

ANTIDEPRESSANT INDUCED SEXUAL DYSFUNCTION- A CROSS SECTIONAL STUDY

Prashant Mathur^{1*}, Km. Vandana Negi²

¹Associate Professor, Department of Pharmaceutical Sciences, Shri Guru Ram Rai Institute of Technology & Science, Patel Nagar, Dehradun-248001(Uttarakhand)

²Pharm D (P.B.) Student, Department of Pharmaceutical Sciences, Shri Guru Ram Rai Institute of Technology & Science, Patel Nagar, Dehradun-248001(Uttarakhand).

ABSTRACT

Sexual dysfunction is general side effect of antidepressants, especially of selective serotonin reuptake inhibitor and serotonin nor-epinephrine reuptake inhibitor medications. It can have important effect on the person's quality of life, relationships, self respect, and recovery and can lead to noncompliance with antidepressant treatment with a possible for relapse of symptoms.

The study involved 100 patients to assess sexual side effects profile of antidepressant in female patients with depression. In this study we assess according to the FSFI questionnaire and compare between two groups in which first is >30 and second is <30 score of FSFI respectively. Then compare the mean and standard deviation between first and second groups respectively. After that the P-value of all domains observed significant.

In this study it was found that antidepressant induced sexual dysfunction is mostly observed in the patient used selective serotonin reuptake inhibitors. Patients between the age group of 18-30 and 31-40 years have high incidence of antidepressant induced sexual dysfunction and the mostly dysfunction observed by the escitalopram drug and the result shows significant.

Keywords: Sexual dysfunction, antidepressant, escitalopram, FSFI.

1. INTRODUCTION

Sexual dysfunction is general side effect of antidepressants, especially of selective serotonin reuptake inhibitor (SSRIs) and serotonin norepinephrine reuptake inhibitor (SNRIs) medications. It can have important effect on the person's quality of life, relationships, self respect, and recovery and can lead to noncompliance with antidepressant treatment with a possible for relapse of symptoms ^[1]. Types of (FSD) are female sexual arousal disorder, female orgasmic disorder, and genitor -pelvic pain disorder ^[2]. Female sexual dysfunction, while general, is mostly underreported and understudied. The Indian scenario is no different. There are only some studies examining FSD, and only one study dealing with FSD in depression ^[3]. The Analysis of National Health and Social Life Survey terminated that sexual dysfunction is an important public health disturb for both sexes. In a survey of 1749 women and 1410 men aged 18 to 59 years, it was found that the prevalence of sexual dysfunction is 43% in female and 31% in males ^[4]. Mechanism of selective serotonin reuptake inhibitor and

serotonin norepinephrine reuptake inhibitor induced sexual dysfunction is idea to involve unsystematic stimulation of post synaptic 5HT-2a and 5HT-2c receptors by the induced synaptic levels of serotonin [5]. Antidepressants that antagonise mirtazapine, nefazodone and agomelatine, have a lower tendency to cause sexual dysfunction. The reversible inhibitor of monoamine oxidase, moclobemide, while showing an induced incidence of sexual arousal, has a very low incidence of sexual dysfunction by oneself, although the noradrenaline reuptake inhibitor, reboxetine, noradrenaline and dopamine reuptake inhibitor, bupropion, have some or no effect [6]. Hormonal changes occurring in midlife may impact a woman's sexual function. Menopause is marked by decrease in ovarian hormone levels, which occurs slowly in natural menopause but may be sudden if menopause occurs because of surgery, radiation, or chemotherapy. Decreased vaginal lubrication and dyspareunia are associated with low estradiol levels, although, the association between low sexual desire and lower estradiol levels has been irregular [7]. Impact of the antidepressant induced sexual dysfunction are reported to have mostly poor quality of life, self-esteem, mood, and relationships with partners in at least one-fifth of patients sampled in a European cross-sectional survey [8]. Sexual side effects is one of the main reasons patients choose to discontinue SSRI treatment, and it can also cause poor adherence patterns among patients who choose to continue taking the medication [9]. The various types of antidepressants induced sexual dysfunctions like Tricyclic antidepressants approximate prevalence nearly about 30% [10]. Specific problems include decreased libido, erectile dysfunction, delayed orgasm and impaired ejaculation. Painful ejaculation has been reported very rarely. [11]. Second drug is Monoamine oxidase inhibitors Overall, approximately 40% of patients taking irreversible monoamine oxidase inhibitors experience sexual dysfunction. Specific side effects are similar to those of the tricyclic antidepressants. The inhibition of monoamine oxidase is neither a neurotransmitter nor receptor selective mechanism of action. Consequently, the cause of sexual side effects with these agents is likely to involve numerous factors and all the monoamine neurotransmitters. The reversible monoamine oxidase inhibitor, moclobemide, appears to be much less likely to cause sexual dysfunction. Prevalence of sexual dysfunction with moclobemide has been reported to be only 3.9% [12]. Selective serotonin re-uptake inhibitors (SSRIs) are concept to cause decreased libido and their other sexual side effects by increasing synaptic concentrations of serotonin and stimulating 5HT2 and, possibly, 5HT3 receptors [13]. There are various ways to approach treatment of sexual dysfunction associated with antidepressants. Bupropion, mirtazapine or nefazodone make better choices when compared to other antidepressants. This method has been studied in small open label studies showing improvement in sexual functioning in patients switched to bupropion and mirtazapine [14]. Management provide the Cognitive behavior therapy, couple therapy and counseling may help the patient face with the dysfunction, reduce symptom severity or help prevent symptom worsening. However, in the absence of psychogenic causes or relationship factors contributing to the sexual dysfunction, the impact of psychological treatment is currently unknown; no randomized studies assessing the benefits of psychological interventions in antidepressant-induced sexual dysfunction have been identified [15].

2. METHODOLOGY

Present study is the prospective and cross sectional study on Antidepressant induced sexual dysfunction. This study was conducted on sexual dysfunction. The purpose of this study is to determine the antidepressant

induced sexual dysfunction in patient. This study was monitored through Female sexual function index (FSFI). After explaining the detailed about the study, the patients were requested to fill the questionnaire. A total number of 100 prescriptions from 100 patients were observed and the following evaluations were made from the observed data. Antidepressant induced sexual dysfunction patients were diagnosed based on the (ICD-10 criteria) guidelines.

The protocol of the study was approved by Institutional Ethics Committee (Annexure)

Following inclusion and exclusion criteria were followed

2.1. INCLUSION CRITERIA:

- All inpatient in Psychiatric departments of the hospital fulfilling depressive disorder according to ICD-10 DCR.
- Female Patient who are aged between 18 to 59 yrs.
- Patients on depressive medication for 1 month during the study.
- Willingness to give written informed consent.

2.2. EXCLUSION CRITERIA:

- Participants were excluded if they had a history of neurological or substance use disorder, alcohol or drug abuse.
- Patient not willing to participating the study.
- Patient suffering with systemic illness which may cause sexual dysfunction.

2.3. STUDY DESIGN

- This is a prospective and cross sectional, study performed in the Psychiatric department of Shri Mahant Indresh Hospital, Dehradun, to assess the antidepressant induced sexual dysfunction in female patient.

2.4. STUDY MATERIAL USED

- Socio demographic form.
- Female sexual function index (FSFI) Questionnaire
- Informed consent

2.5. DATA ANALYSIS

The data was analyzed by using MS-excel and SPSS-21.0 version software.

3. RESULT

3.1 Patients distribution based on socio demographic factor

Out of 100 patients 12 patients that (12%) were in the age group of 11-20 years, 16 patients that (16%) were in the age group of 21-30 years, 23 patients that (23%) were in the age group of 31-40 years, 27 patients that (27%) were in the age group of 41-50 years, 22 patients that (22%) were in the age group of 51-60 years shown in the table 1. Out of 100 patients, 82 patient that (82%) were found to be married .On the other hand 18 patient that (18%) were found to unmarried. The data is been shown in the given table 2. In this study total 100 patient were taken, among them 12 patient that (12%) are found to be employed were as 88 patient that (88%) are found to be unemployed. The data is been shown in the table 3.

Table 1: Age distribution table

| Age in years | No. of patients | Percentage (%) |
|--------------|-----------------|----------------|
| 11 to 20 | 12 | 12 |
| 21 to 30 | 16 | 16 |
| 31 to 40 | 23 | 23 |
| 41 to 50 | 27 | 27 |
| 51 to 60 | 22 | 22 |
| Total | 100 | 100 |

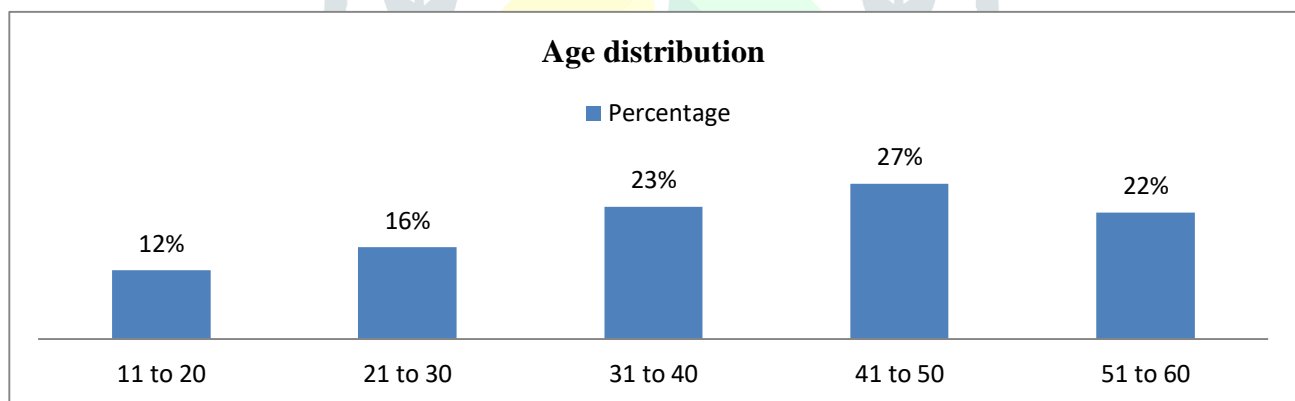


Figure 1: Age distribution

Table 2: Marital status distribution

| Marital status | No. of patient | Percentage (%) |
|----------------|----------------|----------------|
| Married | 82 | 82% |
| Unmarried | 18 | 18% |
| Total | 100 | 100% |

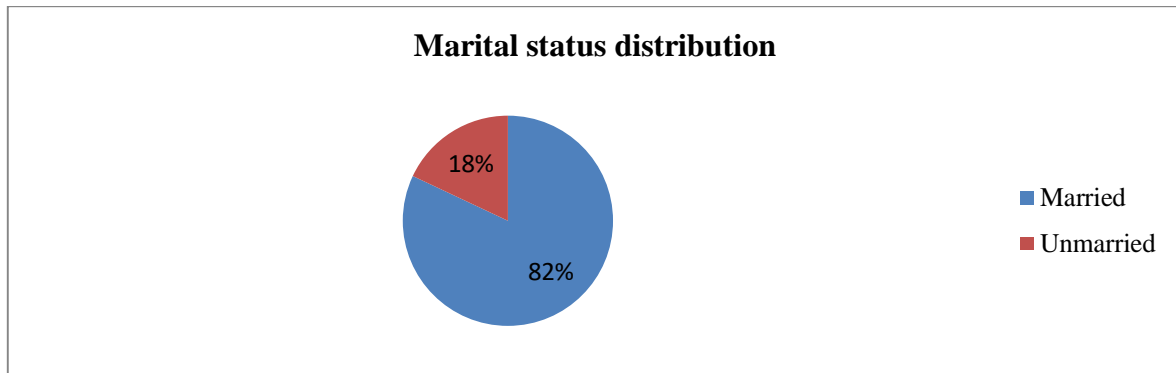


Figure 2: Marital status distribution

Table 3: Employment status distribution

| Employment status | No. of patient | Percentage (%) |
|-------------------|----------------|----------------|
| Employed | 12 | 12 |
| Unemployed | 88 | 88 |
| Total | 100 | 100 |

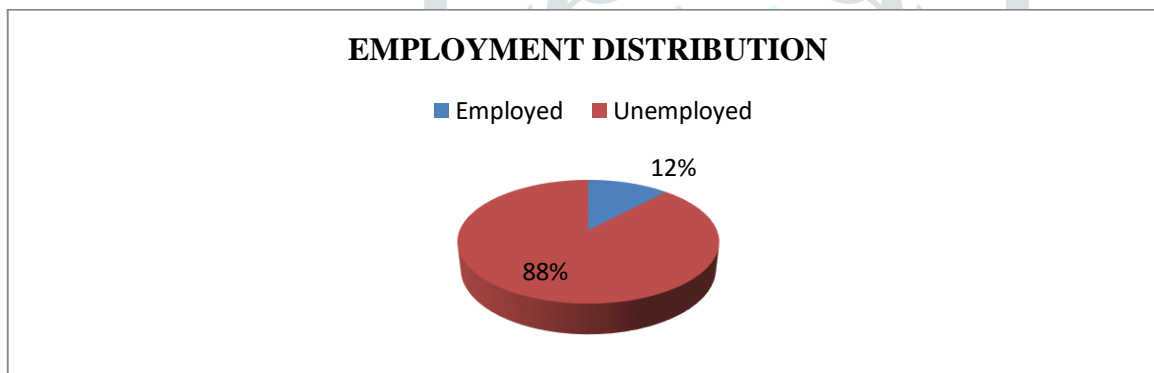


Figure 3: Employment status distribution

3.2. Comparison between two groups of FSFI

Following table shows that the comparison between two groups in which first group is greater than 30 and second is less than 30 score of FSFI respectively, then compare the mean and standard deviation between first and second groups respectively. After that the P-value of all domains observed significant.

Table 4: Comparison between two groups

| Domains | Group 1>30 Mean \pm SD | Group 2<30 Mean \pm SD | P-value |
|--------------|-----------------------------|-----------------------------|---------|
| Desire | 4.21 \pm 0.80 | 2.92 \pm 1.10 | <0.0001 |
| Arousal | 12.89 \pm 1.12 | 8.92 \pm 1.32 | <0.0001 |
| Lubrication | 12.60 \pm 1.09 | 3.61 \pm 1.40 | <0.0001 |
| Orgasm | 7.09 \pm 1.07 | 2.84 \pm 1.15 | <0.0001 |
| Satisfaction | 7.34 \pm 0.98 | 2.61 \pm 1.05 | <0.0001 |
| Pain | 8.16 \pm 1.00 | 1.69 \pm 1.04 | <0.0001 |

3.3. Patients distribution based on clinical profile factor.

8 patient are found suffering from depression with schizophrenia disease which is (8%), among the 100 patients, 6 patient that (6%) were found to be bipolar disorder with depression, 7 patient that (7%) were found to be psychosis with depression, 17 patient that (17%) were found to be major depressive disorder, 3 patient that (3%) were found to be mood disorder with depression, 2 patient that (2%) were found to be psychosis with mood disorder, 8 patient that (8%) were found to be persistent depressive disorder, 5 patient that (5%) were found to be manic disorder with depression, 6 patient that (6%) were found to be psychosis with depressive disorder, 4 patient that (4%) were found to be seasonal affective disorder with depression, 3 patient that (3%) were found to be Persistent depressive disorder with psychosis, 6 patient that (6%) were found to be depressive disorder, 1 patient that (1%) were found to be depression with OCD, 2 patient that (2%) were found to be bipolar disorder with schizophrenia, 4 patient that (4%) were found to be severe anxiety with depression, 1 patient that (1%) were found to be major stroke with depression, 3 patient that (3%) were found to be atypical depression, 4 patient that (4%) were found to be premenstrual dysphoric depressive disorder, 5 patient that (5%) were found to be (MDD) with psychosis, 2 patient that (2%) were found to be schizophrenia with depressive disorder, 3 patient that (3%) were found to be psychosis with mood depressive disorder. The data is shown in the table 5.

Table 5: Distribution based on clinical profile factor

| Name of disease | No. of Patients | Percentage (%) |
|---|-----------------|----------------|
| Depression with schizophrenia | 8 | 8 |
| Bipolar disorder with depression | 6 | 6 |
| Psychosis with depression | 7 | 7 |
| Major depressive disorder | 17 | 17 |
| Mood disorder with depression | 3 | 3 |
| Psychosis with mood disorder | 2 | 2 |
| Persistent depressive disorder | 8 | 8 |
| Manic disorder with depression | 5 | 5 |
| Psychosis with depressive disorder | 6 | 6 |
| Seasonal affective disorder with depression | 4 | 4 |
| Persistent depressive disorder with psychosis | 3 | 3 |
| Depressive disorder | 6 | 6 |
| Depression with OCD | 1 | 1 |
| Bipolar disorder with schizophrenia | 2 | 2 |
| Severe anxiety with depression | 4 | 4 |
| Major stroke with depression | 1 | 1 |
| Atypical depression | 3 | 3 |
| Premenstrual dysphoric depressive disorder | 4 | 4 |
| MDD with psychosis | 5 | 5 |
| Schizophrenia with depressive disorder | 2 | 2 |
| Psychosis with mood depressive disorder | 3 | 3 |
| Total | 100 | 100 |

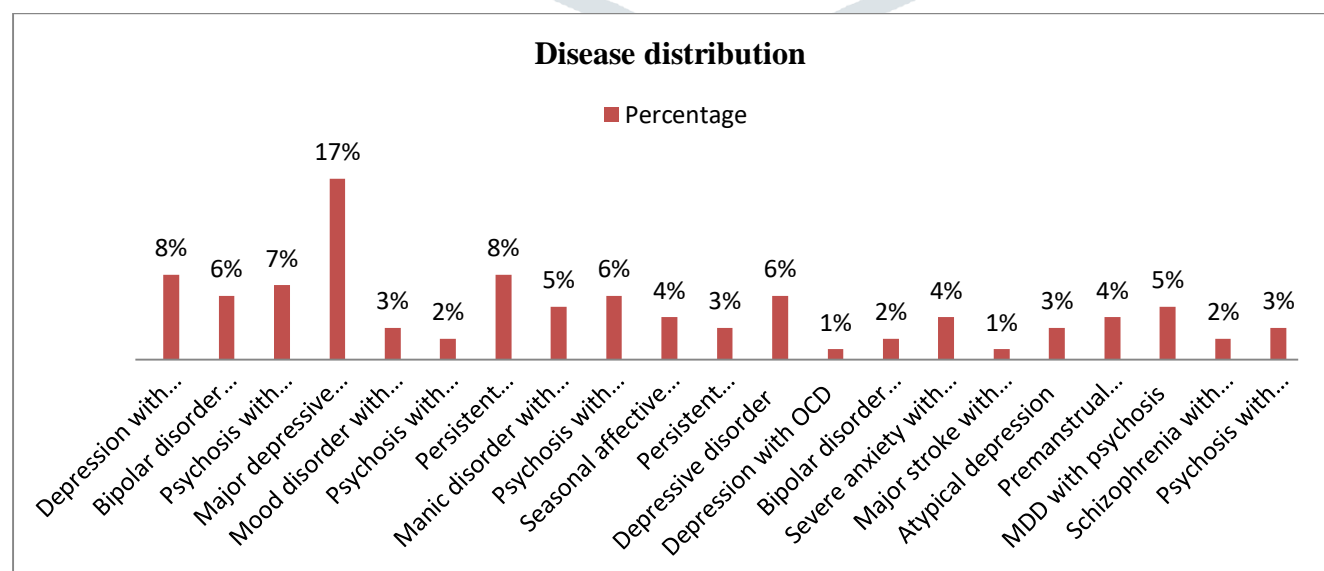


Figure 5: Patients Distribution Based On Clinical Profile

3.4. Co- relation of socio demographic data with antidepressant induced sexual dysfunction

Following data shows that the Escitalopram taken by 46 patients out of 100 patients and dysfunction shows in 31 patients which more than comparison to the other all drugs shown in the table 6. Following data shows that the Escitalopram taken by 39 patients out of 82 patients and dysfunction shows in 29 patients which is more than comparison to the other all drugs among all the married patients, shown in the table 7. Following data shows that the Escitalopram taken by 5 patients out of 18 patients and dysfunction shows in 2 patients which is more than comparison to the other all drugs among all the unmarried patients, shown in the table 8. Following data shows that the Escitalopram taken by 4 patients out of 12 patients and dysfunction shows in 2 patients which is more than comparison to the other all drugs among all the employed patients, shown in the table 9. Following data shows that the Escitalopram taken by 28 patients out of 88 patients and dysfunction shows in 21 patients which is more than comparison to the other all drugs among all the uemployed patients, shown in the table 10.

Table 6: Age with antidepressant induced sexual dysfunction distribution

| Drug | Age in interval | No. of patient | Dysfunction | Percentage (%) | No dysfunction | Percentage (%) |
|--------------|-----------------|----------------|-------------|----------------|----------------|----------------|
| Escitalopram | 18-30 | 46 | 31 | 48 | 15 | 43 |
| Mirtazapine | 31-40 | 31 | 20 | 30 | 11 | 32 |
| Sertraline | 41-50 | 19 | 11 | 16 | 8 | 23 |
| Fluoxetine | 51-60 | 4 | 3 | 5 | 1 | 3 |
| Total | | 100 | 65 | | 35 | |

Age with antidepressant induced sexual dysfunction

■ No. of patient ■ dysfunction ■ Percentage ■ No dysfunction ■ Percentage

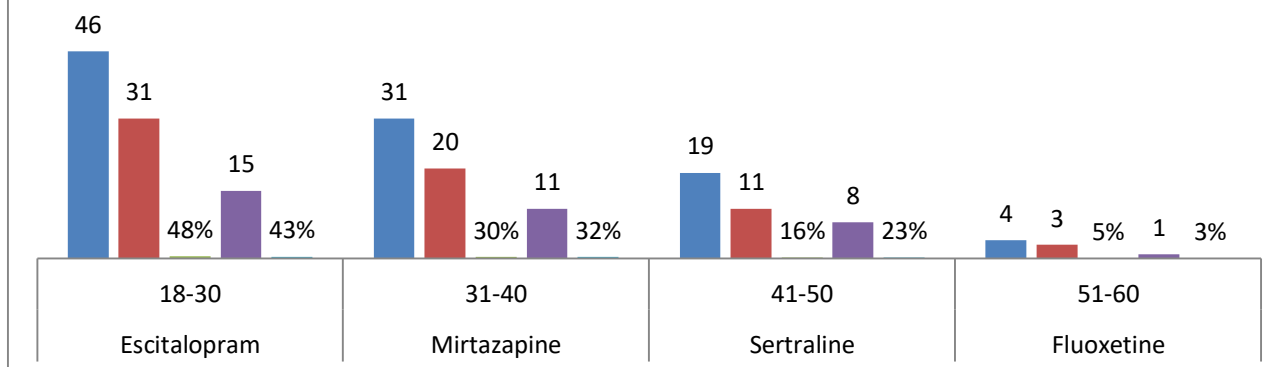


Figure 6: Age with Antidepressant Induced Sexual Dysfunction Distribution

Table 7: Married patients with antidepressant induced sexual dysfunction distribution

| Drug | Married | dysfunction | Percentage (%) | No dysfunction | Percentage (%) |
|--------------|-----------|-------------|----------------|----------------|----------------|
| Escitalopram | 39 | 29 | 41 | 10 | 34 |
| Mirtazapine | 28 | 18 | 25 | 10 | 34 |
| Sertraline | 12 | 9 | 13 | 3 | 10 |
| Fluoxetine | 3 | 2 | 3 | 1 | 3.41 |
| Total | 82 | 58 | | 24 | |

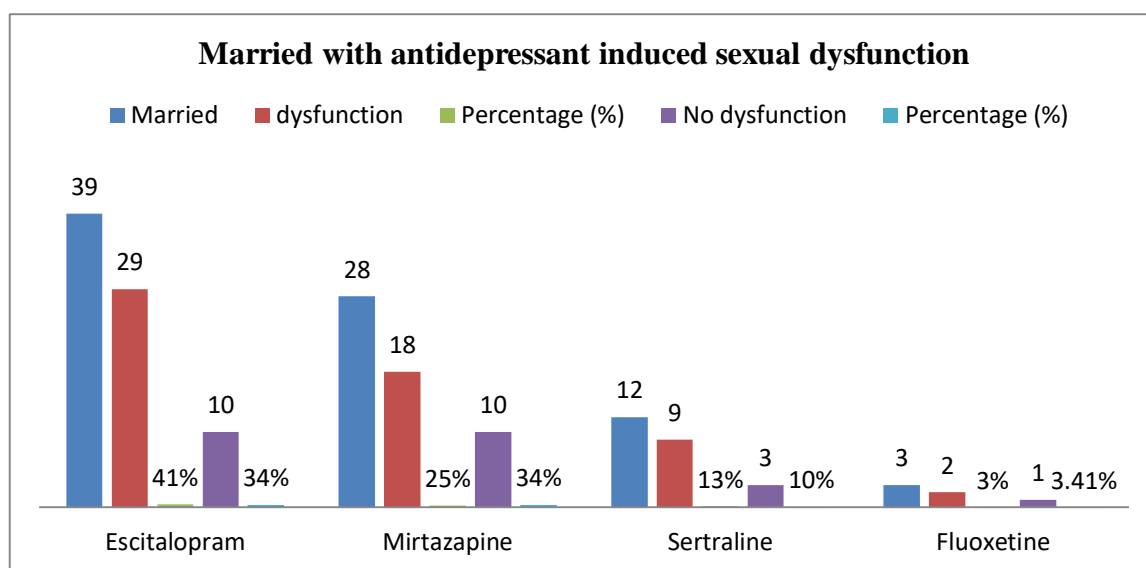


Figure 7: Married patients with antidepressant induced sexual dysfunction distribution

Table 8: Unmarried patients with antidepressant induced sexual dysfunction distribution

| Drug | Unmarried | dysfunction | Percentage (%) | No dysfunction | Percent age (%) |
|--------------|-----------|-------------|----------------|----------------|-----------------|
| Escitalopram | 5 | 2 | 7 | 3 | 4.15 |
| Mirtazapine | 4 | 1 | 4 | 3 | 4.15 |
| Sertraline | 5 | 1 | 4 | 4 | 5.53 |
| Fluoxetine | 4 | 1 | 4 | 3 | 4.15 |
| Total | 18 | 5 | | 13 | |

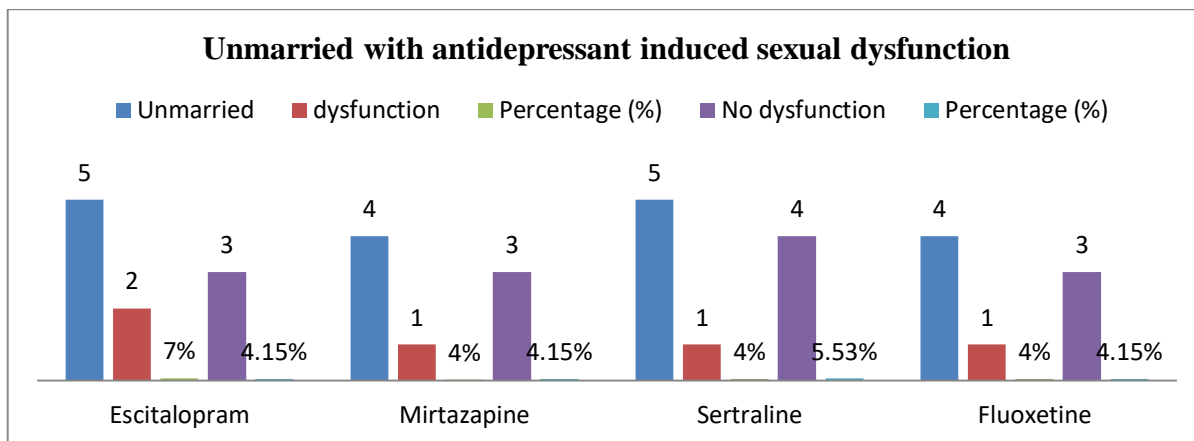


Figure 8: Unmarried patients with antidepressant induced sexual dysfunction distribution

Table 9: Employed patients with antidepressant induced sexual dysfunction distribution

| Drug | Employed | dysfunction | Percentage (%) | No dysfunction | Percentage (%) |
|--------------|-----------|-------------|----------------|----------------|----------------|
| Escitalopram | 4 | 2 | 3.42 | 2 | 5 |
| Mirtazapine | 3 | 2 | 3 | 1 | 2 |
| Sertraline | 3 | 2 | 3 | 1 | 2 |
| Fluoxetine | 2 | 1 | 1.70 | 1 | 2 |
| Total | 12 | 7 | | 5 | |

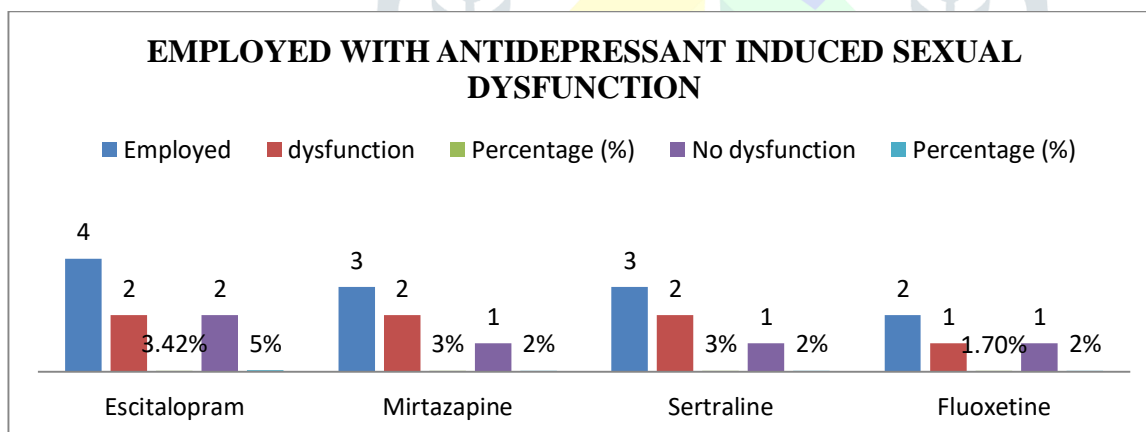


Figure 9: Employed patients with antidepressant induced sexual dysfunction distribution

Table 10: Unemployed patients with antidepressant induced sexual dysfunction distribution

| Drug | Unemployed | dysfunction | Percentage (%) | No dysfunction | Percentage (%) |
|--------------|------------|-------------|----------------|----------------|----------------|
| Escitalopram | 28 | 21 | 27.50 | 7 | 29.33 |
| Mirtazapine | 24 | 19 | 24.95 | 5 | 20.95 |
| Sertraline | 20 | 16 | 23.88 | 4 | 16.76 |
| Fluoxetine | 16 | 11 | 14.44 | 5 | 20.95 |

| | | | | | |
|--------------|-----------|-----------|--|-----------|--|
| Total | 88 | 67 | | 21 | |
|--------------|-----------|-----------|--|-----------|--|

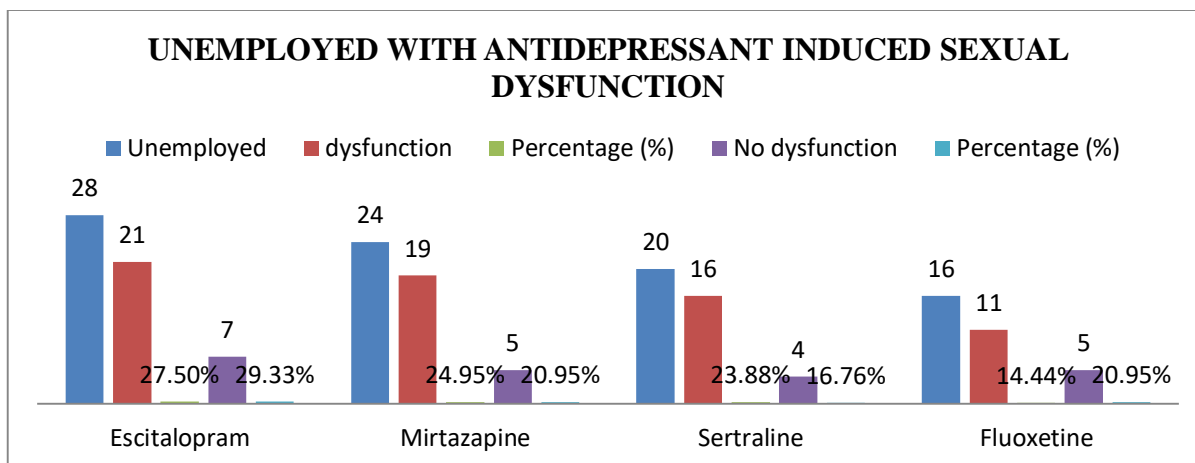


Figure 10: Unemployed patients with antidepressant induced sexual dysfunction distribution

DISCUSSION

A prospective and cross sectional study was conducted for a period of 6 months in the psychiatric department of a tertiary care hospital. The aim of this study is to assess sexual side effects profile of antidepressant in female patients with depression. Total no. of 100 prescriptions from 100 patients for observed and the following assessment were made from the observed data. The incidence of AISD is mostly observed in the patient used selective serotonin reuptake inhibitors (which is almost same as observed in the previous study Rehana Amin et al, which shows higher incidence of SSRIs in female patient.

In this study we assess according to the FSFI questionnaire and compare between two groups in which first is >30 and second is <30 score of FSFI respectively. Then compare the mean and standard deviation between first and second groups respectively. After that the P-value of all domains observed significant.

In this study co-relate with age of patient sexual dysfunction by antidepressant, then observed 31 patients dysfunction among 46 patients which age is between 18-30 and their percentage is 48 by escitalopram drug. In this study out of the 82 married patients 39 taken the escitalopram in which 29 patients observed dysfunction and their percentage is 41, and out of the 18 unmarried patients 5 taken the escitalopram in which 2 patients observed dysfunction and their percentage is 7. As per employed in this study out of the 12 employed patients 4 taken the escitalopram in which 2 patients observed dysfunction and their percentage is 3.42%, and out of the 88 unemployed patients 28 taken the escitalopram in which 21 patients observed dysfunction and their percentage is 27.50%.

4. CONCLUSION

This is a prospective and cross sectional study. In this study it was found that antidepressant induced sexual dysfunction is mostly observed in the patient used selective serotonin reuptake inhibitors. Patients between the age group of 18-30 and 31-40 years have high incidence of antidepressant induced sexual dysfunction and the mostly dysfunction observed by the escitalopram drug. In this study (FSFI) Female sexual function index being used. This scale is set with a 19 set of questionnaires. This question are responsible to determine the sexual dysfunction and on the basis of this study we compare between two groups in which first is greater than 30 and second is less than 30 score of FSFI respectively, then compare the mean and standard deviation between first and second groups respectively. After that the P-value of all domains observed significant.

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