32.2	10	12.2
RDD	F 33	9	10.97
Mood Disorder NOS	F 39	5	6.09
Mild Depression with Agoraphobia with Panic Attacks	F 40.1	6	7.31
GAD	F 41.1	5	6.09
OCD	F 42	1	1.22
Mild Depression with Dissociative Disorder	F 44	1	1.22
ADS with Moderate Depression	F 90	1	1.22

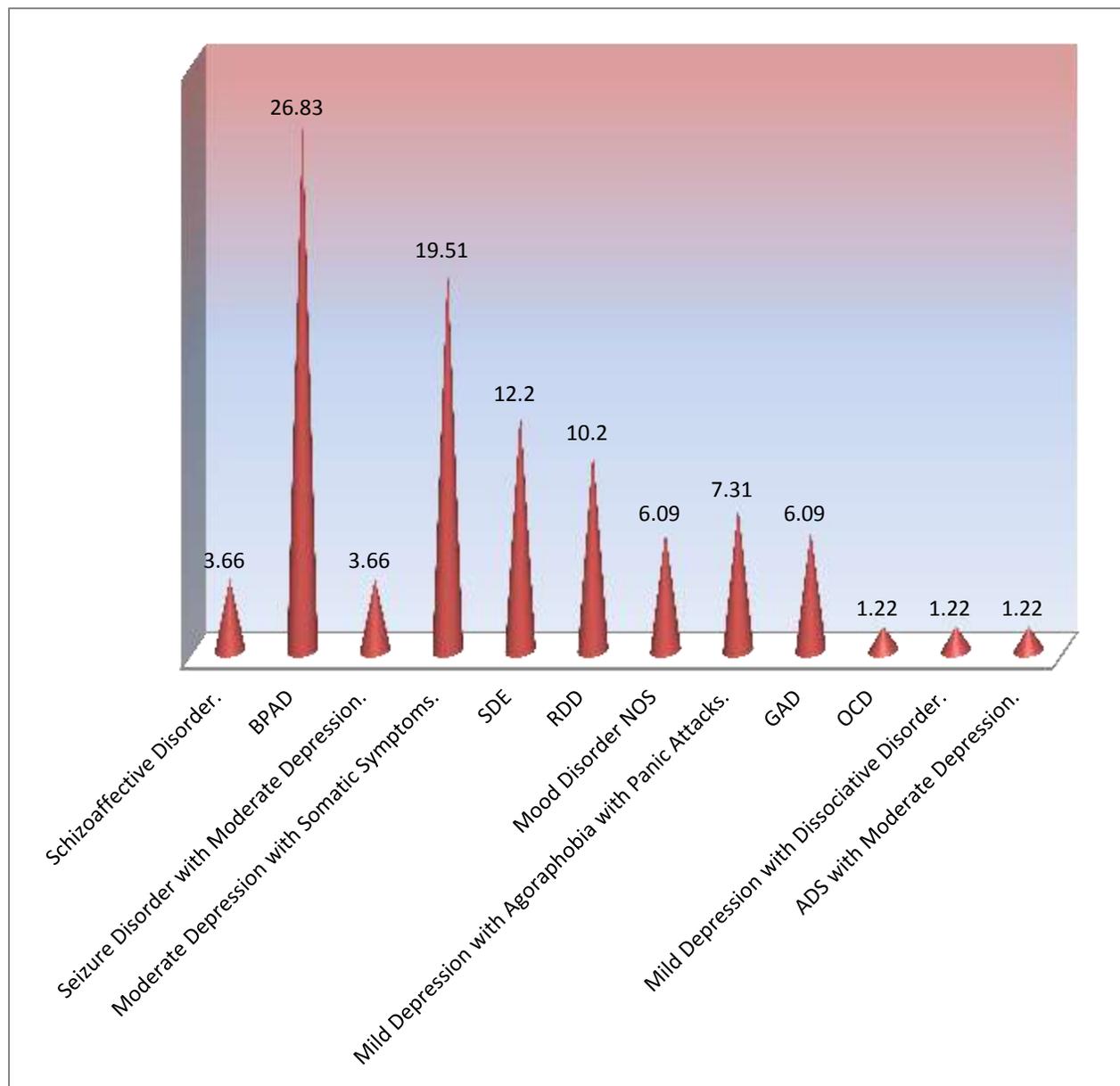


Figure 3: Morbidity Pattern of Disease In Enrolled Patients

Table 4: Frequency of Prescribing Various Antidepressants

Drugs	Number of prescriptions	Percentage
Bupropion	2	2.08
Desvenlafaxine	3	3.13
Escitalopram	29	30.21
Citalopram	19	19.79
Amitriptyline	29	30.21
Mirtazapine	2	2.08
Sertraline	9	9.38
Duloxetine	2	2.08
Tianeptine	1	1.04
TOTAL	96	100

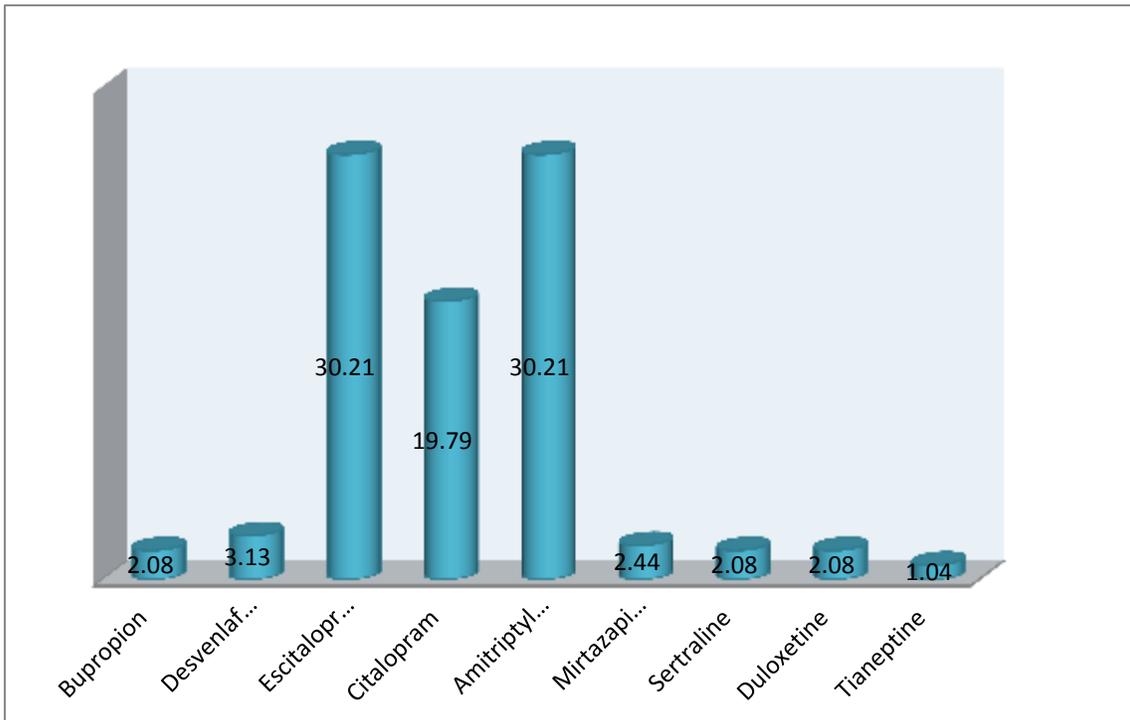


Figure 4: Frequency of Prescribing Various Antidepressants

Table 5: Prescribing Pattern of Various Classes Of Antidepressants

Classes	Number of prescriptions	Percentage
TCA's	30	31.25
SSRI's	57	59.37
Newer Antidepressants	9	9.37
Total	96	100

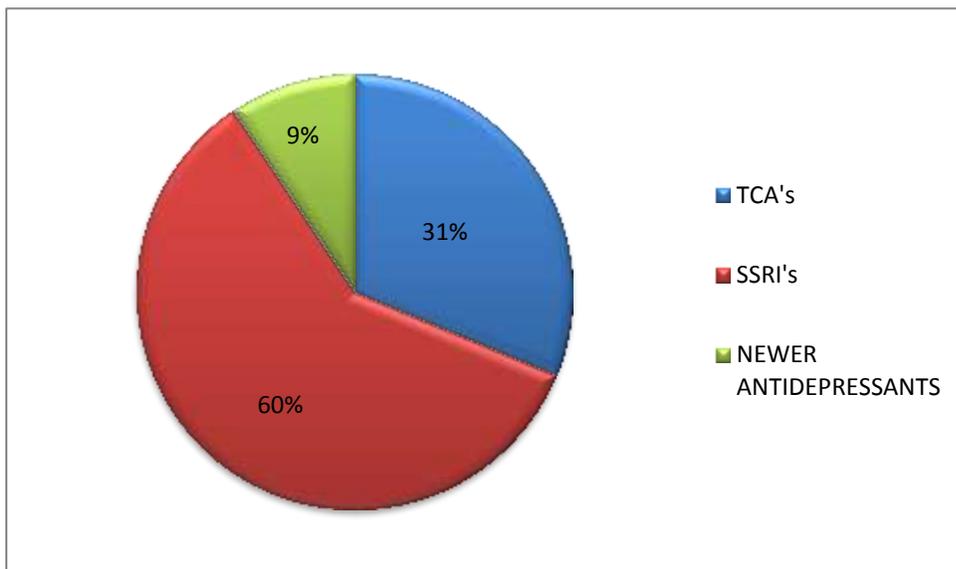


Figure 5: Various Classes of Antidepressants

Table 6: Antidepressant Therapy Regimen

Regimen	Number of prescriptions	Percentage
Monotherapy	70	85.4
Dual therapy	12	14.6

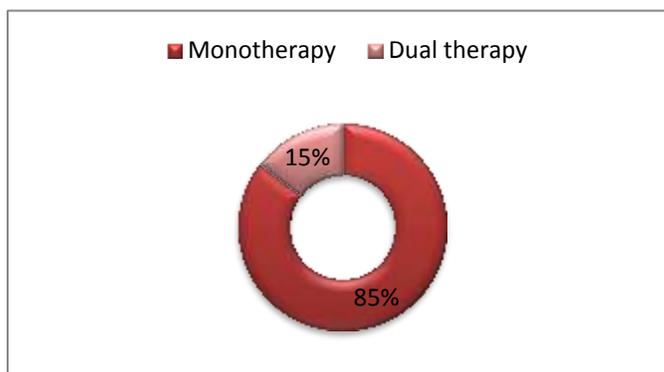


Figure 6: Antidepressant Therapy Regimen

Table 7: Frequency of Prescribing Various Antidepressants In Monotherapy (n=70)

Anti-depressants	Number of prescriptions	Percentage
Mirtazapine	2	2.86
Desvenlafaxine	2	2.86
Bupropion	2	2.86
Citalopram	16	22.86
Escitalopram	21	30
Sertraline	7	10
Amitriptyline	16	22.86
Duloxetine	3	4.29
Tianeptine	1	1.43
TOTAL	70	100

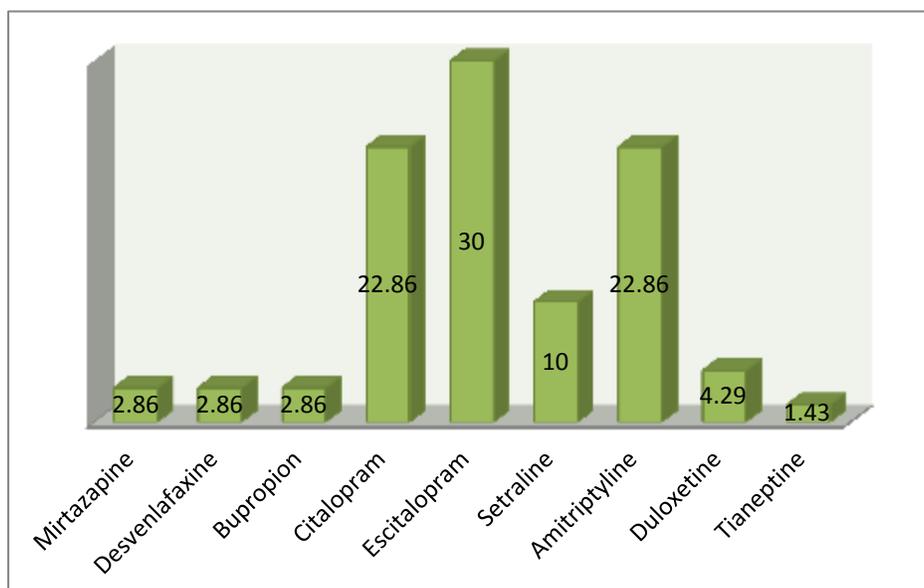


Figure 7: Frequency of Prescribing Various Antidepressants in Mono Therapy

Table 8: Frequency of Prescribing Various Antidepressants in Dual Therapy

Two anti-depressants per prescription	Number of prescriptions	Percentage
Escitalopram+Amitriptyline	10	83.33
Sertraline+Amitriptyline	2	16.67

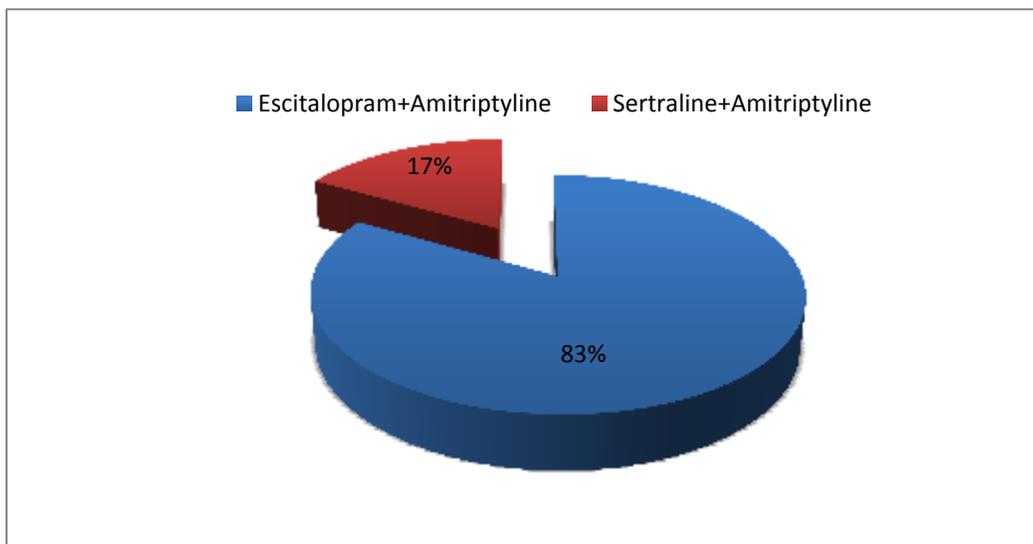


Figure 8: Frequency of Prescribing Various Antidepressants In Dual Therapy

Table 9: Outcome of Therapy -Type of Treatment

	Number of patients	Symptom free	Partial improvement
Monotherapy	70	5(7.14)	65(92.85)
Dual Therapy	12	1(8.33)	11(91.66)
TOTAL	82	6(7.32)	76(92.68)

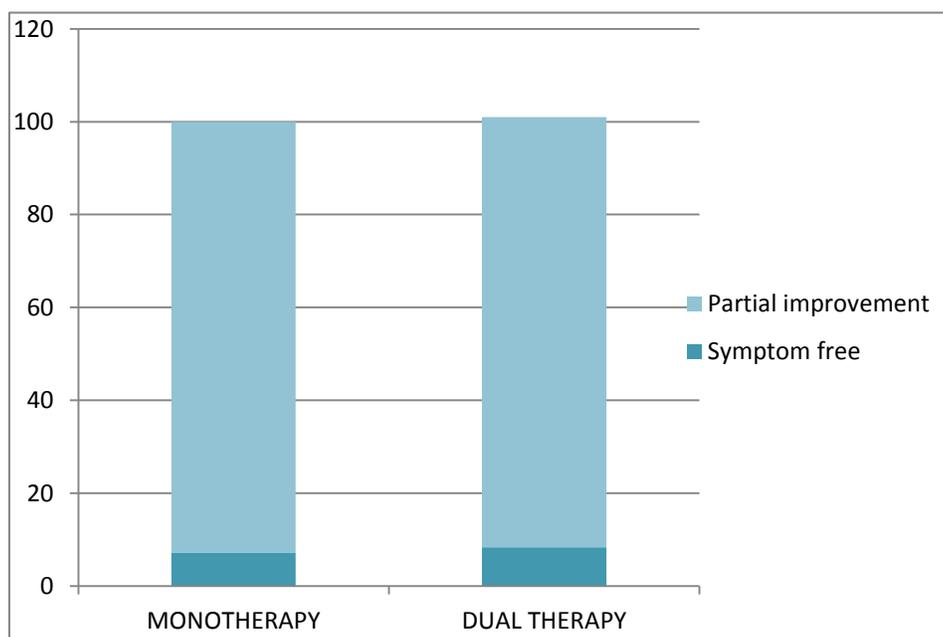
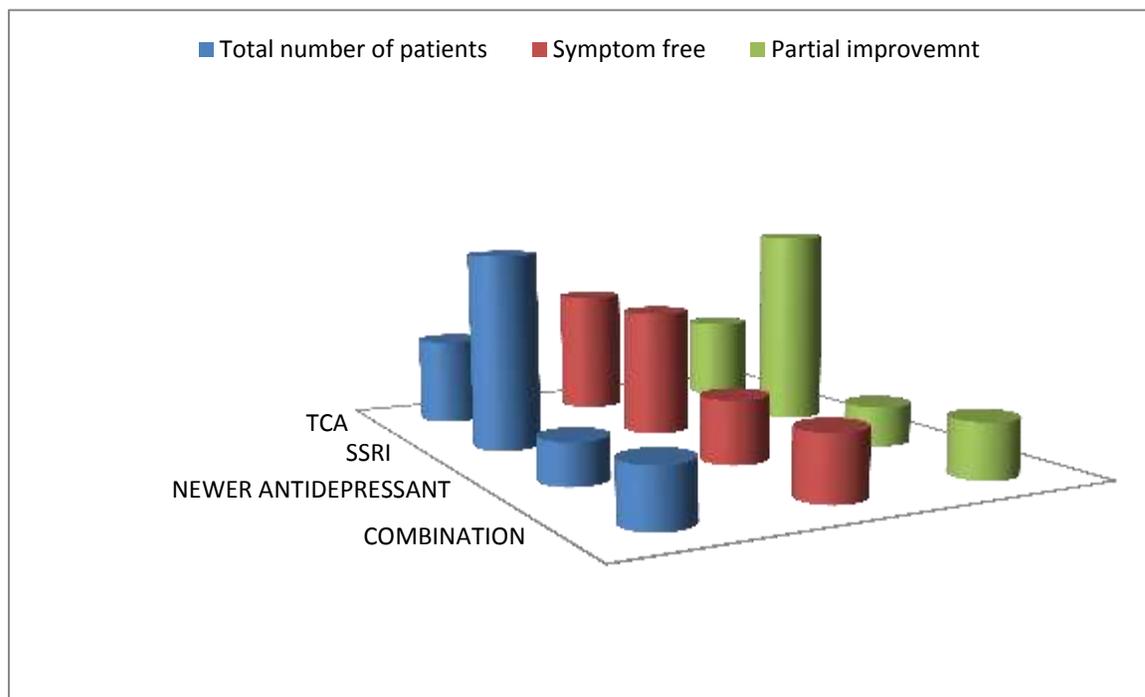


Figure 9: Outcome of Therapy -Type Of Treatment

Table 10: Outcome of Therapy-Classes of Antidepressants

	Number of patients	Symptom free	Partially improved
TCA'S	19(23.1)	2(33.3)	17(22.4)
SSRI'S	42(51.2)	2(33.3)	40(52.6)
Newer Antidepressants	9(10.9)	1(16.6)	8(10.5)
Combination	12(14.6)	1(16.6))	11(14.4)
TOTAL	82	6	76

**Figure 11: Outcome Of Therapy-Classes Of Antidepressants****DISCUSSION:**

A total number of 85 patients were enrolled in or study. Out of all the patients enrolled 82 of them completed the study. Our study aimed to analyse the drug use pattern of antidepressants and the treatment approaches followed by the psychiatrist.

Patient demographics:

Majority of subjects affected in our study were young adults within the age group of 19-38 years (48.7%) followed by age group 38-58 years (42.68%) is similar to the findings with Trivedi *et al.*,^[5]. In this study, the male: female ratio was 1:1.2 correlating with the fact that prevalence of depression is higher in females compared to males which is in accordance with the finding stated in community based epidemiological study, according to National Institute of Mental Health (2007). It was also observed that married individuals (74.39%) were more depressed compared to unmarried subjects.

Prescribing pattern of antidepressants in enrolled patients:

Bipolar affective disorder (BPAD) was the most common diagnosis in this study (85.9%) associated with the use of antidepressants contrary to other studies which states Major Depressive Disorder to be the most common ailment for prescribing antidepressants. Prior to the introduction of first SSRI in 1987, medical treatment of depression was limited primarily to tricyclic antidepressants (TCAs) and non-selective mono-amine oxidase inhibitors (MAOIs)^[6]. But now SSRIs have gained popularity for treatment of depression compared to TCAs^[7]. Similarly, in our study escitalopram turned out to be the most frequently prescribed antidepressant and amitriptyline ranked second in the hierarchy of prescriptions. The most frequently prescribed newer antidepressant was duloxetine (in 3 cases i.e. 3.13%). SSRIs were the most prescribed class of drug followed by TCAs. When we compare these findings with other studies from India, findings concur with some of the studies,^[8] but differ from that reported from other centers^[4] and from those reported more than a decade ago.^[5]

The most frequently prescribed combination therapy was that of escitalopram plus amitriptyline (in 10 cases) in the study population. The most commonly prescribed antidepressant drug as monotherapy in our study was escitalopram (30%) followed by amitriptyline and citalopram (22.86%) as both belonging to the group SSRI. This findings were contrary to the study conducted by *E. Avanthi et al.*,^[5]

Outcome of therapy:

Efficacy assessment of antidepressants was done by Hamilton depression rating scale (HDRS Score). Out of all patients treated, 42 were on SSRI, 19 patients were on TCA, 9 were on newer antidepressants (SNRI/NDRI) and 12 were on combination drugs. Among patients on SSRIs, there was significantly lower HDRS in the subsequent visits compared to initial HDRS score. Among the 42 patients on SSRI's 40 patients had a significantly lower HDRS score which indicated partial improvement while 2 patients had HDRS which indicated symptom free state. All the 19 patients on TCAs had reduced HDRS scores which indicated that 17 patients had partially improved while 2 patients were symptom free. In the newer antidepressant group, out of the 9 patients, 8 of them had partially improved and one was left symptom free. It was observed that the percentage of improvement in SSRI's is almost equal with the other two groups of drugs prescribed; i.e. SSRIs and newer antidepressants and the percentage of improvement of all groups of drugs was comparable. Similarly on comparing the efficacy of various therapy regimens, out of the 70 patients on monotherapy-65 of them had partially improved while 5 of them were totally symptom free. On the other hand, among 12 patients on dual therapy-11 of them had partial

improvement in symptoms and only one was symptom free. These findings are also akin to a previous study by Mishra *et al*⁹.

CONCLUSION

The motive of this study was to observe the prescribing pattern of antidepressants and to assess the impact of patient education on patient medication adherence. Females suffer from depression more than their male counterparts while the age of onset is almost same. Bipolar affective disorder was the most common indication for prescribing antidepressants. Monotherapy is practiced more frequently than polytherapy and conventional drugs like SSRIs are more preferred than newer antidepressants in our institution. Escitalopram, a newer drug belonging to SSRI, is the most frequently prescribed antidepressant whereas duloxetine is the preferred drug from newer antidepressant class (SNRIs & NDRIs combination). All the three major anti-depressants groups are equipotent at 2 months HDRS scoring.

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