The Effect of Cognitive Behavioral Therapy on Reducing the Depression and Anger of Mothers with Autistic Children

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Abstract

Background and Objective: Depression and anger are the most common psychiatric disorders in mothers of children with autism. Prevention and treatment of predisposing factors is important, and reduces a lot of problems and costs. This study examined the effectiveness of group cognitive-behavioral therapy on anger control and depression reduction in mothers with autistic child.

Materials and Methods: In this quasi-experimental study, 30 mothers of children with autism were divided into 2 groups of 15 persons [experiment and control using available sampling method. In the experiment group, 8 weekly 2-hour treatment sessions were held. The data collection tools were Spielberger’s State-Trait Anger Expression Inventory and Beck’s Depression Inventory.

Results: The results were analyzed by analysis of covariance test. The research findings showed that cognitive behavioral therapy has significantly reduced depression scores [p <0/005] while having no significant effect on anger [P> 0/005].

Conclusion: The findings imply that developing a cognitive - behavioral therapy program can be effective on reducing depression among mothers of children with autism. The present study aimed to investigate the role of cognitive behavioral therapy in the prevention and treatment of these patients to be applied in the future works.

Keywords: autism, cognitive behavioral therapy, anxiety, anger.

Introduction

Autism spectrum disorders are cognitive and neuro-behavioral disorders with three main features: impaired socialization, impaired verbal and nonverbal communication and restricted and repetitive patterns of behavior, including autism, Asperger and unclassified types [1]. This disorder includes impaired social interactions and restricted behaviors [2]. Today, pervasive developmental disorders are considered on a spectrum on one side there are children with good social function, correct language expression and flexible attitudes, while on the other side, there are socially completely self-absorbed children who are silent and preoccupied in their behavior [3]. The average rate of autism in epidemiological studies is about 1 in every 100 births [4]. However, these figures are not the same in all countries and concerned with the Britain and America reporting the highest prevalence of autism. In addition to mental, physical, and physical traumas, autism spectrum disorder creates an environment full of stress and anxiety for the families of these patients [5]. Pervasive Developmental Disorder is one of various disorders that challenges many families [6]. Recent studies on the parents of children with autism show that the parents of these children experience higher stress compared with the parents of normal children and other children with special needs or chronic disease [7, 8, 9 and 10]. High levels of parental stress makes them more inclined to use inflexible and threatening and aggressive parenting method and less inclined to utilize treatment programs and services offered to the child. Thus, they will fail to decide about the most appropriate treatment strategy for children. This has a negative impact on children's growth and leads to more destructive behaviors [11]. Turnbull and Turnbull [12] suggested that stress of these family is increasing for the reasons changing over time. So, the
professionals should prepare families through a variety of strategies to enable them for dealing with these issues. All therapies had direct effect on improving cognitive and social processes of children with autism or indirect effect on improving the mental health of families, particularly mothers and ultimately improve the quality of life for all family members. Various studies have shown that parental involvement in the treatment process has a significant impact on the improvement of children with autism and mental health of parents [11]. Hatamzadeh, Pour Etemad and Khushabi [13] in their research showed that child-parent interaction therapy results in a significant decrease in behavioral problems of autistic children with high performance. Riahi [14] in a research confirmed the effect of negative mood management training on the mental health and depression in mothers of children with autism. Yektakah [15] assessed the quality of life and general health of mothers of children with autism and found that providing advisory services in this regard will be effective due to their poor general health and quality of life. Therefore, due to various problems of these children, their families, and especially mothers of children with autism suffering from anger and depression and the risk of mental health, supportive-cognitive behavioral intervention can be effective in improving mental health of mothers of autistic children.

Sample and sampling method
The study population consists of mothers of children with autism admitting to the Treatment and Rehabilitation Center for Children with Autism in Tehran in 2016. The inclusion criteria after interview were having no severe psychiatric and psychotic disorder based on pathology standards, having high school diploma and higher as well as completing the informed consent form.
The following questionnaires were used for data collection:

Spielberger’s State-Trait Anger Expression Inventory
The inventory widely used the state-trait anger expression in clinical and research situations related to anger and thus considered as a valid tool for studying various aspects of anger. The original version was published in 1988. It gives the scores of state-trait anger expression. The revised form was released ten years later under the abbreviation STAXI-2. This 57-point questionnaire contains 6 scales, five subscales and an anger expression index that provides an aggregate measure of anger express and control. The items 1 to 5 are assigned to the anger state scale, including 3 subscales of anger, feeling the need for verbal expression of anger, and feeling the need for physical expression of anger. The items 15 to 16 are assigned to measure the trait anger that includes anger subscales. The items 26 to 57 are assigned to the scale of anger expression and control. This inventory has adequate reliability and validity; its reliability has been approved in several investigations. In Iran, Navidi [2006] analyzed the inventory. The results of his study showed that Cronbach's alpha for the scales of anger trait and anger state were respectively 0.88 and 0.85. The coefficient for the subscales related to the above scales was in average of 0.76. The Cronbach's alpha was also 0.71 for the scale of anger control and expression. The evidence suggests that the scale and subscales of the questionnaire have sufficient reliability.

Beck’s Depression Inventory
This inventory is the short version of 21-point form proposed in 1972. The inventory is self-examination that requires 5 minutes to complete. The content of questions includes: sadness, pessimism, frustration, resentment, guilt, self-hatred, self-destruct, social withdrawal, indecisiveness, trouble at work, fatigue and appetite. Each question has four options that scores of 0 to 3. The score of person is the total score of questions.

The material of group cognitive-behavioral therapy session
First session: taking pre-test, specifying the time, place and duration of meetings, introduction with each other and creating a safe atmosphere to express feelings and trust in each other and explaining the goals.
Second session: introduction of the CBT, discussing with the mothers about autism and its effects on the family, identifying negative and inconsistent thoughts, how to challenge, helping to explore the relationship between mood and daily activity.
Third session: Discussion and determining anger and depression and its causes and symptoms in mothers of children with autism, providing a rationale for homework, clarifying and prioritizing the goals, identifying and dealing with the thoughts related to the ineffectiveness of the disease, realistic goals, relaxation training.

Fourth session: Discussion about identifying the causes and aggravating factors, explaining the coping skills and doing relaxation exercise, providing anger management plan, and encouraging mothers to gain social support and increase personal resources.

Fifth session: Working on cognitive restructuring, regular planning for daily activities, problem-solving skills.

Sixth session: Continue working on cognitive restructuring, problem-solving training, understanding the signs of anger, feeling expression, relaxation technique.

Seventh session: Strategy of coping with anger, distraction, empathy and showing it.

Eighth session: Reviewing the intervention and treatment goals, reviewing the application of problem-solving skills in social-mental issues, providing feedback on progress and successful and unsuccessful aspects of treatment.

Findings

The data from this study were described using descriptive statistics such as mean and standard deviation. Then, differences between the experimental and control groups were investigated using inferential statistics [analysis of covariance]. Table 1 shows the descriptive indicators of pretest and posttest of depression and anger in two experimental and control groups.

Table 1. Descriptive statistics [mean and standard deviation] separately for the two groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Depression pretest</td>
<td>0.667/22</td>
<td>1.094/13</td>
</tr>
<tr>
<td>Control</td>
<td>Depression posttest</td>
<td>1.333/19</td>
<td>1.395/13</td>
</tr>
<tr>
<td>Control</td>
<td>Anger pretest</td>
<td>0.000/140</td>
<td>0.939/5/15</td>
</tr>
<tr>
<td>Control</td>
<td>Anger posttest</td>
<td>1.380/000</td>
<td>0.667/15</td>
</tr>
<tr>
<td>Experiment</td>
<td>Depression pretest</td>
<td>1.800/000</td>
<td>0.511/11</td>
</tr>
<tr>
<td>Experiment</td>
<td>Depression posttest</td>
<td>0.950/000</td>
<td>0.513/7</td>
</tr>
<tr>
<td>Experiment</td>
<td>Anger pretest</td>
<td>3.182/127</td>
<td>0.862/14</td>
</tr>
<tr>
<td>Experiment</td>
<td>Anger posttest</td>
<td>1.227/126</td>
<td>0.422/11</td>
</tr>
</tbody>
</table>

Intensive and extensive review of these indicators shows that cognitive-behavioral interventions in the experimental group can cause significant changes in the dependent variable indicators of depression. But the dependent variable of anger is not affected significantly. There is no change in the control group with no intervention.

Table 2. Results of covariance analysis of the impact of cognitive behavioral group therapy on the average score of depression in the experimental and control groups

<table>
<thead>
<tr>
<th>Source changes</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance level</th>
<th>Square Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>5.60/3736</td>
<td>1</td>
<td>5.60/3736</td>
<td>0.28/69</td>
<td>0.000</td>
<td>5.85/0</td>
</tr>
<tr>
<td>Group</td>
<td>1.97/574</td>
<td>1</td>
<td>1.97/574</td>
<td>0.60/10</td>
<td>0.02/0</td>
<td>1.78/0</td>
</tr>
<tr>
<td>Error</td>
<td>4.90/652</td>
<td>49</td>
<td>1.38/54</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen, the results indicate that the null hypothesis is rejected and cognitive behavioral therapy significantly reduced depression \( P=0.002 \) and \( F[1,49]=10.608 \). The results show that there is a significant difference between experimental and control in the adjusted post-test average. The severity of this impact has been assessed to be 1.8% using Square Eta.
Table 3. Results of covariance analysis of the impact of cognitive behavioral group therapy on the post-test average score of anger in the experimental group and control

<table>
<thead>
<tr>
<th>Source</th>
<th>Total</th>
<th>Degree</th>
<th>Average</th>
<th>F</th>
<th>Level</th>
<th>Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>250/631</td>
<td>1</td>
<td>250/631</td>
<td>974/108</td>
<td>0.000</td>
<td>690/0</td>
</tr>
<tr>
<td>Group</td>
<td>663/103</td>
<td>1</td>
<td>663/103</td>
<td>757/1</td>
<td>191/0</td>
<td>035/0</td>
</tr>
<tr>
<td>Error</td>
<td>814/2891</td>
<td>49</td>
<td>017/59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen, the results suggest that CBT does not have a significant impact on anger [P=0.191] and F[1,49]=1.757. Although the effect observed is 3.5%, the effect is not significant.

**Conclusion**

This study examined the effectiveness of group cognitive-behavioral therapy on anger control and depression reduction in mothers with autistic child. The results of this study showed that cognitive-behavioral therapy significantly reduced depression in the experimental group which is consistent with the findings of [18, 19,14; 21,20]. A research [Shaw and Long, 2011; Harris and Drian 2006; Wilde, 2004; Carlet and Cadenso, 2002] in relation to the effectiveness of cognitive therapy on the general health and depression of normal people showed that this method was effective. Sharpely et al. [1997] suggest that the mothers of these children usually have greater stress than fathers and some fathers consider the stress of their wife even more threatening than the child’s problems. They show a wide range of emotions such as anger and depression and concern about the community's response to this problem and seek a way to end this suffering. They lose the mental energy and a lot of time that should be spent for real acceptance and treatment of children. So it seems that the use of cognitive-behavioral therapy through relaxation techniques and identifying negative thoughts could be effective in controlling depression of these people. The results of hypothesis suggest that cognitive behavioral group therapy had little impact on anger management of the mothers with autistic children. These findings are consistent with the following studies. Riahi [14] and Mami [17] also indicated that this treatment has no significant impact in response to frustration, anger, and avoiding the problem. Limitations of parents to attend in longer sessions and compact sessions due to the clinic's programs as well as sampling limitations have caused the parents to receive less support. Reduction of stress and anger depends on the support of the attending to program [Kane et al., 2010]. Parents who received more support had positive effects on mental health and reduced the negative consequences of this disorder. Since the deleterious effects of stress, depression and anger is one of the important aspects of the mental health of the individual and the community, providing appropriate treatment methods can not only solve the problem but also give useful knowledge to the mothers in this area. Increasing the research duration and doing further study on fathers of children with autism can also be effective.

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