



## The Effect of Cognitive Behavioral Counseling on Parent-Child Relationship in Mothers of Children with Autism Spectrum Disorder

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### ABSTRACT

**Aims** Having a child with autism spectrum disorder can put a lot of stress and pressure on parents and affect their quality of life, as compared to parents of normal children. In this regard, the present study aimed to identify and determine the effectiveness of group cognitive behavioral counseling of the parents of children with autism spectrum disorder on their communication interactions with children.

**Participants & Methods** Population consisted of mothers of children with autism spectrum disorder in the city of Shiraz, of which 40 eligible volunteers were selected using purposeful sampling method and were randomly divided into two groups of 20 (control and experiment) in the academic year of 2018-2019. Data collected using the Child-Parent Relationship Scale (CPRS; Pianta). Having completed the questionnaires by the target population, the experiment group received the intervention training program of group cognitive behavioral counseling for 10 one-hour sessions. However, the control group received no intervention training. Multivariate covariance analysis and SPSS 22 were used to analyze data. The significance level was considered as 0.01.

**Findings** The group cognitive behavioral counseling for mothers of children with autism spectrum disorder was effective on communication interaction with children and improved it ( $p = 0.001$ ). Regarding the assessed effect, it should be noted that the degree of changes, according to eta coefficient (effect rate) was 23.3%.

**Conclusion** According to the findings, group cognitive behavioral intervention method can be effective on improving parenting for children with autism spectrum disorder.

**Keywords** Cognitive Behavioral Counseling; Autism Spectrum Disorder; Parent-Child Interactions; Mothers

### CITATION LINKS

- [1] Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry [2] Diagnostic and statistical manual of mental disorders [3] High functioning autistic children and the construction of "normal family life" [4] Group techniques [5] In: Wedding D, Corsini RJ, editors. Current psychotherapies [6] Support for the parents of Adolescents: A review [7] The role of parenting dimensions and child-parent relationship in children's internalized and externalized behavioral problem [8] Parent and family impact of autism spectrum disorders: A review and proposed model for intervention evaluation [9] A mindfulness parent well-being course: Evaluation of outcomes for parents of children with autism and related disabilities recruited through special schools [10] The efficacy of cognitive behavioral therapy for adults with ADHD: A systematic review and meta-analysis of randomized controlled trials [11] Evaluating the effects of acceptance and commitment training on the overt behavior of parents of children with autism [12] Comparison of the advanced theory of mind skills in Turkish Children with autism and typically developing children [13] Parent Child Interaction Therapy (PCIT): Child Well-being through an effective Parenting Intervention [14] Research methods in education [15] Religious experiences and their relations with happiness and personality [16] Patterns of relationships between children and kindergarten teachers [17] Mothers' and fathers' perceptions of conflict and closeness in parent-child relationships during early childhood [18] Brief cognitive-behavioral therapy: Definition and scientific foundations [19] Comparison of parental stress in mothers of children with autism spectrum disorder with mothers of normal children [20] The impact of psychosocial Child Development training program, done through improvement of mother-child interaction, on parental self-efficacy and relationship between mother and child under three

## Introduction

Autism or autism spectrum disorder (ASD) is one of the pervasive developmental disorders, which is characterized by sustained destruction in social interactions, delayed or deviated communication, and limited stereotyped communication pattern [1]. According to the American Autism Association, there are different estimations of the frequency of autism disorder [2]. The current statistics demonstrate a prevalence of 0.5-1% in the population of each community. Regarding the families of these children, this issue becomes more acute. Because the functioning of each person within the family system influences other members' continuation, maintenance, and change of behavior. Autism spectrum disorder is characterized by problems in social functioning, communication, repetitive and stereotyped behaviors. Due to numerous problems these children have, families and especially mothers suffer a variety of psychological tensions and pressures. On the other hand, due to the adverse effects of autism spectrum disorder on the whole family, especially mother, and the impact of caregivers' quality of life on the child's life, which is affected by the dynamics of an autistic child, the parent-child relationship is affected [3].

To resolve this problem, various interventions have been suggested by the researchers, and group cognitive behavioral counseling is one of the most important ones. Cognitive behavioral therapy is a psychotherapy system, aiming at reducing self-destructive emotional and behavioral disorders through changing defective thinking and maladaptive beliefs that are the bases for emotional reactions [4]. This kind of therapy focuses on reducing the frequency and severity of maladaptive responses of patients and training new cognitive and behavioral skills in order to reduce unwanted behaviors and increase more adaptive behaviors. Such therapies increase children's awareness of thinking patterns that stimulate and direct their behaviors and teach them how to cope. All cognitive-behavioral approaches have common features and assumptions: 1) The relationship between therapist and patient; 2) Psychological distress mainly results from impairments in cognitive processes; 3) Focus on changing cognitive therapy to make desirable changes in emotion and behavior; 4) Focus on the present time and short term; 5) Active and guidance position of therapist; 6) Educational therapy that focuses on specific organized problems [5]. Henricson and Rocker argued that parenting activities refer to ways that mothers use to raise their children and reflect their attitudes towards their children and include criteria and rules they set for their children [6]. According to Satoorian *et al.*, this relationship is very important, indicating that the factor of family and especially parents' behavior during childhood play an important role in emergence of behavioral

problems in childhood and adulthood [7].

Studies on children with autism spectrum disorder showed parents' direct or indirect role in most interventions for these children. A review of early intervention for children with autism spectrum disorder indicated that 52% of such services are actively supported through the mother-child relationship. In addition, findings of researches on this issue depicted that more impaired senses are, lower the score of the parent-child relationship is. Children with sensory problems, severe or low in impaired senses, show problems in their relationships. Over attachment or avoidance of relationship is one of the problems that is reported by those in contact with these children, which can result in problems in their relationships [8-12].

Jones *et al.* argued that parents of children with autism experience higher levels of stress rather than other parents, and psychological acceptance and mindful parenting can mediate the relationship between stress and depression in mothers of children with autism spectrum disorder and problematic behaviors in these children [9]. Moreover, in order to resolve the academic and behavioral problems in hyperactive students, Young *et al.* investigated a combination of cognitive-behavioral therapy and training parents to reduce academic problems and aggressive behaviors in 18 children with attention deficit, hyperactivity disorder and found that cognitive-behavioral therapy reduces the symptoms of hyperactivity [10]. Emphasizing stress and anxiety in parents of children with autism spectrum and the effectiveness of interventions on reducing parenting stress, Gould *et al.* argued that acceptance- and commitment-based therapy leads parents of children with autism spectrum disorder to have more value-oriented behaviors [11].

Girli found that the impact of autistic children on increasing their parents' irrational beliefs results in their cognitive dissonance and change in their interaction with their children, leading typically to disruption of normal process of life [12]. Damodaran stated that, in improving the quality of parent-child interaction, the main goal is to mitigate the child's behavioral problems and foster social behaviors, improve parenting skills such as decisive discipline and reducing parental stress and tension [13].

Therefore, considering these issues, the present study aimed to determine the effectiveness of group cognitive behavioral counseling of parents of children with autism spectrum disorder on their communication interactions with children. This, in turn, can pave the way to mitigate or eliminate the effects of stressful factors of child's disorder on life and hence, to improve the behavioral disorders of these children and their families. The researchers in the field of autism spectrum disorder have been gravitated in the effect of this kind of therapy on parent-child interaction as well as on emotional

cognitive strategies. Besides, as far as the researcher's examinations indicated, there is no research on the effect of behavioral intervention on parenting (parent-child interactions) and thus, it is important to conduct the present study.

### Participants and Methods

The present study is an applied research, which was conducted using quasi-experimental method. It examined parents of children with autism spectrum disorder using empirical method with pre-test post-test design and control group. The population consisted of mothers of children with autism spectrum disorder in the city of Shiraz in 2018-2019. They referred to psychology clinics active on autism spectrum in Shiraz for services. Since the minimum sample size in an empirical research is 15 subjects for each group (Cohen & Manion; 2000) [14], 40 subjects were purposefully selected in this study and then were randomly divided into two groups of 20 (control and experimental). It should be noted that the sample quorum for experimental and quasi-experimental research is recommended as 15 for each group that is, totally 30 subjects [15]. The inclusion and exclusion criteria were signing the written consent form to participate in all sessions, having a child with autism spectrum disorder, the mother is not the head of the household, and absence of any problem with other illnesses. Incomplete

questionnaire made the subject excluded from the study. The main tool of collecting data in this study was questionnaire and Child-Parent Relationship Scale (CPRS; Pianta) was used [16]. This scale contains 33 items that assess the parents' perception of their relationship with their child. The areas of this scale are conflict, proximity, dependence, and general positive relationship (sum of all areas). This scale is scored based on a 5-option Likert scale, ranging from totally correct= 5 to totally incorrect= 1. The internal consistency of these components in Pianta study was reported as 0.83, 0.72, and 0.5, respectively [16]. Driscoll and Pianta, in a study, reported the questionnaire Cronbach's alpha for each component of conflict, proximity, dependence, and general positive relationship as 0.75, 0.74, 0.69, and 0.8, respectively [17, 18]. This scale, in Iran, was translated by Khoramabadi *et al.*. The areas of conflict, dependence, and general positive relationship match the Cronbach's alpha coefficients 0.84, 0.69, and 0.80, respectively [19]. The reliability of these areas in the study of Abarashi *et al.* was reported as 0.84, 0.70, and 0.86, respectively. Cronbach's alpha coefficient for the two subscales of conflict and positive aspects of relationship was reported as 0.90 [20]. The content of group cognitive-behavioral counseling interventions was based on the proposed protocol by Hazlett-stevens and Craske, which was conducted in 10 one-hour sessions as described in Table 1 [18].

**Table 1)** Description of 10 sessions of training intervention (based on Hazlett-stevens and Craske protocol) [16]

Sessions	Goals and content	Implementation method
1	Introducing the members to each other and making a safe environment to express feelings, emotions, and thoughts in the subsequent sessions, as well as trusting each other	Encourage people to interact and communicate with each other
2	Mothers were discussed about cognitive discipline, parent-child relationship, and autism spectrum disorder and its effects on families.	Providing explanations to mothers regarding available materials
3	The goals of study were explained. One of the causes of depression is negative automatic thoughts. These thoughts seem reasonable to the person, they are very difficult to get out of mind, and are often unconscious.	Providing explanations to mothers regarding available materials
4	Complementary explanations about automatic thoughts were provided. Then, the methods to identify these thoughts were explained. Finally, the relaxation exercise by breathing was performed.	Providing explanations to mothers regarding available materials
5	A brief explanation about three levels of thinking, i.e. negative automatic thoughts, basic assumptions, and main beliefs was provided. After that, the common errors in cognitive processing were mentioned.	Providing explanations to mothers regarding available materials
6	The members were asked to put themselves in the place of one who is explaining a cognitive error and write the feelings associated with that error on a piece of paper. Finally, the relaxation exercise by breathing was performed.	Encouraging the members to actively participate in the practice
7	Some volunteer members were asked to read some of their basic assumptions loudly and express its effect on their emotions. The others were asked to put themselves in the place of the speaker and write the associated feelings.	Encouraging the members to actively participate in the practice
8	Explanations about main beliefs or schemes and the need to reconsider the assumptions and rules were provided. The most appropriate way to test assumptions is the behavioral test.	Providing explanations after doing the practice
9	Tips on healthy ways of thinking including how to replace rational thoughts for irrational thoughts, examine evidence and happening the worst event were provided.	Providing explanations after doing the practice
10	Each member was asked to compare her current emotions with those they had before participating in the project, and a summary of therapeutic actions, applied techniques, and different levels of thinking were provided.	Provide explanations about their feelings, attitudes, and thoughts in the pre- and post-training stages

After collecting data, the experimental group received an intervention program based on the program of group cognitive-behavioral counseling (based on described method in Table 1), but the control group did not receive this intervention. Then, both groups completed the questionnaire and these data were analyzed in the following stages to determine the effectiveness of this intervention program. Multi-variate covariance analysis and SPSS 22 were used to analyze data. The significance level was considered to be 0.01. The ethical considerations in obtaining the written consent forms were met and the participants were assured that the information will be confidential and they are free to participate in the study.

**Findings**

12 mothers of children with autism spectrum disorder, who participated in the study, were in the age range of 20 to 30 years old (30%), and 17 mothers in the age range of 30 to 40 years old (42.5%), and 11 mothers were between 40 and 50 years old (27.5%). Parents' education at the levels of diploma and under diploma in both groups was of higher frequency and at the level of elementary school was of lower frequency. The age and educational status of both groups were matched. The descriptive findings for experimental and control groups (each of which had 20 subjects) in association with the main variable of the study were presented in Table 2.

**Table 2)** The descriptive data in association with parent-child relationship for the experimental and control groups

Variable	Experimental	Control
<b>Parent-child relationship</b>		
Pre-test	3.08±0.49	3.35±0.62
Post-test	3.41±0.850	3.09±0.44
<b>Proximity</b>		
Pre-test	3.10±0.49	3.52±0.75
Post-test	3.75±0.74	3.16±0.49
<b>Dependence</b>		
Pre-test	3.16±0.51	3.31±0.55
Post-test	3.40±0.93	2.94±0.51
<b>Conflict</b>		
Pre-test	3.0±0.5	3.23±0.53
Post-test	3.09±0.77	3.17±0.26

According to the descriptive findings, there were differences between scores of total means and the components of the variable of parent-child relationship in both groups in pre-test in comparison to the results of the post-test. Investigating the significance of the differences between the means of the two groups in pre-test and post-test, the statistical test of covariance analysis after meeting its hypotheses were used. Kolmogorov-Smirnov test was used to examine the normal distribution of scores. The results of this test showed that the assumption of normal distribution of data on the variable of the research is accepted in both tests. In

addition, Box test was used to observe the covariance test hypotheses and Levin test was used to assess test the homogeneity of variance assumption. Regarding the assumptions of the statistical test of covariance analysis, this test was applied to compare the effect of the independent variable. Table 3 shows the results of the covariance analysis test.

**Table 3)** The results of the covariance analysis test of the effect of group cognitive-behavioral counseling of parents of children with autism spectrum disorder on interaction with children

Parent-child relationship	F	P value
Pre-test	6.889	0.001
Group	11.572	0.001

The results of covariance analysis test showed that the difference between the estimated means of parent-child relationship in two groups was significant in post-test (group membership; p<0.001). Furthermore, regarding the effect size (both pre-test and group), it should be noted that the training program of group cognitive-behavioral counseling of parents of children with autism spectrum disorder could improve parents' interactions with their children. The magnitude of these changes, based on eta-squared (effect size), is 23.3%. Also, the results of this test for three components of the parent-child relationship scale are as described in Table 4.

**Table 4)** The results of covariance analysis of effect of group cognitive-behavioral counseling for parents of children with autism spectrum disorder on their interaction with children by components

Measurement tool	F	P value
<b>Parent-child relationship (variable of proximity)</b>		
Pre-test	11.175	0.001
Group	25.402	0.001
<b>Parent-child relationship (variable of conflict)</b>		
Pre-test	7.089	0.001
Group	10.682	0.001
<b>Parent-child relationship (variable of dependence)</b>		
Pre-test	4.492	0.001
Group	13.6	0.001

According to the results of covariance analysis after removing the pre-test effect, the post-test score between the two experimental and control groups for the components of the relationship variable of parent-child relationship was significant (p<0.01). Moreover, considering the effect size (both pre-test and group), it should be noted that the training program of group cognitive-behavioral counseling for parents of children with autism spectrum disorder could improve the parents' interaction with children. The percentage value of these changes, based on eta-squared (effect size) for the variable of proximity was 40%, for the variable of conflict 21.9%, and for the variable of dependence as 26.4%.



## Discussion

The present study aimed to determine the effectiveness of group cognitive-behavioral counseling for parents of children with autism spectrum disorder on communication interactives with children. The results indicated that this study method had a positive effect on improving parent-child interactions. This finding was consistent with those found by Gould *et al.* [11] who showed interventions are effective on reducing stress and anxiety in parents of children with autism. In addition, this finding is in line with the study of Young *et al.* who emphasized the applicability of interventions of cognitive-behavioral counseling for parents of exceptional children [10]. Using the cognitive-behavioral counseling method, irrational beliefs of parents of autistic children and their cognitive dissonance that can disrupt the normal process of life and the interactions between parents and children can be improved. In fact, parents of children with autism spectrum disorder focus more on problems of having an autistic child rather than concentration on how to improve their life. Therefore, they neglect the physical health of their children and of their own. Since parents can receive helpful information in this regard, parents' increased perception of their children's sensory needs can be regarded as an important factor to promote parents' communication level with their autistic child [12]. In addition, the results of this study are consistent with the findings of the study by Damodaran [13], in improving the quality of parent-child interaction to reduce autistic child's behavioral problems and improve parenting skills. Considering the special conditions of autistic children and the pressure their parents tolerate, most parents are not aware of their children's features and sensory needs, and most of their behaviors such as low sensory recording, sensor defensiveness or avoidance are mistakenly interpreted as stubbornness and aggression. Besides, parenting is a complex activity involving many specific behaviors that parents use individually or in partnership with each other these skills to influence their child's behavior [8]. Regarding autistic children who have special conditions, this type of interaction is different from normal conditions and hence, group cognitive-behavioral counseling intervention can train parents the required skills to parents of such children to increase their tolerance and understanding. In this sense, it can be said that this intervention can have a positive effect on parents of children with autism in their communication interactives with their autistic child. Furthermore, considering the positive effects of group cognitive-behavioral intervention on three components of parent-child relationship, it should be noted that this intervention can improve the child's dependence to his/her mother through providing mothers with information about their current conditions and

making positive effect on abnormal communication cases between mother and the autistic child. It also helps autistic children to reduce and modulate dependence to the mother and mitigate their negative interaction to separation from their mother. Group cognitive-behavioral intervention is helpful for the parents to modulate their behavior with their children in emotional actions through making positive effects on their minds. It also can contribute to mitigating the negative aspects of the relationship, including parent-child conflict, getting angry with each other, disobedience, and failure to control the child and feeling that the child is unpredictable [10, 12]. Therefore, it is suggested to train group cognitive-behavioral counseling to the mothers of autistic children in the presence of counselors and therapists familiar with this approach and within the framework of educational programs of parents and teacher's community. Absence of a follow-up program was the limitation of this study.

## Conclusion

The present study aimed to determine the effectiveness of group cognitive-behavioral counseling for parents of children with autism spectrum disorder on their communication interactions with their autistic child. According to the results, since cognitive-behavioral therapy basically contains therapeutic techniques to change the cognitive errors and biases, it can be concluded that group cognitive-behavioral therapy is effective on parent-child interaction of mothers of children with autism spectrum disorder.

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**Conflict of interests:** The Authors state that there is no conflict of interests. All ethical principals were considered in this study. At all stages of the study, ethical tips have been implemented by authors.

**Authors' contribution:** Farideh Hamidi (First author), Introduction author/Methodologist/Assistant/Statistical analyst/Discussion author (40%); Zahra Shirazizadeh (Second author), Methodologist/Original researcher/Statistical analyst/Discussion author (40%); Majid Ebrahim Damavandi (Third author), Introduction author/Methodologist/Original researcher/Statistical analyst (20%)

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