

# A Comparison of Treatment of Paraphilias with Three Serotonin Reuptake Inhibitors: A Retrospective Study

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Treatment of the paraphilic disorders using behavioral, cognitive, pharmacological, and social interventions has been shown to have limited success with poorly motivated or noncompliant patients. Researchers have speculated on the role of the serotonergic system in the paraphilic disorders. Recent anecdotal studies have reported successful results with the selective serotonin reuptake inhibitors (SSRIs) in the treatment of the paraphilic disorders. This retrospective study evaluates and compares the effectiveness of three SSRIs in a group of paraphilics (N = 58). The individual effectiveness of fluvoxamine, fluoxetine, and sertraline were examined and compared. Results found that the severity of fantasies decreased and that there were no significant differences in the reported efficacy between fluvoxamine, fluoxetine, and sertraline. Although double blind placebo crossover studies are still needed to assess the efficacy of these agents, this study further supports the growing body of literature on the potential use of these drugs in the treatment of the paraphilias.

The DSM-IV defines the essential features of paraphilic disorders as being "recurrent, intense sexually arousing sexual urges, or behaviors involving (1) non human objects, (2) the suffering or humiliation of oneself or one's partner, or (3) children or other non consenting persons

that occur over a period of at least 6 months" (p 522-3).<sup>1</sup> Paraphilic behavior is usually chronic in its course, and the underlying sexual arousal often endures throughout the adult life of a paraphiliac. Due to the immediate gratification this behavior brings to these individuals and the often poor internal controls for paraphilic behavior, people with paraphilias are often viewed as resistant to change.<sup>2</sup> Successful cognitive and behavioral treatments require that the client be motivated to change and exercise self-control over their paraphilic behavior. Anti-androgen

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medications such as cyproterone acetate (CPA) and medroxyprogesterone acetate (MPA) reduce paraphilic behavior through the global suppression of conventional and paraphilic sexual fantasies, preoccupations, and urges.<sup>3-7</sup> However, potential adverse side effects, such as the reduction in conventional sexual desire, impotence, impaired ejaculation, weight gain, gynecomastia, and fatigue, cause many patients to decline this kind of treatment.<sup>5, 8-9</sup> Their use with adolescents is also limited for similar reasons.<sup>10</sup> Consequently, these medications are often reserved for the more serious sexual offender.

The role of serotonin in the treatment of major affective disorders has received considerable attention over the past 20 years. Serotonin reuptake inhibitors have been used with encouraging results in several placebo-controlled drug trials.<sup>11-13</sup> This new group of drugs has also been successful in the treatment of anxiety disorders, including obsessive-compulsive disorder (OCD) and panic disorders, as well as eating disorders.<sup>14-15</sup> Although the paraphilias are not classified as OCDs, paraphilics often describe symptoms that are compulsive in nature.<sup>16-18</sup> Apart from the direct raised serotonin effect that serotonin reuptake inhibition may have on sexual behavior, plasma prolactin levels in rodents, nonhuman primates, and humans have also been shown to increase following serotonergic stimulation. It has been hypothesized that these neurotransmitter changes are associated with inhibition of sexual behavior.

Recent literature on the treatment of sexual disorders has shown promising re-

sults by suggesting that serotonin reuptake inhibitors (SSRIs) in the treatment of paraphilic disorders may be an alternative pharmacological intervention.<sup>18-19</sup> These case studies have reported fewer adverse effects and encouraging clinical efficacy as compared with traditional methods of treatment and management of this group of patients.

Exhibitionism has been reported to have been successfully treated with fluoxetine.<sup>18-19</sup> Zohar *et al.*<sup>18</sup> reported a case in which the patient was treated under a partial single-blind condition (patient was blind to placebo) with fluvoxamine, desipramine, and a placebo that resembled the fluvoxamine (ABACA). The impulse to expose himself and the behavior itself were eliminated with fluvoxamine, without affecting his sexual desire. Treatment with desipramine and the placebo resulted in the return of the unwanted paraphilic impulses and behavior. Fluoxetine has been reported to successfully treat both voyeurism and cross-dressing<sup>20-21</sup> as well as fetishism.<sup>22</sup>

Kafka<sup>23</sup> treated 12 men with paraphilias or so-called nonparaphilic sexual addictions (e.g., compulsive masturbation) with either fluoxetine or imipramine.<sup>23</sup> Their results showed a substantial and sustained improvement (i.e., decrease in the frequency and intensity of unconventional sexual behaviors, fantasies, and urges) in all but one patient. Kafka and Prentky<sup>24</sup> also reported successful treatment results of 10 paraphilics (sexual masochists, sadists, exhibitionists, frotteurs, etc.) and 10 nonparaphiliac sexual addictions (e.g., compulsive masturbation) with fluoxetine in an open drug trial.

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From their study, they concluded that fluoxetine reduced the unconventional or deviant sexual desire and behavior while preserving normative sexual arousal.

Perilstein and his associates<sup>17</sup> treated a pedophile, an exhibitionist, and a voyeur/frotteur with fluoxetine. All three patients reported improvements (decrease in deviant fantasies and urges) during the treatment, and that improvement was sustained for three to six months of follow-up. Stein *et al.*<sup>25</sup> reviewed the records of five patients with paraphilias, five with nonparaphilic sexual addictions, and three with sexual thoughts or rituals that met the criteria for obsessive-compulsive disorders, all of whom were treated with either fluoxetine, clomipramine, or fluvoxamine. Their results indicated that these medications were most effective in treating the sexual obsessions and compulsions and that the paraphilics responded less to the medications.

Kafka<sup>26</sup> reported treating 14 men with paraphilias and 12 with paraphilia-related disorders (e.g., pornography dependence, compulsive masturbation) with sertraline and fluoxetine. He reported some success with the efficacy of these SSRIs in reducing deviant sexual fantasies and behaviors while maintaining normative sexual arousal. Depression symptoms were also assessed and found to be unrelated to the clinical improvement of paraphilic symptoms. In an open-label, dose-titrated study using sertraline to treat pedophiles, Bradford *et al.*<sup>27</sup> reported using a variety of measures including penile plethysmography, a decrease in pedophilic fantasies, urges, and arousal to pedophilia symptoms. In their group of 21 pedophiles, a

mean dose of 131 mg of sertraline was reported to be effective in providing symptomatic relief of paraphilic fantasies, urges, and drives; results showed that pedophiles were able to maintain conventional sexual relations with adult partners.

Our retrospective study reviews the degree and severity of paraphilic fantasies of a group of paraphilic patients at the sexual behaviors clinic of a university teaching hospital who were treated with selective serotonin reuptake inhibitors. There have been no comparative studies of the efficacy of the different SSRIs (fluvoxamine, fluoxetine, and sertraline) in the literature on the treatment of the paraphilias. In this present study, comparisons were made between fluoxetine, fluvoxamine, and sertraline to determine whether one of them is more effective in reducing paraphilic fantasies.

## Method

**Procedure** In our 12-week retrospective study, the subjects were treated with one of the SSRIs. Demographic information, type, and dosage of SSRIs prescribed (fluvoxamine HCL, fluoxetine HCL, or sertraline HCL) was extracted from the medical charts at baseline and weeks 4, 8, and 12 by one of the authors (A.O'R.). Information on the paraphilias being treated and the comorbid DSM-III-R diagnoses were also collected from the records. The type of adjunct psychosocial treatment(s) were recorded for each subject. Severity of illness and global improvement were scored using the Clinical Global Impression Scale.<sup>28</sup> Frequency and severity of sexual fantasies were also

scored. The severity level of these fantasies, which was rated on a five-point scale (0 = no fantasies; 1 = mild, occasional, not too disturbing, easily able to stop; 2 = moderate, frequent, disturbing, less able to stop; 3 = severe, very disturbing, very frequent, rarely able to stop; and 4 = extreme, almost constant, very disturbing, unable to stop).

**Subjects** Ninety-four patients who were treated at the Sexual Behaviours Clinic (Royal Ottawa Hospital) between 1991 and 1995 with SSRIs made up the study population. Those patients who had previously been treated for their paraphilia ( $n = 15$ ) were excluded to rule out confounding results. Nine subjects did not return for follow-up. Patients who were taking CPA concomitantly ( $n = 6$ ) were excluded, as were those patients showing symptoms of psychosis ( $n = 5$ ). One subject was excluded because he was alone in taking paroxetine. The final sample size was 58.

Patients were included in the population if they had been treated for paraphilia with an SSRI and came to more than one follow-up visit, were male, had not received any previous treatment for their paraphilia, and signed a consent form allowing their data to be used for research purposes. An alpha level of at least .05 was assumed to declare significance.

## Results

As this is a retrospective study, there are invariably some data missing. Some patients missed a monthly appointment and therefore missed one of their follow-up visits in this study. The data collected were not as particular as if the

study been planned, and for this reason there are areas that are not as complete as we would have liked.

Seventeen (29.3%) of the subjects received treatment with fluoxetine, 25 (43.1%) with sertraline, and 16 (27.6%) with fluvoxamine. Seventy-nine percent of the patients also received concurrent psychosocial treatment, such as covert sensitization ( $n = 32$ ), masturbatory satiation ( $n = 13$ ), sex education ( $n = 19$ ), or in the relapse prevention group ( $n = 16$ ) or the incest group ( $n = 4$ ). Thirty-six percent of the patients received only one psychosocial treatment and 43 percent received two or more types of psychosocial treatment. The type(s) of psychosocial treatment(s) received did not differ among the three SSRI groups.

The sample ranged in age from 17 to 72 years, with a mean age of 35.7 years. There were no differences between the three SSRI groups. The mean education level was 12.2 years, with a range of 3 to 21 years. There were no educational differences between the three SRI groups; 56.9 percent of the patients were single; 25.8 percent were married or living common-law; and 17.2 percent were separated or divorced. There were no differences between the groups on marital status.

The mean number of paraphilias per patient was 1.6. The majority of the sample were diagnosed as pedophiles (74.1%), atypical paraphilia (24.1%), exhibitionism (13.8%), and sexual sadism (12.1%) were also common diagnoses (Fig. 1). There were no differences between the three SSRI groups in the number of paraphilias. The most common

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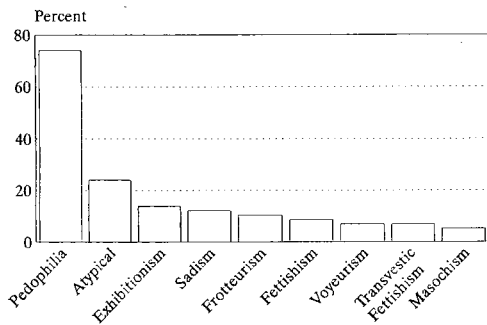


Figure 1. Paraphilias.

concurrent psychiatric illness was personality disorder (31.0%), followed by depression (27.6%), alcohol abuse or dependence (17.2%), and adjustment disorders (15.5%) (Fig. 2).

There were no differences found in the number of adverse effects in the three SSRI groups during weeks 4, 8, and 12; 40.4 percent reported one or more adverse effects at week 4, 30 percent at week 8, and 23.1 percent at week 12. Compliance was not significantly affected by adverse effects at any week. Table 1 shows the frequency of the most common adverse effects reported.

During the course of the treatment, data collection for 17 patients was stopped and they were excluded from the study after

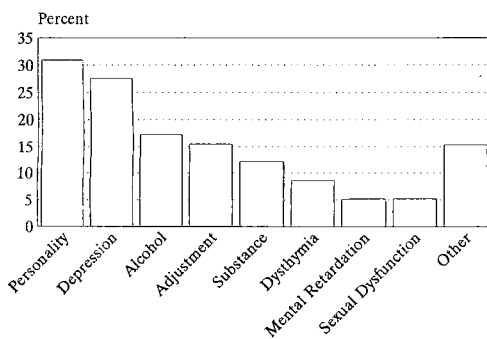


Figure 2. Concurrent psychiatric illness.

**Table 1**  
**Most Common Adverse Effects**

Adverse Effect	N
Insomnia	8
Delayed ejaculation	8
Headaches	7
Drowsiness	6
Reduced sex drive	4
Diarrhea	3
Nausea	3
Blurred vision	2

week 4 (six at the 4-week visit, six at the 8-week visit, and five more at the 12-week visit). There was not a significant relationship between adverse effects and withdrawal from the treatment. Table 2 lists the reasons for exclusion from the study after week 4. The compliance rate was reported as excellent, with only five patients showing questionable noncompliance (missing one or more dosages between follow-up visits) at the 4-week visit, four patients at the 8-week visit, and six patients at the 12-week visit.

Most patients when rated on a scale of severity of illness were found to be moderately ill (46.6%) or markedly ill (29.3%) at baseline. There were no dif-

**Table 2**  
**Excluded from Study After Week 4**

Reason	N
Discontinued medication (AMA)	4
Treated with CPA	3
Side effects—discontinued SSRI	3
Felt better—discontinued SSRI	2
Incarcerated—lost to follow-up	2
Discharged to home province—lost to follow-up	1
Changed SSRI	1
Unknown	1

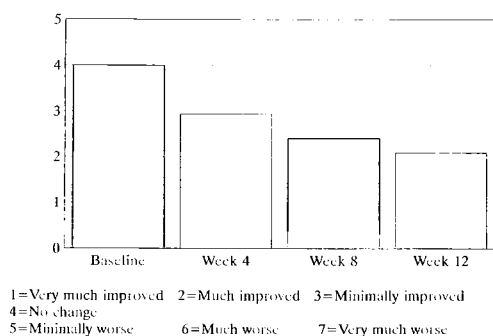


Figure 3. Global Improvement Scale.

ferences between the three SSRI groups on the Global Improvement Scale. When the three groups were combined, there was a significant improvement on the Global Improvement Scale from baseline to week 4 ( $t = 7.96$ ;  $df = 51$ ;  $p < .001$ ), from week 4 to week 8 ( $t = 4.31$ ;  $df = 35$ ;  $p < .001$ ), and from week 8 to week 12 ( $t = 2.76$ ;  $df = 29$ ;  $p < .05$ ) (Fig. 3).

Forty-four (75.9%) of the patients at baseline admitted to having paraphilic fantasies. By week 4, 30 (57.7%) of the patients admitted having paraphilic fantasies, 23 patients (57.5%) by week 8, and 12 patients (30.8%) by week 12. There was no significant difference in the fantasy severity among the three SSRI groups at baseline, week 4, week 8, or week 12. Paired-samples  $t$  tests showed a significant decrease in the fantasy severity from baseline to week 4 ( $t = 6.77$ ;  $df = 39$ ;  $p < .001$ ) and from week 4 to week 8 ( $t = 2.40$ ;  $df = 31$ ;  $p < .05$ ). Fantasy severity did not differ from week 8 to week 12 (Fig. 4). At the three follow-up visits, fantasy frequency levels were assessed by rating them from  $-1$  (decreasing in frequency) to  $1$  (increasing

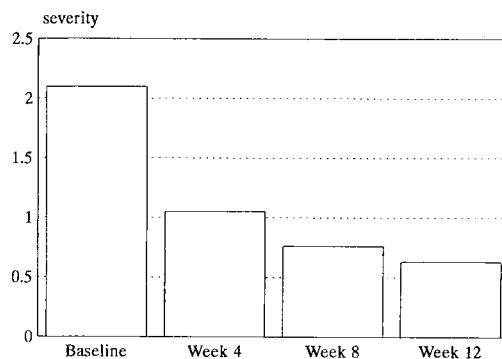
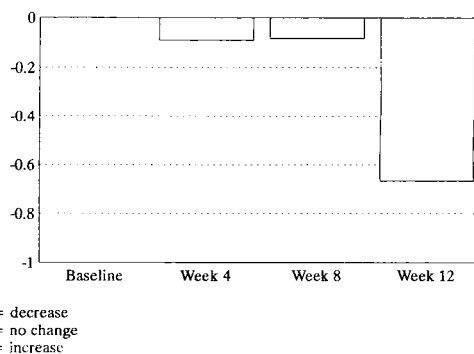


Figure 4. Severity of fantasy.

in frequency). A zero rating indicated no change (Fig. 5). The Wilcoxon matched pairs signed-ranks test showed a significant decrease in fantasy levels when comparing baseline with week 4 ( $Z = -4.54$ , two-tailed  $p < .001$ ) and from week 4 to week 8 ( $Z = -2.02$ , two-tailed  $p < .05$ ). Fantasy level did not differ from week 8 to week 12.

## Conclusion

This study did not find a difference among fluoxetine, sertraline, and fluvoxamine in reducing paraphilic fantasies. Furthermore, among the three SSRIs



$-1$  = decrease  
 $0$  = no change  
 $1$  = increase

Figure 5. Mean fantasy level.

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there was no significant relationship between the reported adverse effects and withdrawal of subjects from the treatment. Serotonin reuptake inhibitors appear to be effective in reducing paraphilic fantasies with a variety of paraphilias. The greatest decrease in paraphilic fantasies occurred over the baseline to four-week period, followed by the four- to eight-week period.

This was a retrospective study with no random assignment or control groups. Furthermore, not all subjects were seen exactly once a month and the subjects' self-report fantasies were rated on scales by the authors. There is a possibility, therefore, of differences between the three groups. Despite these limitations, our results do show that a significant improvement was realized in decreasing paraphiliac fantasies. An open trial study with a larger sample size would be desirable as a follow-up for reducing the missing data inherent in a retrospective study. A study of conventional sexual fantasies, urges, and behaviors would reveal important data on the benefits of SSRIs; these were examined in this study, but the data collected were insufficient to run any meaningful statistical analysis. Although this study lacks strict scientific rigor, it contributes to the beginning of a small body of literature supporting the use of fluvoxamine, fluoxetine, and sertraline in the treatment of the paraphilias.

Some clinicians have been sceptical about the efficacy of treating the paraphilic disorders with SSRIs. Adverse sexual dysfunction effects such as impotence and delayed ejaculation are widely reported in people using these agents.<sup>29</sup>

Therefore, it could be argued that these effects are merely side effects of the medications. However, Bradford and colleagues<sup>27</sup> have used both self-report and penile plethysmography measures to suggest that there is a differential treatment response of paraphilic symptoms as compared with conventional adult sexuality.<sup>27</sup> It can be hypothesized, therefore, that the paraphilic disorders are part of an OCD spectrum and possibly have a similar underlying pathophysiology. Further double-blind placebo-controlled study is needed to clarify the efficacy of the SSRIs in treating the paraphilic disorders. Finally, these agents should be seen as an adjunct therapy in a broad base of existing treatment modalities, rather than a panacea for these disorders.

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