

## **EFFICACY OF SELECTIVE SEROTONIN REUPTAKE INHIBITORS IN PATIENTS WITH PREMATURE EJACULATION**

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### **Abstract**

Premature ejaculation (PE) is the most common sexual dysfunction compliant in about 35 to 45% of men younger than 40 years.

In this study, the efficacy of two drugs (Fluoxetine and Citalopram) which are selective serotonin reuptake inhibitors (SSRI) used for treatment of patients suffering from PE is evaluated. The effectiveness of both drugs in PE patients was studied with different protocol to find out the most effective drugs with least side effect.

A total of 93 patients were referred to the Urology Clinic in Basrah Teaching Hospital for the treatment of PE. Patients were randomly divided into two groups; Patients in group 1 (N=49) received 40mg (2 capsules of 20mg) fluoxetine daily for 4 weeks, and patients in group 2 (N=44) received 40mg citalopram daily for 4 weeks.

The mean intravaginal ejaculation latency time (IVELT) before treatment in patient of group 1 was 65.81±27.63 seconds, while after treatment it raised to 311.47± 43.29 seconds. In group 2, the mean IVELT before treatment was 61.42±32.65 seconds, while after treatment it raised to 293.15± 51.72 seconds.

In conclusion, both drugs (Fluoxetine and Citalopram) improved ejaculation duration significantly.

*Key words: Fluoxetine, Citalopram, premature, ejaculation, timing.*

### **Introduction**

Premature ejaculation is the most common sexual disorder in men; this condition is the main compliant of 35-40% of men with sexual disorders<sup>1</sup>. Premature ejaculation is mediated mainly by disturbances of serotonergic neurotransmission and certain serotonin (5-HT) receptors and to a lesser extent oxytocinergic neurotransmission in the CNS<sup>2,3</sup>. The sympathetic and somatic spinal centers are under the influence of sensory genital and cerebral stimuli at the spinal cord level which act in synergy to command physiological events occurring during ejaculation<sup>2</sup>.

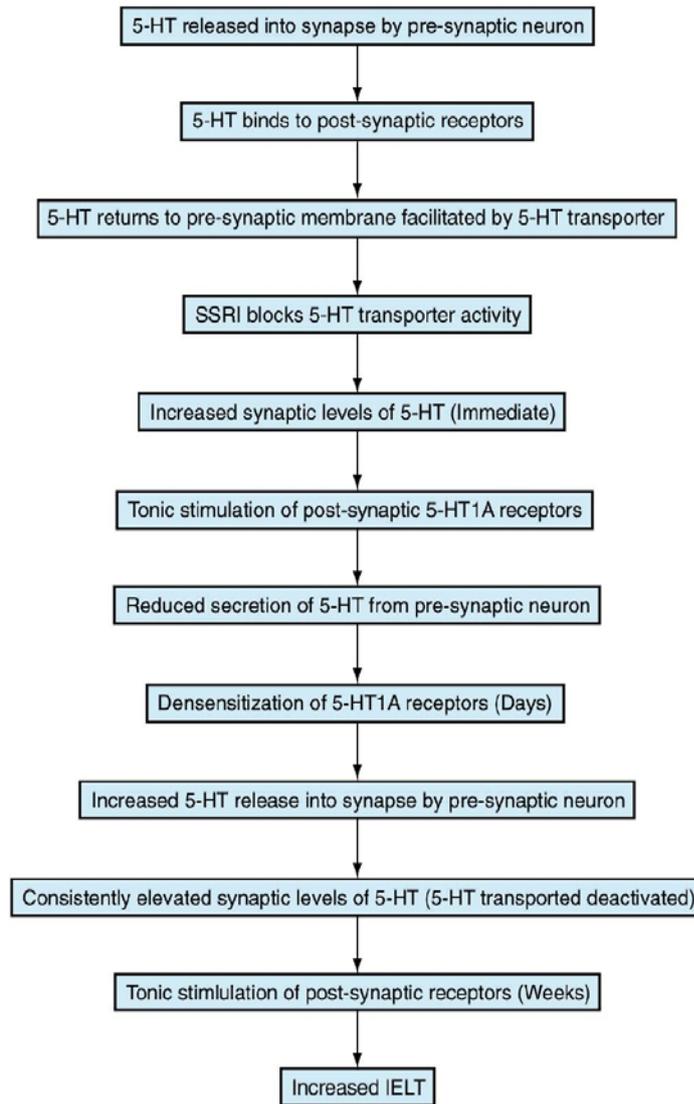
Experimental evidences indicates that serotonin (5HT) throughout brain descending pathways, exerts an inhibitory role on ejaculation<sup>2</sup>. Serotonin is important at the level of CNS in the complex regulatory mechanism involved

in ejaculation<sup>3,4</sup>.

The SSRI are known to induce delayed orgasm and delayed ejaculation. Citalopram is a potent and highly selective SSRI antidepressant used to treat PE, and has been effective compared to placebo<sup>5</sup>. Antidepressant that selectively inhibits uptake of 5HT has shown to delay onset of ejaculation<sup>6</sup>. Fluoxetine increases IVELT and increases the time of ejaculation if taken 4-6 hours before sexual activity<sup>7,8</sup>.

This study compared the efficacy and side effects of fluoxetine and citalopram in patients suffering from PE without evident organic cause.

The effect of selective serotonin reuptake inhibitors on intravaginal ejaculatory latency time is described in the following schema (Premature Ejaculation by John P. Mulhall, MD, MSc Anat).



## Patients and Methods

This randomized clinical trial was carried on 114 patients who were referred to the Urology Clinic in Basrah Teaching Hospital for the treatment of PE.

Out of these, 21 patients were excluded on different grounds; 5 were excluded due to drug side effects like headache, dizziness, insomnia and diarrhea. The remaining 16 patients were excluded from the study because of their unwillingness to continue the treatment on the basis of other illnesses like impotence, urogenital infection, systemic or neurological disorders, psychological problems, and alcoholism or drug abuse. So the study was continued with 93 patients. All patients were married and

had intercourse only with their wives. They were asked to have at least one intercourse per week. Patient's age ranged from 18-50 years. They were randomly divided into two study groups. Care was taken to match the patients of the 2 groups by age clinical criteria.

The ejaculation time for every patient was measured before treatment by mobile stop watch by sexual partner.

Patients belonging to group 1 [N=49] received 2 capsules of 20mg fluoxetine daily for 4 weeks (morning and night). Patients in group 2 [N=44] received 40mg citalopram daily for 4 weeks. Ejaculation time was again measured as before after treatment was over.

## Results

Table I, shows the 93 cases who were included in the sample size. In Group 1, 49 patients were treated by fluoxetine, while patients in Group 2 (44), were kept on citalopram. The table also displays the mean intercourses in a week. In Group 1, it was 2.11 times while in Group 2 it was 1.92.

**Table I: Number of patients with mean intercourse in a week.**

Groups	No.	Min	Max	Mean	SD
Group 1	49	1	5	2.11	1.15
Group 2	44	1	5	1.92	1.04

Table II, shows the age groups of patients who were included in the study. The range was around 20 to around 50 years old.

**Table II: Age of patients participating in this study.**

Age	No.	Group 1	Group 2
< 20-29	45	24	21
30-39	29	15	14
40-49	16	9	7
50 and above	3	1	2
Total	93	49	44

There were significant statistical differences in the effectiveness of the two drugs on the mean ejaculation time after treatment as exposed in table III.

**Table III: Efficacy of SSRI (Fluoxetine and Citalopram).**

Groups	Before treatment	After treatment	P-value
Group 1	65.81 ± 27.63	311.47 ± 43.29	<0.01
Group 2	61.42 ± 32.65	293.15 ± 51.72	<0.01

There was no significant statistical difference between both drugs as showed in table IV.

**Table IV: Comparison of the effect of the two drugs on the ejaculation time.**

Mean ejaculation time	Group 1	Group 2	P-value
Before treatment	65.81 ± 27.63	61.42 ± 32.65	NS
After treatment	311.47 ± 43.29	293.15 ± 51.72	NS

## Discussion

Premature ejaculation is the most common male sexual dysfunction<sup>9</sup>. Sexual disorders are a source of severe marital and family chaos<sup>10</sup>. Premature ejaculation is estimated to be present in at least 25% of sexual dysfunction cases<sup>11</sup>. Up to date, three 5-HT receptor subtypes [5HT1a] [5HT1b] [5HT2c] have been postulated to mediate 5-HTs modulating

activity on ejaculation<sup>12</sup>. In the present study, statistical analysis indicates significant difference in ejaculation time before and after treatment using fluoxetine (p<0.01) and citalopram (p<0.01) while difference between the two drugs was not significant (p>0.05). Sexual dysfunction was positively correlated with dose<sup>13</sup>. Holstege et al,

used 20 mg/day of fluoxetine for the first week and increased the dose to 40mg/day for more 3 weeks, they reported a delay in ejaculation time compared with placebo. Waldinger et al, also reported significant difference ( $p < 0.001$ ) in intravaginal ejaculation latency time delay due to fluoxetine in his patients compared to placebo<sup>9</sup>. Rama Raju et al, prescribed one capsule of fluoxetine (20mg) in the morning for 4 weeks for the management of PE. He stated that all his patients reported marked subjective improvement of time from penetration to ejaculation for 24 minutes<sup>6</sup>. While in this study patients, the ejaculation time was quite higher, so on the basis of our findings, it is better to use higher doses of drugs than what has been conventionally used till now to treat PE.

Some patients in this study were excluded because of drug side effects. In a similar study, Rama Raju et al, also observed mild and transient side effects like glossitis, lack of concentration and vague headache due to fluoxetine (20mg for 4 weeks). They suggested that on demand SRI treatment will not lead to similarly impressive delays in ejaculation as has been observed with daily SRI treatment.

*Conclusion:* In this study, the difference was significant in mean IVELT before and after treatment with fluoxetine and citalopram (each drug separately), and both drugs improved ejaculation duration while the difference between the two drugs was not significant.

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