COMPARISON OF EFFICACY OF EXTENDED-RELEASE VENLAFAXINE VERSUS SERTRALINE IN TREATMENT OF PATIENTS WITH MAJOR DEPRESSIVE DISORDER

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ABSTRACT

Background: Major depressive disorder (MDD) is a common mood disorder. Treatment of this disorder would result in improved quality of life and reduction of disease burden. Hence in this study the efficacy of extended-release venlafaxine versus sertraline was determined in treatment of patients with major depressive disorder. Materials and Methods: In this randomized clinical trial, 34 consecutive patients with major depressive disorder attending to Golsetan Hospital were enrolled and randomly assigned to receive either extended-release venlafaxine or sertraline. The Hamilton scores were measured and compared at baseline and after second and forth weeks. Results: There were no statistically significant differences between Hamilton scores at baseline (P > 0.05). The Hamilton scores were significantly decreased after 2 and 4 weeks (P=0.0001) but the amounts of decrease in two groups were alike (P > 0.05). Conclusions: Totally it may be concluded that extended-release venlafaxine and sertraline are both effective in treatment of patients with major depressive disorder and each one may be used regarding patient's condition and physician's opinion.

KEYWORDS: Venlafaxine, Sertraline, Major Depressive Disorder.

INTRODUCTION

Major depressive disorder (MDD) is chronic relapsing disease with a lifelong prevalence rate of seventeen percent¹, ² and 71.8 percent of MDD patients, would experience more than one depression episode during their life period¹. It is determined by depressed mood and somatic symptoms and disturbed psychosocial function², ³ leading to decreased quality of life and
functional disability among affected patients. Also the family members may present some degrees of psychosocial dysfunction\(^4\). MDD would also lead to lost working days, increased health and rehabilitation costs, and increased mortality rate\(^5,6\).

More than half of MDD patients would have no optimal response to treatment and only twenty percent would have complete recovery of symptoms; among them 60 percent were under treatment with antidepressants\(^7\). However the selective serotonin-reuptake inhibitors (SSRI) are the first therapeutic choice for less adverse effects and more safety in comparison with other drugs, their efficacy is yet doubtful\(^7\). Sertraline which is from SSRI group is one of the most commonly used therapeutics for MDD cases\(^8-10\). Venlafaxine is another antidepressant from serotonin noradrenalin reuptake inhibitor (SNRI) group which may be used as alternative for SSRI drugs and may be used for treatment of MDD, generalized anxiety disorder, social anxiety disorder, and panic disorder\(^11-15\). The extended-release preparation of venlafaxine would develop better steady state and higher absorption rate with longer half-life time\(^15\). It would result in prescription of lower drug amounts and once-a-day use leading to higher satisfaction among patients and further cooperation by them\(^15\).

Concomitant effect of venlafaxine on serotonergic and noradrenergic systems, would develop the hypothesis that venlafaxine may have higher efficacy compared with SSRI drugs\(^15-18\). However there are some debates\(^19,20\). Hence in this study the efficacy of extended-release venlafaxine versus sertraline was determined in treatment of patients with major depressive disorder.

**MATERIALS AND METHODS**

In this randomized clinical trial, 34 consecutive outpatients and inpatients with major depressive disorder attending to Golestan Hospital were enrolled. Inclusion criteria were aging older than 18 years and established diagnosis of major depressive disorder according to Diagnostic and Statistical manual of mental disorder 4\(^{th}\) ed. (DSM IV-TR) who had 17-item Hamilton depression rating scale (HDRS-17) of more than 18 and no history of antidepressant treatment during current three months. The exclusion criteria were axis I and II comorbidity, suicidal or killing thoughts, pregnancy, severe unstable somatic problems, and drug hypersensitivity to SSRI or SNRI. Hypertension was not exclusion criterion because it may be seen in doses higher than 300 mg. However, the blood pressure monitoring was done all over the study and in cases of significant change in blood pressure, the drug dose was reduced and if continued the drug was discontinued and patient was excluded. Helsinki
Declaration was respected during study and informed consent form was signed by all patients. This clinical trial registered in Thai Clinical Trials Registry site with Trial Identification Number of TCTR20160527001.

Subjects were randomly assigned to receive either extended-release venlafaxine or sertraline. Extended-release venlafaxine was initiated with 75 mg and increased 37.5 mg each three days up to 375 mg based on patients' tolerance and response. Sertraline was initiated with 25 mg and increased 25 mg each three days up to 200 mg based on patients' tolerance and response. The Hamilton scores were measured and compared at baseline and after second and forth weeks. Also the patients were monitored for adverse effects.

Data analysis was performed among 34 subjects including 16 patients in sertraline group and 18 subjects in venlafaxine group. Data analysis was performed by SPSS (version 20.0) software [Statistical Procedures for Social Sciences; Chicago, Illinois, USA]. Chi-Square, Independent-Sample-T, and repeated-measure ANOVA tests were used and were considered statistically significant at P values less than 0.05.

RESULTS
The mean age was 32.56 ± 9.59 and 28.06 ± 6.32 years in sertraline and venlafaxine groups, respectively (P > 0.05). Seven subjects (43.8%) and five patients (27.8%) were male in sertraline and venlafaxine groups, respectively (P > 0.05). Four subjects (25%) and five patients (27.8%) had positive family history in sertraline and venlafaxine groups, respectively (P > 0.05). The mean duration of disease was 2.94 ± 2.48 and 1.86 ± 0.85 years in sertraline and venlafaxine groups, respectively (P > 0.05).

As shown in Table 1 there were no statistically significant differences between Hamilton scores at baseline (P > 0.05). The Hamilton scores were significantly decreased after two and four weeks (P=0.0001) but the amounts of decrease in two groups were alike (P > 0.05). As shown in Table 2 the frequency of adverse effects were alike between groups (P > 0.05).

<table>
<thead>
<tr>
<th>Hamilton score</th>
<th>Treatment</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Sertraline</td>
<td>29.38</td>
<td>3.81</td>
</tr>
<tr>
<td></td>
<td>Venlafaxine</td>
<td>29.44</td>
<td>6.02</td>
</tr>
<tr>
<td>2-Week</td>
<td>Sertraline</td>
<td>21.08</td>
<td>5.83</td>
</tr>
<tr>
<td></td>
<td>Venlafaxine</td>
<td>21.53</td>
<td>6.70</td>
</tr>
<tr>
<td>4-Week</td>
<td>Sertraline</td>
<td>8.00</td>
<td>5.77</td>
</tr>
<tr>
<td></td>
<td>Venlafaxine</td>
<td>7.20</td>
<td>5.59</td>
</tr>
</tbody>
</table>
Table 2 - Therapeutic adverse effects across the study in two groups

<table>
<thead>
<tr>
<th>Adverse effect</th>
<th>Sertraline</th>
<th>Venlafaxine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased Weight/Appetite</td>
<td>2 (12.5%)</td>
<td>4 (22.2%)</td>
</tr>
<tr>
<td>Agitation</td>
<td>1 (6.3%)</td>
<td>-----</td>
</tr>
<tr>
<td>Decreased Libido</td>
<td>2 (12.5%)</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>Nightmare</td>
<td>2 (12.5%)</td>
<td>-----</td>
</tr>
<tr>
<td>Discontinuation</td>
<td>5 (31.3%)</td>
<td>3 (16.7%)</td>
</tr>
<tr>
<td>More than Side Effect</td>
<td>1 (6.3%)</td>
<td>4 (22.2%)</td>
</tr>
<tr>
<td>None</td>
<td>3 (18.3%)</td>
<td>5 (27.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>16 (100%)</td>
<td>18 (100%)</td>
</tr>
</tbody>
</table>

DISCUSSION

In this study the comparative efficacy of extended-release venlafaxine versus sertraline in treatment of patients with major depressive disorder was determined and it was seen that there were no statistically significant differences between Hamilton scores at baseline, the Hamilton scores were significantly decreased after two and four weeks but the amounts of decrease in two groups were alike. De Silva et al. compared the efficacy and safety of venlafaxine versus sertraline in treatment of patients with major depressive disorder and it was seen that despite predominance of venlafaxine on fluoxetine; there was no significant difference with other SSRI drugs. They also reported higher discontinuation rate for adverse effects in venlafaxine group. However the frequency of side effects was alike between groups in our study.

Bauer and colleagues reported higher efficacy for venlafaxine compared with SSRI but discontinuation rate for side effects was alike. Bu the rates of side effects and efficacy were alike between two groups in our study. Better efficacy of venlafaxine was also reported by Thase et al. However they reported initiation time of response to treatment after two weeks in venlafaxine group and after four weeks in SSRI group; both venlafaxine and SSRI had good response after two and four weeks.

Machado and colleagues reported higher efficacy and lower discontinuation rate for SSRI in comparison with venlafaxine. But the efficacies of drugs were similar in our study. Nemeroff et al. reported that venlafaxine had higher and faster response rate compared with SSRI but with also higher rate of side effects which is not in congruence with our results. The difference in findings of two studies may be due to various used doses of drugs.

Totally it may be concluded that extended-release venlafaxine and sertraline are both effective in treatment of patients with major depressive disorder and each one may be used
regarding patient's condition and physician's opinion. However further studies with larger sample size and multi-center sampling are recommended to attain more definite results with further generalization ability and finding the best therapeutic choice for patients with major depressive disorder.

REFERENCES


