Effectiveness of Cognitive Behavior Therapy on the Quality of Life and Reduction of Symptoms in Women with Body Dysmorphic Disorder (BDD)

Seyyed Jalal Younesi (Ph.D), Somayyeh ghadimi, Mahdi sharifi, Sajad Sohrabnejad, Shafiq Mehraban, Soraya Azimiyan, Kazem Khazan

ABSTRACT

This research aims at determining the effectiveness of cognitive behavior therapy on the quality of life and reduction of symptoms in women with body dysmorphic disorder. The research method is experimental type and the statistical population consists of all female clients suffered from body dysmorphic disorder visited the health and clinical center of Ardebel City (Iran). The sample size composed of thirty female patients that randomly divided into two experimental and control groups. Body-image and quality of life questionnaires are used for data gathering. The covariance analysis is used as a method of data analysis. Obtained results of body-image questionnaire suggested that cognitive behavior therapy had effects on the improvement of symptoms in patients with body dysmorphic disorder. In addition, the results obtained from quality of life questionnaire stated that cognitive behavior therapy has significant influences on physical, environmental, social, and psychological levels of patients with body dysmorphic disorder.

INTRODUCTION

Body dysmorphic disorder (BDD) is known as the fear of deformity is a fairly common serious mental disorder which has been less studied and to have noticeable prevalence. This disorder is defined as an obsession by an imaginary defect in a person's appearance or may be with the slight physical anomaly, but to associate to excessive concerns [1]. Concerns about person's appearance may lead him to severe social isolation. In some case, it is likely that they just appear outside at nights when they cannot be seen or even stay for years at home. Thus, the quality of life of these patients is lower than usual. BDD is a disorder that is not well studied, partly because patients with BDD are more likely to visit dermatologists, surgical specialists or plastic surgeons rather than psychiatrists. BDD is very common among who undergoes plastic surgery [2,3]. They are not satisfied after a surgery, and then continue to do more surgeries [4]. The prevalence of this disorder is more common in the second and third decades of life. BDD causes reduced performance, reduced quality of life and increased suicidal thoughts and actions [5]. Concerns about BDD can also cause low self-esteem, depression, anger, anxiety and eating disorders [6]. The most common symptoms include delusions or belief assignment (usually the other's attention to the alleged defect), avoiding of mirrors and transparent surfaces or conversely too much looking at the mirror and trying to hide assumed defect (with makeup or clothing). This disorder is often associated with fear of rejection and feeling of low self-esteem, shame, shyness, worthlessness and being obnoxious. Insight is usually poor, and almost half of patients are delusional (that is, they are quite sure that their appearance is abnormal and their vision of that defect is the exact).
The majority of patients having their own ideas or delusions because they think that people to pay special attention to their faults and might stare at them, speak about him/her or make fun of him/her. Another prominent symptom of BDD is the obsessive behavior which to lead to full investigation or hiding an imaginary flaw. These behaviors can be seen as excessive mirror checking, excessive bathing or trimming or comparing him/her with the others, seeking reassurance from others or trying to convince others. These behaviors are hard to resist, and they are often tedious and time-consuming. Although the obsessions are not diagnostic criteria for BDD, it is interesting that more than 90% of patients suffering of BDD do obsessive behaviors [7]. Important body areas of preoccupation in women include breast, hips, weight and legs. While, men more concern with height, body hair, hair loss and genitals [6]. Single or divorced women constitute more than half of the patients. BDD begins in adolescence; an exact diagnosis of this disorder is performed 10 to 15 years after its initiation by mental health professionals [6]. BDD is commonly seen with the other psychiatric disorders and is often associated with depression, social phobia and personality disorders [8]. Association with anxiety disorders and alcohol as well as drug abuse are also common. Patients may also have personality disorders, thinking-behavior obsession, traits of schizoid and narcissistic [9]. BDD has likely biological, psychological and cultural-social roots. Given that cognitive behavioral approach is the dominant approach in the treatment of mental disorders, and several studies validated its efficacy. Hence, this study examined the effectiveness of cognitive behavioral therapy on the quality of life and reduction of symptoms in women with BDD.

METHODS AND MATERIALS

This study is of experimental type implemented as pre-test and post-test plan with the control group. Study subjects are patients with BDD visited public and private health and clinical centers in Ardebil City. Selected 30 patients were randomly divided into an experimental group (group under cognitive behavioral therapy) and a control group. Age of patients were between 15 and 35. To perform pre-test, first, the patients were asked to fulfill the body-image and quality of life questionnaires. Afterwards, the experimental group received 10 sessions of cognitive behavioral therapy while the control group received no intervention. With the completion of treatment, both groups were asked to fill out the questionnaires in order to determine the efficacy of CBT on experimental group.

In this study, two questionnaires of namely the Multidimensional Body-Self Relations Questionnaire (MBSRQ) and WHOQOL-BREF were used to collect data:

1. Body-image questionnaire, called MBSRQ is a valid questionnaire for the assessment of body-image. The questionnaire was developed by professor Cash in 1990. This questionnaire can be used for adolescents and young adults. The questionnaire included 34 items with 5 subscales: evaluation of appearance, attitude to appearance, preoccupation about excessive weight, weight classification perception and satisfaction with body areas. Psychometric properties of the questionnaire were confirmed in related literature such as in a study conducted by Cash in 1994. Internal consistency of the subscale of appearance evaluation (AE) was 88% and the internal consistency of the subscale of body area satisfaction (BAS) was 77%. Moreover, the appearance AE subscale had a validation of 81% and BAS subscale had 86% validation. Validation report was achieved in two runs. Cronbach’s alpha coefficient has been reported to be 89% [10].

2. Quality of Life Questionnaire (WHOQOL- BREF) was developed by the World Health Organization. This questionnaire consists of 26 questions and measures four domains of physical health, psychological health, social relationships and environmental health. These questions are based on Likert rating scale such that score of 1 indicates a negative and low perception and score of 5 indicates positive and high perception. Validity of the questionnaire was evaluated by this instrument's capability of distinguishing the normal and patient groups using linear regression. Inter-cluster correlation value in all areas of the questionnaire has been achieved over 70%, but it was 0.55 in the domain of social relations.

Reliability of the test was 77% t [11], [12], the reliability of this questionnaire for the total scale was obtained using Cronbach’s alpha and bisection method in 89% and 83%, respectively.

Implementing Procedure:

The experimental group received CBT for 10 minutes while no intervention was considered for control group. At the end, both groups’ members were asked to fill out questionnaires to determine the effectiveness of the CBT on experimental group.

The number of treatment sessions was 10 each lasting 60 minutes. The sessions were implemented based on treatment package developed by Greenberg and Markowitz, 2010. Initial sessions were to inform members about the importance of implementation and enforcement of the questionnaire to obtain a baseline. In the next sessions, training of relaxation techniques by Jacobson method was done, afterwards how to think about filing daily thoughts record and to challenge their automatic and irrational thoughts were explained. Subsequently, the subjects were familiarized with the cognitive distortions and mistakes and common mistakes in their opinion were extracted and Socratic dialogue among subjects was conducted, then the downward arrow to
experimentally examine the cognitive mistakes was described. Ninth of the eighth sessions were dedicated for the methods of increasing mood and identifying activities that elevate behavior. And at the final session, the execution and completion of post-test questionnaires were performed to evaluate the effectiveness of the group sessions. Considering that two groups and at least two dependent variables there exist in this study, then Multivariate Analysis of Variance (MANOVA) appears to be suitable for data analysis of this study.

**Results:**

Pre-test mean scores and Standard Deviation (SD) for experimental group were 52.80 and 10.29, respectively; while for the control group the same quantities were 47.13 and 13.26, respectively. There were no significant differences between the two groups in the pre-test.

Post-test mean scores and SD for experimental group were 67.80 and 14.14, respectively; while for the control group these parameters stood at 49.06 and 13.94 respectively. There was significant difference between the two groups in the post-test.

Quality of life scores of subjects in the pre-test showed that mean scores and SD of experimental group in terms of psychological aspect were 9.53 and 3.56, respectively; whereas the same parameters for the control group reported as 10.66 and 2.66, respectively. The mentioned parameters in terms of physical aspect for the experimental group and control group were recorded as (12.00, 2.03) and (13.66, 2.82), respectively. Considering environmental aspect, these parameters for the experimental group were 14.33 and 3.82, and for the control group were 13.66 and 4.85. Finally, mentioned parameters for the experimental group in terms of social aspect stood at 6.80 and 2.83, while for the control group they were 7.13 and 2.41, respectively.

Quality of life scores of subjects in the post-test stated that mean scores and SD of experimental group in terms of psychological aspect were 19.93 and 3.21, respectively; whereas the same parameters for the control group stood at 12.80 and 3.64, respectively. These parameters in terms of physical aspect for the experimental group and control group were recorded as (21.40, 6.98) and (14.13, 5.91), respectively. Considering environmental aspect, the parameters for the experimental group were 21.20 and 6.98, and for the control group they were 15.73 and 4.31. At the end, mentioned parameters for the experimental group in terms of social aspect stood at 11.33 and 2.63, while for the control group they were 7.80 and 2.27, respectively. Regarding, post-test results, there was significant difference between these two groups.

**Table I: Analysis of covariance of Body - Image questionnaire**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean squares</th>
<th>F</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>2760.10</td>
<td>1</td>
<td>2760.10</td>
<td>26.95</td>
<td>0.00</td>
</tr>
<tr>
<td>Post-test</td>
<td>1384.28</td>
<td>1</td>
<td>1384.28</td>
<td>15.59</td>
<td>0.00</td>
</tr>
<tr>
<td>Error</td>
<td>2765.22</td>
<td>27</td>
<td>102.41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of results given in Table I shows that the effect of CBT on symptom of BDD is significant (F=13.5, significant). That is, level of improving symptoms in the experimental group was significantly higher than that of the control group. Hence, it can be concluded that cognitive behavioral therapy reduces symptoms of illness in women with BDD.

**Table II: Analysis of covariance of CBT on quality of life aspects**

<table>
<thead>
<tr>
<th>Source</th>
<th>Degree of freedom</th>
<th>Physical aspect</th>
<th>Environmental aspect</th>
<th>Social aspect</th>
<th>Psychological aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>1</td>
<td>269.60**</td>
<td>248.71**</td>
<td>98.66**</td>
<td>78.55**</td>
</tr>
<tr>
<td>Post-test</td>
<td>1</td>
<td>586.29**</td>
<td>187.23**</td>
<td>106.19**</td>
<td>433.85**</td>
</tr>
<tr>
<td>Error</td>
<td>27</td>
<td>19.28</td>
<td>33.47</td>
<td>248.71**</td>
<td>433.85**</td>
</tr>
</tbody>
</table>

Table II shows the effect of group (difference between control and experimental groups) on the quality of life is significant. It can be therefore concluded that cognitive behavior therapy on physical, environmental, social, and psychological impact are significant. Thus, according to these results, it can be argued that the latter hypothesis is confirmed.

**Table III: Analysis of covariance of Body - Image questionnaire**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean squares</th>
<th>F</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>2213.53</td>
<td>1</td>
<td>2213.53</td>
<td>37.16</td>
<td>0.00</td>
</tr>
<tr>
<td>Post-test</td>
<td>4791.74</td>
<td>1</td>
<td>4791.74</td>
<td>80.46</td>
<td>0.00</td>
</tr>
<tr>
<td>Error</td>
<td>1607.92</td>
<td>27</td>
<td>59.55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analyzing the results given in Table III shows that the effect of CBT on symptom of BDD is significant (F=80.46 in 0.05 level is significant). That is, level of improving symptoms in the experimental group was significantly higher than that of the control group. Hence, it can be concluded that cognitive behavioral therapy has different effects on quality of life of women with BDD.
Discussions and Conclusion:
In this study, the effectiveness of cognitive behavioral therapy on quality of life and symptoms reduction in women with BDD was investigated. The analysis results showed that the effect of CBT on symptoms of BDD is significant. The results show that the improving symptoms in the experimental group was significantly higher than that of the control group. Hence, it can be concluded that cognitive behavioral therapy reduces symptoms of illness in women with BDD because CBT to have good capacity in challenging of thoughts of this patients and to modify their behavior through some home works. These results are consistent with the findings of studies of [13,14,15,16,17,18,19,20,21,22]. In fact, they all came to the conclusion that the symptoms of patients with BDD can be reduced by CBT training. These findings can be explained in this way that the thoughts and beliefs of patients, as well as behaviors associated with these thoughts and their avoidance behaviors are reduced by cognitive restructuring and behavioral techniques such as exposure and prevention of response. The obtained findings are consistent with other studies [22,23,24]. In explaining this result, one can say that training of cognitive and behavioral strategies improves symptoms of disorder and influences on a person's personal and social life, thereby increasing the quality of life of patients suffering from BDD. The analysis of covariance also showed that the effect of CBT on quality of life is significant. Hence, it can be concluded that CBT training have noticeable effects on the quality of life of women with BDD. The limitations of this study was the lack of follow up step to evaluate the efficacy of long-term therapy. Due to the specificity of recognition of patients with BDD, it is recommended to work specifically on cognitive schemata for these patients because to achieve specific cognition about these patients are effective in increased quality of treatment sessions.

Considering the importance of further research on this particular group and the particular needs and problems of these patients it is also suggested that other therapy methods are conducted. Moreover it is suggested to study the role of deterministic thinking (25) in development of BDD. The research show that deterministic thinking as cognitive distortion can create the cognitive rigidity and to develop wrong beliefs toward body image of these patients. This type of thinking ignores any possibility or probability in conclusion about the events. Equality is a dominant factor among all conclusions of this kind of distortion.

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REFERENCES