Effectiveness of Fluoxetine on Various Subtypes of Obsessive-Compulsive Disorder

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Background: Obsessive-compulsive disorder typically begins early in life and has a chronic course. Despite the need for long-term treatment, the information about therapeutic effect on different clinical subtypes is limited.

Methods: Consecutive outpatients with obsessive-compulsive disorder were evaluated for response to a two-month fluoxetine therapy course by Yale-Brown obsessive-compulsive scale according to the clinical subtype of the disease.

Results: Of 265 patients, fluoxetine significantly decreased the symptoms in general. The mean Yale-Brown obsessive-compulsive scale in washers and patients with obsessive thoughts was significantly decreased after the intervention. The decrease in Yale-Brown obsessive-compulsive scale in checkers was not statistically significance.

Conclusion: Fluoxetine has sustained efficacy on patients with obsessive-compulsive disorder and is generally well tolerated. Fluoxetine has greater efficacy on washers and on obsessive thoughts than checkers.

Introduction

Obsessive-compulsive disorder (OCD) is characterized by obsessions and compulsions that are severe enough to interfere with daily functioning and cause significant distress. Such perfectionism brings difficulty in doing things anyway but their own, and an excessive devotion to work, as well as indecisiveness. The obsessive part is series of mental feelings which interrupts one’s mind in a repeated way while the compulsive part is a special repeating behavioral pattern as a response to obsessive thoughts or a mean to lessen the anxiety.

There are plenty of behavioral subtypes; washing, checking, and counting are the common ones, but the most common pattern of the obsessive thought is series of contamination, sexual and gender identity, and aggressive obsessions which are subdivided as obsessive thoughts. The prevalence of each type of OCD is different among different communities, but it has been estimated at 2.3 – 4% life-long.

OCD obeys a chronic and long trend. It has been reported that 85% of such patients experience a long period of illness; 10% of them show a significant reduction of symptoms while 2 – 5% of them enjoy a betterment periods with intervals of at least six months.

There are several etiologic theories for the role of the serotonin in outbreak of OCD reported by pharmacologic studies. Nevertheless, the exact mechanism is not known. Apparent etiologic role of neurotransmitters in OCD has increased the chance of using selective serotonin reuptake inhibitors (SSRIs) for treatment of OCD.

Fluoxetine, a well-known SSRI, is being used in a wide scale which causes a high effectiveness with
rational cost, less side effects, and good tolerability, acknowledged by several studies.\textsuperscript{1,3}

Range of clinical subtypes of the disorder has brought about different pharmacologic and non-medicated therapeutic methods (cognitive or behavior therapy) or combination of them, as well as electroconvulsive therapy and surgical treatments.\textsuperscript{2,3,7} Use of SSRIs, particularly high doses of fluoxetine (40 – 80 mg/day) is being used widely.\textsuperscript{4,6}

Researchers have compared the disorder according to the extent of symptoms (e.g., clinical subtype) while the difference of the subtypes in terms of response to treatment and long-term outcome is challenging.\textsuperscript{8–10}

Comparative treatment studies may allow us to target treatment to OCD subtypes, allowing us to offer more specialized treatment intervention for patients. We conducted this study to determine the effectiveness of fluoxetine on various subtypes of OCD.

**Patients and Methods**

Two hundred and sixty-five consecutive patients (154 women and 111 men) attended Razi Outpatient Clinic, Tabriz, who met the DSM-IV-TR criteria for OCD, were enrolled into this study. An interview by the same physiatrist was completed after clinical examination.

Individuals with a history of comorbid psychotic disorders, drug abuse, or medical illness were excluded. Yale-Brown obsessive-compulsive scale (Y-BOCS) was used to determine the severity of the illness before and two months after the therapy.

The patients were categorized into four groups according to their symptoms: 1) obsessive thoughts; 2) washers; 3) checkers; and 4) checkers and washers. High-dose fluoxetine (>40 mg/day) was prescribed for two months. Any possible effects of age, gender, level of education, marital status, and occupation on the therapeutic responsiveness were evaluated.

Therapeutic results, before and after the intervention, were analyzed by paired-sample Student’s \( t \)-test, using SPSS (version 13). A “response” was defined as occurring when patients’ total scores decreased by 25% or more from its baseline (at entry) value on the Y-BOCS.\textsuperscript{10} These rates were compared between groups by \( \chi^2 \) test.

**Results**

Patients with obsessive thoughts (\( n=108 \)) and washers (\( n=80 \)) were the most common subtypes in the study population, followed by checkers (\( n=63 \)) and washers and checkers (\( n=14 \)). Sixty-six percent of the studied patients were married, 30% were single, and the remaining 4% were divorced or widowed.

Gender, literacy, and job of our patients did not affect the therapeutic outcome of fluoxetine therapy. Comparison based on the scores of Y-BOCS before and after fluoxetine therapy yielded a significant difference in general (\( P<0.001 \)).

The patients had a mean Y-BOCS of 22.98 before the intervention (i.e., severe form of OCD) which was decreased to 15.4 two months after the intervention—a fall of 7.58 in score as the reduction of symptoms and recovery.

The mean Y-BOCS in washers and patients with obsessive thoughts was significantly decreased after the intervention, while the decrease in checkers was not statistically significance.

Table 1 shows the mean YBOCS before and after the intervention in the study population.

The response rate was significantly higher in washers (75%) and patients with obsessive thoughts (86.4%) compared to checkers (31.7%) and washer-checkers (7.1%) (\( P=0.001 \)).

**Discussion**

OCD is a multidimensional and heterogeneous disorder. Diversity of clinical and compulsive behaviors has brought about different clinical

<table>
<thead>
<tr>
<th>OCD subtypes</th>
<th>( n )</th>
<th>Y-BOCS\textsuperscript{1} before the intervention</th>
<th>Y-BOCS\textsuperscript{1} after the intervention</th>
<th>( P ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obsessive thoughts</td>
<td>108</td>
<td>23.53</td>
<td>16.92</td>
<td>0.001</td>
</tr>
<tr>
<td>Washers</td>
<td>80</td>
<td>20.18</td>
<td>13.05</td>
<td>0.001</td>
</tr>
<tr>
<td>Checkers</td>
<td>63</td>
<td>24.20</td>
<td>21.00</td>
<td>0.141</td>
</tr>
<tr>
<td>Checkers and washers</td>
<td>14</td>
<td>34.00</td>
<td>32.00</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>265</td>
<td>22.98</td>
<td>15.40</td>
<td>0.001</td>
</tr>
</tbody>
</table>

\textsuperscript{1}Yale-Brown obsessive-compulsive scale.
subtypes of the disorder. Though there is no definite agreement on subtypes, therapeutic response and results for each subtype are different. The main goal of the present study was to examine the probable difference of therapeutic outcome with fluoxetine on different dimensions of OCD which are demonstrated as clinical subtypes.

Sero-tergic neurotransmitter systems have been implicated in the etiology of obsessional symptoms since the 1960's but studies concerning therapeutic effects on clinical subtypes of OCD are limited. Some indicate that both behavioral and medical therapy better affect ritual behaviors than obsessive thoughts in which response is often slow and incomplete. Well-known therapeutic effects of fluoxetine on symptoms of OCD were achieved in our study.

Pathologic checking and washing symptoms are the most common OCD symptoms and have been identified as being rather independent of each other. In a positron emission tomography study, increased regional blood flow was reported in the striatum of OCD checkers, and in the anterior cingulate and orbitofrontal cortex of OCD washers.

Symptoms of washers make greater discomfort for the patient with a desire to get rid of them. Patients with obsessive thoughts believe in inaccuracy of their thoughts which lead them to accept therapy while in checking type patients have enough reasons for their actions which make them avoid therapeutic helps. Recent studies have confirmed differences in the clinical features or treatment outcome between washers and checkers. Such studies support the potential clinical validity and utility of a washer-checker subdivision as well as the association between checker symptoms with obsessive-compulsive personality. Checking obsessions have been reported as a predictor for poorer outcome and associated to an inferior response to exposure and ritual prevention therapy in most but not all studies. In the current study, fluoxetine particularly affected obsessive thoughts and symptoms of washers opposed to checkers and gives added evidence to an inferior outcome of checking compulsions.

Such concepts and findings inform and expand the understanding of meaningful OCD subtypes. Further study of clinical characteristics such as long-term treatment response and illness path and outcome will likely help further delineate meaningful subtypes. Specific subtypes of OCD based on treatment response are beginning to be clarified, and may provide a framework from which further to conceptualize, combine, and describe what we understand of the variations in neurobiology, symptomatology, and treatment response in OCD.

In conclusion, the current study examined the effects of fluoxetine therapy on common clinical subtypes of OCD. The results confirmed the clinical efficacy of fluoxetine in achieving response and its better effect on relieving the obsessive thoughts and symptoms of washers.

References

5. Meltzer H, Bastani B, Jayathilake K, Maes M. Fluoxetine, but not tricyclic antidepressants, potentiates the 5-hydroxytryptophan-mediated increase in plasma cortisol and prolactin secretion in subjects with major depression or with obsessive-compulsive disorder. Neuropsychopharmacology. 1997; 17: 1 – 11.


