Effectiveness of Schema Therapy on Severity of Depression and Rumination in Patients with Treatment Resistance Depression

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Abstract

Background: schema therapy is an important method in treatment of mental disorders special in treatment of depression. This study aimed to determine the effectiveness of schema therapy on severity of depression and rumination in patients with treatment resistance depression. Method: This study was a quasi-experimental with a pre-test, post-test design that 48 patients with treatment resistance depression were selected through available sampling method and randomly assigned in tow groups. The experimental group educated 12 sessions of 90 minutes by schema therapy method. Groups completed the questionnaire of Beck depression (BDI-II) ruminative response scale (RRS). Data was analyzed with using the SPSS software and by multivariate analysis of covariance (MONCOVA) method. Results: The findings showed there was a significant difference between schema therapy and control group on severity of depression and rumination (P<0.05). Conclusion: Therefore, counselors and therapists can use schema therapy for decreasing symptoms of depression disorder and rumination.

Keywords: Schema therapy, Severity of depression, Rumination, Treatment resistance depression.

Introduction

Although acute depressive episodes in major depressive disorder (MDD) can be well controlled by medication, treatment of continuous and residual depression symptoms has received less attention than acute depression episodes and most of depression views emphasize on its episodic nature. While evidence suggests that the number of people with major depressive disorder (MDD) do not get rid of this episodes and show signs of continuous and residual MDD [1].

In some cases, after controlling severe symptoms of the episodes, sub-syndromal symptoms of depression are common and even continuous [2] and in other cases patients show symptoms in a relatively long time (24 months) and even with the exorbitant costs they will not be improved which are known as treatment-resistant depression (TRD).

Despite improvements in diagnosis of public health importance of treatment-resistant depression, a certain definition that accommodate everyone is still not provided. Garden believes that major depression remission should be the ultimate goal of the treatment and non-remission should be considered as the criterion of the presence of treatment-resistant depression (TRD) [3]. Berlin and Turecki suggest that treatment-resistant depression is an episode of major depression that, even after applying two courses of drug treatment with enough time and dose has not been improved (p. 73). They also believe that
treatment-resistant depression (TRD) should be considered as a continuum range of partial response to complete resistance to therapy not as an all-or-nothing phenomenon [4].

One of psychiatric therapy recently used for the treatment of patients with treatment-resistant depression is schema therapy. According to the theory of schema therapy, patients with mood disorders have maladaptive schemas leading to severe symptoms of this disorder. Schemas lead to our purposive interpretations of events, and these biases in psychopathology for interpersonal misunderstandings, distorted views, wrong speculations, and unrealistic prospects are identified [14].

Schema therapy approach focuses on self-destructive patterns, feelings and behaviors that originate from one's childhood and are repeated throughout a person's life. These patterns are called "early maladaptive schemas" [15]. These maladaptive schemas lead to the growth and development of psychological problems. Harmful schemes which are started from early growth flow and continues throughout life [15]. Early maladaptive schemas are the deepest level of cognitive structures which show themselves in relation to the environment and others and are activated in certain circumstances [16] and lead to the rumination [7].

Given that depression episodes may be perceived as unpleasant experiences, it seems that these experiences will create dysfunctional beliefs about depression and its consequences. Later, events that are consistent with these schemas (e.g., negative mood, lack of pleasure, decreased or increased sleep and appetite, lack of concentration and fatigue), lead to activation of this scheme and formation of a new depressive episode or the recurrence of depression and thus reduce treatability [17].

Therefore, dealing with this part of the psychological characteristics of depressed people is essential because on the other hand, research has shown that, schemas in treatment-resistant patients even with the drug, can maintain their stability in a 9-year period [18]. Schema Therapy takes wide aspects of one's life and are essentially used for people with high durable emotional and behavioral problems [15], because it is expected to help people with treatment-resistant depression have emotional stability problems. In this regard, studies support the effectiveness of schema therapy on major depression [19, 17, 20 and 21]. But so far no study has evaluated the effectiveness of schema therapy on patients with treatment-resistant depression. Just in a study conducted by Ashoori with 60 students who had symptoms of depression and anxiety, the effectiveness of schema therapy and individual cognitive therapy was compared with each other and finally it was reported that both treatment protocols have resulted in a significant decrease in symptoms of depression and anxiety.

However, schema therapy is significantly more effective in alleviating the symptoms compared to cognitive therapy. This difference was also significant in the two-month follow-up period. Therefore, the aim of this study was to detect the effectiveness schema therapy on reducing the severity of depression and rumination in patients with treatment-resistant depression [22].

**Methodology**

This study is practical in terms of purpose and, quasi-experimental with pretest-posttest in terms of data collection. The study population included all patients with treatment-resistant major depression referred to the psychiatric ward of Oil Corporate and Sadoughi hospitals from June 2015 to July 2016. Of this population due to the volume effect of 0.35 at level of 0.05 with test power of 97 (23) 48 cases (11 men, 19 women) with a mean age of $33.53 \pm 9.63$ were selected with available sampling.

Then they were randomly assigned to groups of schema therapy and control group. Criteria for inclusion were: Getting a score higher than 19 on the Beck Depression Inventory (BDI-II), receiving a diagnosis of major depressive disorder in the structured interview for axis I disorders (SCID-I), using antidepressants over a period of at least 3
months without improvement and the reluctance to use drugs now, having age between 19 to 50 and literacy at school level. Exclusion criteria were as follows: diagnosis of bipolar disorder, diagnosis of borderline personality disorder in the structured interview for Axis II Disorders (SCID-II), using antidepressants now, having physical and medical diseases, drug dependence, high risk for suicide plans (score above 19 on a scale of Beck’s suicide or positive response to the question whether you have a decision for suicide?) and receiving psychotherapy in the past 12 months (to control transition, interactions effects and effects of delayed treatment).

**Tools**

Structured Clinical Interview for Axis I and II disorders in DSM-IV-TR (SCID-I and SCID- I). SCID-I is used for measurement of axis I disorders and has two clinician version (SCID-CV) and is the research version that, the clinician version was used in this study. This version covers disorders that are more common in clinics and is shorter than the research version and is started with an open interview about the current illness and disease of earlier periods. This version covers six disorder areas (mood episodes, symptoms of psychosis, psychotic disorders, mood disorders, substance use disorders and anxiety) [24]. CID-II is used to assess personality disorders (Axis II) and covers all relevant disorders. Kappa index has been estimated for category diagnosis from 0.48 to 0.98 and for sub-category diagnosis from 0.09 to 0.98 [25]. Its internal consistency coefficient has been reported from 0.71 to 0.94 [25].

Beck Depression Inventory -2 (BDI-II): This questionnaire developed by Beck, Steer & Brown (26) for measuring the severity of depression is composed of 21 items. Each item has a score between zero and three. Anyone can obtain a score between zero and 63 and higher scores indicate more depression. The score of zero to 13 indicates minor depression or absence of depression, score of 14 to 19 indicates mild depression, score of 20 to 28 shows the average depression and the score of 29 to 63 indicates severe depression. Beck and colleagues [26] reported internal validity of the questionnaire of 0.73 to 0.86 and with average of 0.86 and alpha coefficient of 0.92. Dobson and Mohammad Khani in Iran (2007) obtained alpha coefficient of 0.92 for outpatients and 0.93 for non-clinical group and test-retest coefficient of 0.93 for the interval of one week [27].

Ruminative responses scale (RRS): RRS is a single-factor scale which has 22 terms and the respondents are asked to rate each term on a scale from 1 (never) to 4 (very often) and the range of scores is from 22 to 88 that the higher scores indicate higher ruminative. Cronbach’s alpha ranged from 0.88 to 0.92 [28]. In Iran, Bagherinejad et al (2010) estimated its concurrent validity with depression questionnaire and Beck Anxiety as 0.79 and 0.56 respectively [29].

**Research Implementation Process**

For conducting this study, among patients referred to psychiatric wards of Oil Corporate and Sadoughi hospitals, those who had major depression based on a psychiatric interview and were taking antidepressants for at least 3 months with informed consent were requested to refer psychiatric ward of Oil Corporate and Sadoughi hospitals in a separate opportunity with receiving the cost of transportation for benefiting free psychological services. Based on structured interviews for axis I and II disorders among patients 48 estimated the criteria of this study that, 24 of them were randomly assigned to the schema therapy group and 24 cases were assigned in the control group. The second version of the Beck Depression Inventory (BDI-II) and rumination response scale (RRS) was conducted in the pretest. After the initial assessment process for major intervention for testing groups was began and after 12 (90-minute) sessions for the Schema Therapy Group based on two measures mentioned, both groups were retested.

During this period, the control group did not received any intervention, but 3 of them after sixth week of study treatment had started to take psychological medicines. Of course, in the process of study, 5 subjects (3 of the schema therapy group, and 2 of control group) fall out and the number of samples was reduced to 43 people. After
completion of the study, the control group was for under the schema therapy treatment for 8 sessions. Finally, multivariate covariance analysis (MANCOVA) was conducted using SPSS version 19 software.

The content of schema therapy sessions for groups of experiments can be observed in Tables 1 and 2.

**Table 1: The content of schema therapy**

<table>
<thead>
<tr>
<th>Session</th>
<th>Summary of intervention content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction, pilot, understanding, early presentation of the problem by the participants, Assignment: completing the short form of the Yang’s questionnaire of early maladaptive schemas.</td>
</tr>
<tr>
<td>2</td>
<td>Formulation of the clients’ problems based on schema-based approach, historical measurement, schema measurement, Assignment: completing parenting style questionnaire to identify the root of Schema.</td>
</tr>
<tr>
<td>3</td>
<td>Hypothesizing about schemas, mental imagery, educating the patient about the schema, Assignment: completing Young’s coping styles questionnaire.</td>
</tr>
<tr>
<td>4</td>
<td>Assessment of coping strategies, overcoming schema avoidance, completing conceptualization of the patient’s problem in the form of schema-oriented approach, Assignment: Identifying and noting avoidance schema.</td>
</tr>
<tr>
<td>5</td>
<td>Schema validation test in different periods of life, examining agree and disagree evidence from childhood to adulthood, a new definition of schemas supporting evidence of the assessment of the advantages and disadvantages of coping responses, Assignment: making a list of supporting and rejecting evidence for the Schema.</td>
</tr>
<tr>
<td>6</td>
<td>Schema validation test, schema conversion to three fundamental ideas and testing them, assessing the advantages and disadvantages of coping responses, Assignment: making a list of advantages and disadvantages of coping responses.</td>
</tr>
<tr>
<td>7</td>
<td>Schema validation test, providing the logic of experimental techniques, educating and making Schema training cards, Assignment: developing similar training cards to deal with the scheme.</td>
</tr>
<tr>
<td>8</td>
<td>Establishing a dialogue between the schema side and the healthy side and technique training, visualization for intervention, imaginary dialogue, Assignment: using educational cards and establishing a dialogue between the schema side and the healthy side.</td>
</tr>
<tr>
<td>9</td>
<td>Working with the mental images in order to bordered reparenting, reconstruction of traumatic memories in order to remove blocked emotions and get the support and relaxation, writing letters to important people in life, Assignment: Writing letters to important people in life.</td>
</tr>
<tr>
<td>10</td>
<td>Behavioral pattern-breaking, prioritizing behaviors for pattern-breaking, increasing motivation to change behavior, reviewing the advantages and disadvantages of continuing treatment, assignment: making a list of advantages and disadvantages of schema-driven behaviors.</td>
</tr>
<tr>
<td>11</td>
<td>Behavioral pattern-breaking, practicing healthy behaviors through mental imagery and playing role, identifying barriers to behavior change, Assignment: making a list of barriers to behavior change.</td>
</tr>
<tr>
<td>12</td>
<td>Behavioral pattern-breaking, overcoming barriers to behavior change, dialogue between healthy aspects and aspects of barrier, post-test.</td>
</tr>
</tbody>
</table>

**Findings**

In analyzing the data, the descriptive findings were evaluated. Table 2 shows descriptive information about the severity of depression and rumination in pre and post tests for each groups.

**Table 2: Mean and standard deviation of depression and suicidal thoughts for each sample groups.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Stage</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Schema-therapy</td>
<td>34/47</td>
<td>5/42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control</td>
<td>35/33</td>
<td>4/62</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>Schema-therapy</td>
<td>20/07</td>
<td>4/96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control</td>
<td>33/87</td>
<td>5/87</td>
</tr>
<tr>
<td>rumination</td>
<td>Pretest</td>
<td>Schema-therapy</td>
<td>61/47</td>
<td>4/30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control</td>
<td>61</td>
<td>2/59</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>Schema-therapy</td>
<td>34</td>
<td>2/56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control</td>
<td>61/20</td>
<td>3/46</td>
</tr>
</tbody>
</table>
For comparative analysis of the effectiveness of schema therapy (independent variables) on depression and rumination (dependent variables), the assumptions of multivariate analysis of covariance were evaluated and the results showed that the assumptions of lack of multiple co-linearity (0.80< correlation between the dependent variables), normality of the dependent variables using Kalmagrof-Smirnov (P>0.05), homogeneity of variances (P>0.05) and equality of dependent variables covariance (P>0.05) are considered. Thus, the data was analyzed using multivariate covariance analysis and multiple test results showed that there is a significant difference in the linear combination of dependent variables in three groups of group metacognitive therapy and control group schema therapy (X ETA=0.79, P<0.0001, 72.13 F (74,4), Wilks Lambda=0.042).

Since multiple test was significant, the results of tests of between-group effects were evaluated which are reported in Table 3.

<table>
<thead>
<tr>
<th>dependent variable</th>
<th>source</th>
<th>Sum of squares of third order</th>
<th>Degree of freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>significance</th>
<th>Chi Eta</th>
<th>Testing power</th>
</tr>
</thead>
<tbody>
<tr>
<td>depression</td>
<td>pre-test</td>
<td>224/99</td>
<td>1</td>
<td>224/99</td>
<td>11/06</td>
<td>0/002</td>
<td>0/22</td>
<td>0/90</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>1423/38</td>
<td>2</td>
<td>711/69</td>
<td>34/98</td>
<td>0/0001</td>
<td>0/64</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>773/23</td>
<td>38</td>
<td>20/35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rumination</td>
<td>pre-test</td>
<td>2/26</td>
<td>1</td>
<td>2/26</td>
<td>0/11</td>
<td>0/74</td>
<td>0/003</td>
<td>0/06</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>6632/70</td>
<td>2</td>
<td>3316/35</td>
<td>365/09</td>
<td>0/0001</td>
<td>0/95</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>345/17</td>
<td>38</td>
<td>9/08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As Table 3 shows there is a significant difference between three groups studied in both variables (depression and rumination) (P<0.0001). As Table 3 shows, there is a significant difference between schema therapy and control group in reducing the severity of depression and rumination (P<0.05). However, according to Table 3 Schema therapy leads to a further reduction in the severity of depression and rumination.

**Discussion**

The aim of this study was to detect the effectiveness of schema therapy on reducing the depression and rumination in patients with treatment-resistant depression. The results of this study showed that schema therapy significantly contributes to reducing the severity of depression and rumination. In fact, this treatment not only reduces dysfunctional thoughts and irrational beliefs but also reduces behavioral strategies ineffective by targeting high level factors of cognitive control.

In other word, schema therapy also significantly contributes to reducing the severity of depression and rumination which is consistent with the findings [19, 31, 20, 21]. To explain these findings it can be said that, given the importance of Childhood Trauma in patients with treatment-resistant depression [32] and emphasis of schema therapy on dysfunctional beliefs created during childhood to adulthood it uses a lot of principles and techniques (such as limited and bordered reparenting) to reconstruct and change them. In this regard, it can be said that, schema therapy elements consisted of cognitive-behavioral, Gestalt, attachment, object relations, constructivism and psychoanalysis approaches in a therapeutic model [15].

However, previous studies indicate impaired object relations in non-chronic and treatment-resistant depressed patients [13], studies also show parent-child relationships deficiency in patients with treatment-resistant depression in childhood compared to major depression and more insecure attachment in patients with treatment-
resistant depression compared to major depression have been shown [13]. As a result, it seems logical that schema therapy will be effective by combining different approaches (attachment, object relationships, etc.) in the form of a treatment model in the patients with treatment-resistant depression.

Experimental techniques help patients to provide the context for the improvement of the schemas with the emotional reorganization, assessing their new learnings, interpersonal emotion regulation, and self-relaxation. On the other hand the patients can conduct hypothesis testing of the schemas using these techniques and by providing schemas and its relation to current issues, the ground will be prepared for emotional insight and subsequently for improvement of schemas.

The use of mental imagery causes that the person identifies the main schemas, understands the roots of its development and considers the relevance of these roots to its current life. In addition it causes to promote understanding of the patient and help him to move from rational understanding toward emotional experience the excitement. In an imaginary dialogue technique, the appearance of main emotions such as anger, has prepared the ground for emotional discharge and creates the distance from the scheme.

Mental imagery to break the pattern causes to take distance from avoidance coping styles and excessive compensation. On the other hand, using the technique of writing, patients find a fine opportunity to express their rights and recognizing their feelings [15]. Based on Yang et al (2003) Schema Therapy’s aim is to help to satisfy unsatisfied emotions. When during the treatment process, these emotional needs are satisfied to some extent, opportunity for improving schemas are provided because maladaptive schemas are mainly created due to the lack of satisfaction of emotional needs.

Another part of schema therapy approaches is the focus on inefficient coping styles in patients which have been continued from childhood into adulthood. According to studies, changing coping style in patients with depression has been associated with reduced depressive symptoms [20] that, schema therapy tries to change these styles in the patients by using techniques to modify maladaptive coping styles (e.g. flash card).

Like all research, this study was not without limitations. One of these limitations is related to the generalizability of the results because the available samples have been used. The use of self-assessment tools to collect the data with the risk of bias and lack of follow-up period are the limitations of this study, because the investigation of the sustainability of health effects, particularly in patients resistant to treatment seems very important.

Because the investigation of sustainability of health effects, particularly in patients resistant to treatment seems very important. Also lack of access to appropriate and equal number of participants is another limitation of this study, because all depressed patients did not experience the same periods of depression and even did not have the same amount of medication. It is recommended that these restrictions should be avoided in future studies and the effectiveness of this treatment should be compared with emerging therapies especially emotional schema therapy (Leahy, 2015) that are indebted to schema therapy and meta-cognitive therapy.

References


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