

Original Article

The Effectiveness of Parent-Child Relationship Therapy and Barkley's Parent Training of Mothers of Children with Attention Deficit-Hyperactivity Disorder in Family Functioning and Parenting Stress

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Abstract

The objective of the present study was to compare the effectiveness of parent-child relationship therapy and Barkley's parent training in family functioning and parenting stress of mothers of children with attention deficit-hyperactivity disorder. The current research study is applied in terms of purpose; the research design was quasi-experimental with pretest-posttest and a control group and one-month follow-up. The population included all mothers with a son with ADHD who were studying in one of the primary schools in Ahvaz in the academic year of 2021-2022. From among the population, 45 mothers were selected through random cluster sampling method. They were randomly assigned into parent-child relationship therapy (n = 15), Barkley's parent training (n = 15) and control (n = 15) groups. To collect data, SNAP rating scale (the fourth edition), clinical interview based on Mental Disorders Diagnosis for ADHD (the fifth edition), Family Assessment questionnaire (Epstein, Baldwin and Bishop, 1983), and Parenting Stress questionnaire (Abidin, 1995) were used. The parent-child relationship group participated in ten 60-minute sessions, and Barkley's parenting therapy group participated in fifteen 60-minute sessions. Data was analyzed using mixed analysis of variance using SPSS software, version 25. The results showed that there was no significant difference between parent-child relationship group and Barkley's parent training therapy group in terms of family functioning and parenting stress in pretest, posttest and follow-up phases ($p < 0.05$). However, there was a significant difference between parent-child relationship and Barkley's parent training therapy groups and the control group in the follow-up phase ($p < 0.05$). According to the results of the present study, parent-child relationship training and Barkley's parent training therapy of mothers were effective in family functioning and parenting stress of mothers with attention deficit-hyperactivity disorder. It should also be noted that the effects of these two methods were greater on parenting stress.

Keywords

Parent-child relationship training
Barkley's parent training therapy
Family functioning
Parenting stress of children with attention deficit-hyperactivity disorder

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Introduction

Mental health disorders (MHD) are very common in childhood. They include affective disorder, compulsive-obsessive disorder, anxiety, depression, oppositional defiant behavior, developmental disorders, and attention deficit-hyperactivity disorder (ADHD). Attention deficit-hyperactivity disorder is one of the most common neurodevelopmental disorders, the prevalence of which is estimated between 5% and 7% worldwide (Lavi et al., 2021). This disorder is characterized by significant attention deficit, hyperactivity, and impulsivity (American Psychiatric Association & Association, 2013).

ADHD is an early and persistent disorder which is associated with significant functional impairments in many aspects of life. Affected individuals are at increased risk of lower academic achievement, social problems, impaired peer relationships, disruptive behavior, emotional dysfunction as well as higher rates of mood disorders and anxiety (Pang et al., 2021; Sánchez et al., 2019). These children may strongly dislike tasks which require mental effort and concentration, and are easily distracted by environmental events. If this disorder is not treated in childhood, it may be associated with other disorders such as disobedience, stubbornness, conduct disorder as well as anxiety and depression (Beaton et al.,

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2022; Magnin & Maurs, 2017; Tandon & Pergjika, 2017). Emotional and behavioral problems are one of the traumatic consequences of attention deficit-hyperactivity disorder which can affect children's performance. Children's maladaptive behaviors such as impulsivity, disobedience of parents' orders, destructive behaviors, stubbornness, and irritability lead to the parents' bad feelings such as anger, helplessness, fatigue, and reduced tolerance (Mikaeili et al., 2023). As a result, the way parents react and behave with these children is affected; they may show behaviors such as punishment, rejection, blame, and exclusion. These parents' reactions provoke the children's negative emotions (e.g., failure, anger, and disappointment) and lead to their maladaptive behaviors and form a vicious cycle. Hence, in many cases, the parents' incorrect reaction is decisive in increasing the children's behavioral problems (Gilbert, 2014; Wender & Tomb, 2017).

Behavioral disorders in children with attention deficit-hyperactivity disorder are shown as externalizing disorder including stubbornness, problem-making, and disobedience, or internalizing disorder including withdrawal, depression, and anxiety (Willner et al., 2016). Due to the occurrence of these disorders, especially at school age, parents' sensitivity is stimulated and their negative reactions would be intensified. Thus, the child-parent interaction is greatly disturbed, and creates stress for parents or caregivers (Arslan et al., 2021).

So far, various treatment methods have been used to reduce the psychological, behavioral, emotional, communication, social and academic problems of children with attention deficit-hyperactivity disorder. These treatments are in two categories including drug treatment and psycho-social therapy. In psycho-social therapy, parent training is considered an essential part of therapeutic interventions. One of these non-drug interventional methods is parent-child relationship therapy. This method is based on the assumption that improving the parent-child relationship can improve the child's emotional and behavioral problems and can guarantee the child's mental health (Peyman Nia et al., 2014). In this method, the parent-child relationship is used as a source of changing the child's understanding and ultimately his behavior; improving the parent-child relationship weakens the ineffective parent-child interactions, and increases the parents' ability to understand the child (Bratton & Landreth, 2006). In the parent-child relationship training method, parents are used as agents of change; the sessions are held individually or in structured meetings under the supervision of professionals. Another main feature of this method is that it focuses on the future, while most parent training models focus on past relationships and events and emphasize correcting the child's past relationships (Bratton & Landreth, 1995). From among the goals of parent-child relationship training are improving the quality of parent-child relationship, parents' cooperation with each other, parents' acquisition of play therapy skills, reducing children's behavioral problems and emotional

distress, and increasing parents' acceptance by children (Aman Elahi et al., 2017). The results of Fazli and Sajjadian's (2015) research study showed that parent training along with drug treatments could reduce the behavioral problems of children with attention deficit-hyperactivity disorder. In addition, Visani et al. (2014) examined the students with attention deficit-hyperactivity disorder and found that parent-child relationship training reduced symptoms of attention deficit-hyperactivity disorder and relevant problems.

Another method used to reduce the emotional-behavioral problems of children with attention deficit-hyperactivity disorder is parent training, which was first proposed by Barkley (in 1987) to families with disobedient and stubborn children (Barkley, 1997). In this method, the children's behavior modification program is implemented in the natural environment (i.e., home) by the parents who have the most interaction with them. By using the dimensions of effective relationship, reward system, reinforcement and negotiation, this program reconstructs the ineffective interaction of parents with children and improves behavioral problems, attachment relationships, social skills and classroom behaviors of the children (Barkley, 2005). The research results of Danforth et al. (2006) and Reno and McGrass (2010) showed that the Barkley's method significantly reduced externalizing problems and aggressive behaviors of hyperactive children. Moreover, training parents had positive results in reducing the behavioral problems of children with ADHD in the studies of Kheir (2012) and Balali and Aghayousfi (2011). Abedi et al. (2016) also confirmed the effect of Barkley's parent training on the symptoms of attention deficit-hyperactivity disorder and anxiety. Poladi et al. (2017) also examined the students with ADHD, and found out that training mothers through Barkley's method had a positive effect on the mother-child relationship.

Some parents report that their children experience problems in their emotions, behavior and communication with their peers (Malonda et al., 2019). Thus, more research is required to find effective methods to reduce emotional and behavioral consequences of ADHD. So far, various effective interventions have been identified for the treatment of ADHD and its consequences. However, achieving a maximally effective treatment requires more research studies (Hinshaw et al., 2015). Although parent-child relationship therapy and Barkley's parent training provided substantial research evidence, the comparison of the effectiveness of them has not been made. Therefore, the objective of the present research study was to comparison of the effectiveness of parent-child relationship therapy and Barkley's parent training of mothers of children with attention deficit-hyperactivity disorder in family functioning and parenting stress.

Method

Participants

The present study was a quasi-experimental study with a pretest-posttest design with a control group and one-month follow-up. The population included all mothers

with a son with ADHD who were studying in one of the primary schools in Ahvaz in the academic year of 2021-2022. The sample size of the present study was determined by referring to Cohen's (2013) table. Accordingly, the sample size in the experimental studies at the confidence level of 95%, the effect size of 0.50 and the test power of 0.80 for each group is 15 individuals. First, four elementary schools in Ahvaz were chosen randomly. Then, the teachers of those schools were asked to introduce the students with the symptoms of attention deficit-hyperactivity disorder. In the third step, using SNAP rating scale (SNAP-IV) and clinical interview based on Mental Disorders Diagnosis for ADHD (the fifth edition), the mothers of the students with ADHD were invited to participate in the study. They were randomly assigned into two experimental and one control groups. The inclusion criteria included having informed consent to participate in the study, living with the son with ADHD at the time of the study, age range of 7-12 years for children, not receiving any type of psychological training or treatment during the study, having reading and writing literacy and having a child diagnosed with ADHD based on the SNAP-IV rating scale and clinical interviews. The exclusion criteria were failure to fill out the questionnaires, unwillingness to participate in the treatment sessions and absence of more than two sessions of the treatment sessions.

Data analysis was conducted using SPSS software (version 25). Descriptive data was reported through mean and standard deviation. Despite the follow-up phase, mixed analysis of variance with repeated measurements and Bonferroni post hoc test were used to examine the differences between the experimental and the control groups in terms of emotional and behavioral problems. Inferential analyses were performed at the significance level of .05. In addition, in this study, ethical considerations including scientific honesty and trustworthiness, informed consent to participate in the study, observing the participants' right to remain anonymous and keeping their information confidential were taken into consideration.

Instrument

Children's Behavior Checklist (CBCL):

In this study, the measurement system based on Achenbach's experience of the parenting form was used to measure the children's emotional and behavioral problems. The assessment system based on Achenbach's experience includes a set of checklists to evaluate competencies, adaptive functioning and emotional and behavioral problems, including child behavior checklist, self-assessment questionnaire, and teacher report. Each of these checklists can be filled out in 20 to 25 minutes. Child Behavior Checklist (CBCL) consists of 113 variables which examine the emotional and behavioral states of children in eight areas, in two age groups of 4-11 years old and teenagers (12-18 years old), in the last six months. Parents rate their child's different behaviors on a three-point Likert scale. The test scores can be presented through three indicators of internalized problems (e.g.,

isolation, anxiety, and depression), externalized problems (e.g., aggression and delinquent behaviors) and general problems (e.g., indicators of internalizing and externalizing problems, and the problems regarding concentration, thinking, and social aspects). The reliability coefficient of this test is reported as 0.75, and it is used as one of the important screening instruments for psychiatric disorders in the age group of 4-18 years old (Achenbach & Edelbrock, 1991). The standardization of this measurement system was done in Tehran, after the necessary adaptations in terms of language, culture and society, on the Iranian sample. The results showed that the alpha coefficients of the scale, based on DSM-IV, were at a satisfactory level. Its range was from 0.64 to 0.8. Moreover, the results obtained regarding the construct validity, the content validity and the factor validity of this scale showed acceptable validity and internal correlation coefficient ($P < 0.01$) (Minaee, 2006). In the present study, the reliability coefficient of this scale was .82 using Cronbach's alpha.

SNAP-IV rating scale:

The new edition of this scale is used to evaluate and to diagnose attention deficit-hyperactivity disorder and oppositional defiant disorder. This scale was first developed by Swanson et al. (1980) based on DSM. It was known as SNAP with the initials of the developers of the scale. Simultaneously with the revision of DSM criteria and the compilation of DSM-IV, the SNAP was also rewritten and published in 2001 (Swanson et al., 2001). This scale includes 30 questions (i.e., 10 questions on attention deficit, 10 questions on hyperactivity/impulsivity, and 10 questions on oppositional defiant disorder). Many studies confirmed the validity and the reliability of this scale (Dineen & Fitzgerald, 2010; Kiive et al., 2010; Swanson et al., 2012). In the present study, the reliability coefficient of this scale was estimated to be .79 using Cronbach's alpha.

Procedure

Following the ethical considerations, after obtaining the consent of the participants and explaining the research objectives, the participants were randomly assigned into three groups based on the inclusion criteria, and an informed consent was obtained from them. In other words, 15 individuals were in the experimental group of parent-child relationship therapy, 15 individuals were in the experimental group of Barkley's parent training method, and 15 individuals were in the control group. Then, how to participate in the sessions and the number of sessions were explained. The parent-child relationship therapy was prepared based on Landreth and Bratton's (2006) model. This program was implemented for ten 60-minute sessions (one session per week). The educational structure was prepared and implemented based on theoretical and philosophical concepts and parent-child relationship techniques. The treatment sessions were conducted by the online researcher from the first of November to the second week of January of 2021-2022 (see Table 1). In addition, the treatment protocol of the parent training therapy was developed and implemented

by the online researcher from the first of November to the second week of December of 2021-2022 during ten 60-minute sessions (one session per week). The educational

structure was based on the theoretical and the philosophical concepts and therapeutic techniques of Barkley's (2013) parent training therapy (see Table 2).

Table 1. Summary of Parent-Child Relationship Treatment Sessions

Session	Content
First	Introducing the members and the therapist, explaining the working process and the rules governing the group, giving a brief explanation about the parent-child therapeutic relationship, stating the goals and the essential concepts, and teaching the skill of reflective response
Second	Creating a supportive atmosphere and facilitating the relationship of the parents, preparing parents to implement play sessions at home through reviewing reflective responses, familiarizing parents with the basic principles of play sessions and the importance of creating a structure for play sessions, choosing toys and the right time and place for play sessions, role playing and demonstrating basic play skills
Third	Explaining play sessions' dos and don'ts, role playing of the play sessions' dos and don'ts, and giving parents a play session process checklist with additional guidelines
Fourth	Examining the parents' report of play sessions with children, criticizing the video of play sessions prepared by parents, teaching the skill of setting restrictions using the three-step A-C-T method, explaining the reason and the importance of setting rules and restrictions, playing the role of setting limits
Fifth	Examining the parents' reports of play sessions and criticizing the video recorded by them, reviewing the skill of setting limits through role playing
Sixth	Examining the parents' reports of play sessions and criticizing the video recorded by them, preparing a poster of the dos and the don'ts of the play sessions, teaching the skill of giving the child the right to choose
Seventh	Examining the parents' reports of play sessions and criticizing the video recorded by them, supporting and encouraging parents in applying the skills, teaching self-esteem constructive responses and reflective responses
Eighth	Examining the parents' reports of play sessions and criticizing the video recorded by them, teaching the skill of encouragement against praise and playing the relevant role
Ninth	Examining the parents' reports of play sessions and criticizing the video recorded by them, supporting and encouraging the parents in applying the acquired skills, teaching advanced limit setting and playing the relevant roles
Tenth	Examining the parents' reports of play sessions and reviewing the video recorded by them, reviewing the basic principles of the parent-child therapeutic relationship and the acquired skills, teaching how to generalize the skills to context other than the play sessions

Table 2. Summary of Barkley's Parent Training Sessions

Session	Content
First	Introducing the members and the therapist and explaining the work process and the rules governing the group, giving a brief explanation about parent-child therapeutic relationship, stating the goals and essential concepts, examining misconceptions about attention deficit-hyperactivity disorder, teaching the child to obey and follow orders and using request commands
Second	Suggesting the parents to give clear instructions to the child and break them into small chunks with multiple pauses, making thinking and problem solving methods objective and tangible, organizing work or homework in a way which is more attractive and motivating for the child, asking the parents to prepare the environment and the surrounding conditions in such a way that the distraction factors would be minimized, helping the child to focus his attention on what is important
Third	Giving immediate feedback and rewards to the child after completing the task or following the rules, using the token system, focusing on one or two social behaviors which parents would like to observe more in the child's daily interaction with his peers, reminding the child of the time due to paying more attention to the surroundings and making the child sensitive to the passage of time, reminding the child of important points in the child's performance, directing the child's behavior from immediate pleasure and gratification to future goals and developing foresight in them, teaching the child to be patient
Fourth	Encouraging the child to invite his classmates home after school or on weekends, asking the parents to focus on children who have common interests with their child, monitoring the child's behavior while playing with peers, encouraging the child's new skills and behaviors, and giving him a token during the break or at the end of the play
Fifth	Controlling one's negative emotions at home and preventing any aggressive and undesirable behavior on the part of family members, monitoring television programs and eliminating watching violent television programs, pointing out the violent and inappropriate behaviors immediately after accidentally watching violent programs
Sixth	Reviewing previous sessions and answering the parents' questions, emphasizing consistency and coordination in parents' performance, managing the child behavior through asking the parents to teach their children how to deal with peer bullying and teasing
Seventh	Reviewing new social skills in the week and explaining the new skills to the child, reconstructing the situation of interacting with peers for the child and asking the child to practice the skills, encouraging the child to perform appropriate behaviors
Eighth	Taking videos of the child's interactions with his peers or siblings without attracting his attention, reviewing them with the child in another context and time, informing the child of how he behaves in different situations and pointing out the positive aspects of his behaviors
Ninth	Limiting the child's contact with aggressive peers or socially rejected children, encouraging the child to have a relationship with his peers and to invite them home, preparing a non-competitive context for the child to interact with his peers so that the child's emotional arousal and frustration would be prevented
Tenth	Examining the parents' reports of play sessions and criticizing the video recorded by them, asking the parents to emphasize cooperative learning assignments in which each of the children in a small group were asked to do a task to achieve a common goal, summarizing all the contents

Results

Table 3 shows the mean and the standard deviation of family functioning and parenting stress. According to this table, there is a difference between the means of family functioning and parenting stress in the three phases. This difference is

evident between the posttest and follow-up phases and the pretest phase. The values of skewedness of family functioning and parenting stress in the pretest, posttest and follow-up phases for the three studied groups were between -2 and +2, which indicated the normality of the data.

Table 3. Mean and Standard Deviation of Family Functioning and Parenting Stress

Group	Group	Pretest		Posttest		Follow-up	
		Mean	SD.	Mean	SD.	Mean	SD.
Family functioning	Parent-child experimental group	149.60	7.31	114.93	8.25	113.86	6.96
	Barkley's experimental group	153.13	6.19	118.73	6.24	119.60	7.46
	Control group	15.32	5.28	152.20	7.12	152.33	6.68
Parenting stress	Parent-child experimental group	88.33	6.92	125.26	7.17	126.66	8.12
	Barkley's experimental group	86.73	6.15	122.53	6.54	123.45	7.38
	Control group	90.64	6.63	98.28	7.32	88.01	7.98

In Table 4, the results of Levine's test indicate the homogeneity of error variances in the three groups, and the results of the Mauchly's test showed that the condition of equality of the variance/ covariance matrices and the assumption of sphericity were not met; therefore, Greenhouse-Geisser correction was used. The results of the M-box statistic for the research variables were significant ($P < 0.05$). Since the M-box test was significant for family functioning ($P < 0.05$, $F = 3.29$), to evaluate the effects of multiple variables, the Pillai's effect was considered. The results of the multivariate test of Pillai's effect showed that

the score of the dependent variable (i.e., family functioning) was different both in terms of time ($P < 0.05$, $F = 40.12$) and in the interaction between time and group ($P < 0.05$, $F = 12.73$). Moreover, the M box test for parenting stress was significant ($P < 0.05$, $F = 3.29$). Thus, to evaluate the effects of multiple variables, the Pillai's effect was taken into account. The results of the multivariate test of Pillai's effect showed that the score of the dependent variable (i.e., parenting stress) was different both in terms of time ($P < 0.05$, $F = 36.57$) and in the interaction between time and group ($P < 0.05$, $F = 7.31$).

Table 4. The Results of Homogeneity of Variances, Sphericity Test and M-box

Variable	The homogeneity of the variances		Mauchly's test			Greenhouse-Geisser	M-box			
	F	P	Mauchly	Chi-square	df		P	P	F	
Family functioning	.94	.58	.32	42.3	2	.005	.58	59.38	2.88	.01
Parenting stress	.93	.56	.209	53.68	2	.005	.558	44.68	3.32	.001

The results of between-group effects for family functioning and parenting stress are presented in Table 4. As it is evident, the between-group effects of family functioning ($P < 0.05$, $F = 17500.31$), and parenting stress ($P < 0.05$, $F =$

14960.61) were significant. Thus, it is concluded that there were differences between groups. Considering the significance of the difference between the groups, Bonferroni's post hoc test was used to compare the groups.

Table 5. The Results of Between-group Effects of Family Functioning and Parenting Stress

	Source	Mean of the squares	df	Mean of the squares	F	Sig	Effect size
Family functioning	Intercept	2501041.66	1	2501041.66	4002.01	.001	.99
	Group	17500.31	2	8750.15	14.01	.001	.41
	Error	26247.68	42	627.94			
Parenting stress	Intercept	1438182.120	1	1438182.120	221.92	.001	.98
	Group	14960.61	2	7480.30	11.50	.001	.38
	Error	26657.59	41	650.18			

Moreover, Table 5 illustrates within-group variables' means of family functioning and parenting stress. With regard to family functioning, there were no significant differences between parent-child relationship group and the Barkley's parent therapy group in the pretest, posttest and follow-up phases ($p < 0.05$). However, there was a significant difference between parent-child relationship group and Barkley's parent therapy group with the control group in the follow-up phase ($p < 0.05$). In addition, with regard to parenting stress, there were no significant differences between parent-child relationship

group and Barkley's parent therapy group in the pretest, posttest and follow-up phases ($p < 0.05$). However, there was a significant difference between parent-child relationship group and Barkley's parent therapy group with the control group in the posttest and follow-up phases ($p < 0.05$). In other words, both intervention methods were effective in terms of parenting stress, and the two intervention methods did not differ in terms of the effect on parenting stress. Likewise, the intervention methods sustained their positive effect after the passage of time (in the follow-up phase).

Table 6. Within-group Variables' Means of Family Functioning and Parenting Stress

Phases	Group	Family functioning			Parenting stress		
		Mean difference	Std. error	Sig.	Mean difference	Std. error	Sig.
Pretest	Parent-child relationship and Barkley's parent training	-3.53	4.17	1	2.77	3.37	1
	Parent-child relationship and control group	-2.01	4.17	1	2.11	5.74	1
	Barkley's parent training and control group	1.53	4.17	1	2.01	5.47	1
Posttest	Parent-child relationship and Barkley's parent training	3.80	4.84	1	-3.29	5.38	1
	Parent-child relationship and control group	-37.26	4.84	1	-35.92	5.38	<.001
	Barkley's parent training and control group	-3.46	4.84	1	-32.34	5.38	<.001
Follow-up	Parent-child relationship and Barkley's parent training	-4.73	4.74	1	-4.32	5.22	1
	Parent-child relationship and control group	-38.46	4.74	1	-36.98	5.22	<.001
	Barkley's parent training and control group	-3.53	4.17	1	-32.15	5.22	<.001

Discussion

The objective of the present study was to compare the effectiveness of parent-child relationship training and Barkley's parent therapy in family functioning and parenting stress of mothers with children with ADHD. The results showed that parent-child relationship training and Barkley's parent therapy were effective in terms of family functioning and parenting stress, and the effect of these two methods was greater on parenting stress. The effectiveness of parent-child relationship training in parenting stress is consistent with the findings of Lee and Landerth (2003), Galver and Landerth (2000) and Aman Elahi et al. (2017).

The effect of child-parent relationship training on family functioning and parenting stress of mothers with children with ADHD can be explained by referring to the characteristics of this interventional method. In fact, the content of these meetings increased the acceptance and the empathy of parents and children. In this method, parents are taught to strengthen their relationship with their children while playing with them. During this relationship, children use toys to discover new experiences and express what they think and feel. Therefore, the empathetic and emotional response of the parents to the child's feelings and emotions strengthens the child's self-esteem and helps the child accept responsibility for his actions through strengthening self-control. On the other hand, the children are the center of attention of the parents during the game; the parent provides a favorable communication and reception for the children so that they can freely express their anger, loneliness, failures, fears and wishes through the games. When the children are playing, the parents will follow the children's instructions; there are no such concepts as reprimand, punishment, humiliation, evaluation and judgment. Considering the many problems that most parents have in the field of positive interaction with their children with ADHD, game is a suitable tool to rebuild the relationship between parents and children; it helps solve their needs and conflicts. Moreover, the formation of a positive relationship between the children and the parent will reduce the negative feelings and worries of parenting, which will ultimately increase the awareness and the knowledge of the parents about how to interact with the children (Bratton et al., 2006). Another important feature of parent-child relationship training is its emphasis on playing games with the aim of maintaining focus and attention. The games related to this method

include the secret of differences, the cup and the coin, cutting pictures of magazines, seeing and telling, and executing commands in reverse; the purpose of all these games is to strengthen continuous attention, active memory, visual sequence, visual memory, self-monitoring, self-control and selective attention. Therefore, teaching these games to parents and their continuous and regular performance by the children at home can affect their lack of attention, lack of concentration and lack of selective attention to the material, can improve family functioning and can reduce parenting stress (Aman Elahi et al., 2017).

The effectiveness of Barkley's parent therapy in parenting stress is consistent with the findings of Poladi et al. (2017). In explaining this finding, it can be stated that Barkley's parent training method improves the social skills of children with ADHD through changing and modifying the interactive pattern of parenting (Yaghmai et al., 2018). One of the goals of Barkley's parent therapy program is to design the best match between the parent and the child. In this regard, parents learn to change the child's abnormal behavior as much as possible through applying restrictions; otherwise, they accept the unchangeable factors and try to control them as much as possible. It seems that setting restrictions leads to the child's self-control and greater responsibility for his behavior (Mikaeili et al., 2025), increases the level of acceptance of the child by his parents, and as a result, the parent-child relationship would improve (Newby et al., 1991). In addition, Barkley's parent therapy can improve parent-child interactions, can change parents' attitudes towards children's behaviors and can help recognize children's problems, can lead to more correct management of parents with regard to the children's hyperactivity, can instruct children to curb impulsive behaviors, and can train to provide children with timely and appropriate rewards. Furthermore, increasing the awareness of parents on ADHD features and how to deal with children with ADHD appropriately will change the parents' understanding of the child's behaviors, which can reduce the conflict between the parent and the child. As a result, the symptoms of the disorder would be improved. Active participation of parents in training sessions and their motivation in treatment results can be seen as another reason for the reduction of the symptoms.

This study was not void of limitations. They should be taken into account in the interpretation and generalization

of the findings. One of the main limitations of this research study is that the population included mothers with children with ADHD in elementary schools in Ahvaz. It makes it difficult to generalize the findings to other age groups, genders and people in other geographical areas. Therefore, it is suggested that future studies examine training of mothers with boys and girls with ADHD in other geographical areas. Other limitations include the difficulty in accessing to the research sample and face-to-face training due to the spread of Covid-19 virus.

According to the results of the study, it is suggested that mothers with children with ADHD use this training to reduce parenting stress and to improve family functioning.

Ethical Considerations

In this research study, the ethical issues including obtaining written consent from the participants to participate in the study, ensuring the participants' willingness to participate in the study, considering the privacy of the participants' information, not taking photos or videos of the participants, verifying the effectiveness of the intervention, and publishing the results honestly were taken into account. It should be noted that the current study is a part of a Ph.D. dissertation.

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