

The Effectiveness of Attachment-based Parent Training Method on Anxiety Syndrome in Preschool Children

Saeed Ghanbari¹, Mohammad_karim Khodapanahi², Masood Gholamali_Lavasani³, Mohammad Ali Mazaheri⁴, Reyhane Rezapour_Faridian⁵

¹Assistant Professor, Department of Clinical & Health Psychology, Shahid Beheshti University, Tehran, Iran

²Professor, Department of Clinical & Health Psychology, Shahid Beheshti University, Tehran, Iran

³Associate Professor, Department of Educational Psychology and Counseling, Tehran University, Tehran, Iran

⁴Professor, Department of Clinical & Health Psychology, Shahid Beheshti University, Tehran, Iran

⁵M.A in family counseling, Shahid Beheshti University, Tehran, Iran

Submitted: 17 March 2018

Accepted: 29 April 2018

Int J Behav Sci. 2018; 12(1): 9-17

Corresponding Author:

Saeed Ghanbari,
Assistant Professor,
Department of Clinical & Health
Psychology,
Shahid Beheshti University,
Tehran,
Iran
E-mail: ghanbari_sbu@yahoo.com

Abstract

Introduction: The purpose of this study was to investigate the effectiveness of attachment-based parent training on anxiety syndrome in 2- to 6-year-old children.

Methods: A quasi-experimental design was conducted in this research. For this purpose 278 mothers completed The Spence Preschool Anxiety Scales (SPAS). Among these mothers, 74 whom their children's anxiety scores were one standard deviation above the population's mean were selected. They completed the Conner's Behavioral Rating Scale, which helped to investigate the absence of any other psychological problems in those children. Finally, 61 mothers were selected and assigned to the experimental and control group and received the training package for eight sessions, each session lasting for 2 hours. Three months after finishing the training sessions for the experimental group, the SPAS were completed by mothers in both groups. ANOVA was used to analyze the data.

Results: The results showed that the parent training package decreased generalized, social and separation anxiety subscales and total anxiety score in the experimental group more than the control group ($p < 0.0001$). This reduction was sustained during the three months of follow-up, but no significant reduction was observed in the problems related to obsessive compulsive disorder and physical injury phobia after the intervention.

Conclusion: It can be concluded that attachment-based parent training can decrease anxiety in preschool children. These results suggest that child therapists can use this method in order to prevent and treat children's anxiety.

Keywords: Attachment-based Parent Training Package, Anxiety, Maternal Caregiving Quality, Preschool Children

Introduction

Anxiety disorders are among the most prevalent yet often unrecognized disorders in childhood, and can lead to a major risk factor for mental disorders in adulthood [1]. They affect approximately 6.5% of children worldwide [2]. Anxiety disorder is characterized by excessive worries or fears, behavioral avoidance, a high degree of interference with daily activities and usually physiological symptoms [3]. They are often associated with significant impairment in personal, social and academic functioning [4].

Previous research has mostly focused on anxiety disorders in school-aged children and adolescents, while widely neglecting preschool children [5]. Thus, there is a need for further

research addressing the nosology and epidemiology of anxiety disorders in pre-school children. In addition, very few preschool children with anxiety disorders are actually receiving treatments [6]. Since anxiety disorders in this age can create serious health issues, therefore representative studies and effective accessible treatments are needed.

A growing body of research suggests that anxiety disorders are associated with insecure attachment styles [7, 8]. Insecurely attached children and adolescents have shown higher levels of anxiety compared to those with secure attachment [9]. It is also believed that some of the child's destructive behaviors may be a kind of attachment strategy to regulate the communicative patterns with the caregiver [10]. According to the attachment theory, infants biologically tend to use their caregivers as a source of support when they are distressed, and use them as a secure base to explore the external environment [11, 12]. Bowlby [12-14] has expressed that individuals' attachment style are influenced by their experiences with significant others and their expectations of how far these people are emotionally available in stressful circumstances.

Bowlby [13] stated that adult anxiety is rooted in childhood experiences that leave a child uncertain of the availability of a protective figure in times of trouble, which may occur through criticism and rejection of the child or threats of abandonment and unavailability. According to Bowlby, another pathway for anxiety can develop among children living with parents who are overprotective and controlling, or indeed in combinations of overprotectiveness and rejection from different parents. Research has supported Bowlby's clinical intuition and reported a pattern of maternal overprotection and paternal rejection in people suffering from anxiety disorders [15, 16].

Since maternal care components play an important role in the emergence of child's attachment style and they can both lead to anxiety disorders in a child, so it is likely that attachment-based parent training method would be effective in decreasing children's anxiety. Attachment-based psychotherapies are treatments founded on the attachment theory and have their principals as their guideline [17]. A number of attachment-based interventions have been developed to support parents, enhance caregiving quality, and promote children's attachment security with the aim of improving children's mental health. A growing body of evidence-based research is carried out these days to support the efficacy of these interventions [18]. Employing such methods is based on the type of risk-factors threatening maternal caregiving [19]. The patterns of attachment in children are linked to the quality of caregiving they receive. The quality of caregiving is determined by sensitivity, responsiveness, and availability of their caregivers [20]. Sensitivity is defined as the caregiver's ability to perceive, accurately interpret, and appropriately respond to child signals [20, 21]. The main focus of attachment-based interventions is to improve the caregiving components in order to increase the likelihood of children becoming securely attached. Two meta-analyses confirmed the efficacy of various interventions in improving maternal sensitivity

and increasing attachment security [19, 22]. It has been shown that specific maternal behaviors, such as maternal sensitivity, warmth, and intrusiveness, influence the development of the parent-child relationship [23]. So, attachment-based interventions aim to improve the caregiving quality and parent-child relationship.

In an early research trial, Van den Boom [24] applied a brief attachment-based intervention on mothers having restless infants or children. The results indicated a considerably significant effect of the intervention. Van den Boom observed that the experimental group showed higher levels of responsiveness and had more secure relationships with their children than the control group. Van zeijl et al. [25] applied an attachment-based intervention using video-feedback on 1-3 year-old children with behavioral problems and managed to reduce hyperactivity, paradoxical and resisting behaviors. Fallah Ebrahimnezhad et al. [26] found that mother-adolescent training program based on secure attachment was effective on alleviating depressive symptoms in female adolescents.

Another class of attachment-based treatments focuses on challenging the children's representations of the parents as unavailable, insensitive, irresponsive and punishing people and tries to teach them ways to consider adults' reliable sources available when necessary in order to solve problems and make peace [27].

In a study by Cooper et al. [28] entitled "the circle of security intervention" an attachment-based intervention was employed to reduce externalizing problems of preschoolers. The main objective of that intervention was to improve mother-child, or attachment-caregiving relationships. In eight sessions each lasting for 75 minutes which were held weekly with the therapist, parents reviewed videos captured from them in a stranger situation and discussed the advantages and disadvantages of the mother's caregiving style and analyzed the defense mechanisms of the mother or caregiver and tried to improve the relationship. Dozier et al. [29] implemented the attachment & bio-behavioral catch up (ABC) to promote the quality of infant-caregiver relationship in an orphanage, where they selected and trained infants with negative and disturbed caregiving relationships in which nurses and adoptive parents with deficient representation of attachment relationship or irresponsiveness to infant's needs also were selected and trained. This intervention proved effective based on a research carried out on 200 families. In another research by Koren-karie et al. [30], the effectiveness of the training programs improving maternal insightfulness on behavioral and emotional problems of preschoolers was investigated. Interestingly, behavioral and emotional problems of the children whose mothers' insightfulness had improved, decreased considerably and those whose mothers had not experienced any changes in their insightfulness had increased behavioral and emotional problems. Moretti and Obsuth [31] utilized a manual program focusing on the building blocks of secure attachment: parental sensitivity, cooperation, reflective capacity, and effective dyadic affect regulation. They observed significant increases in perceived parenting

satisfaction and efficacy and decreases in adolescents' aggression, depression, anxiety and other mental health problems.

To sum up, due to high prevalence, persistence and negative consequences of anxiety disorders in children, it is necessary to prevent and treat them in childhood. Since anxiety disorders have been found related to insecure attachment styles and on the other hand, maternal care components play an important role in the emergence of child's attachment, it is likely that the attachment-based parent training method would be effective in decreasing children's anxiety by promoting mothers' caregiving quality. So the current study has tried to investigate the effectiveness of the attachment-based parent training method on the anxiety syndrome in preschool children.

Method

This study used a quasi-experimental design with a control group, pre-test, post-test and follow-up tests. The statistical population of this study were mothers with 2-6-year-old (24 to 72 months) children of Tehran's 2nd municipal zone. 6 nurseries were selected by convenient sampling method considering inclusion criteria, which included: 1. The child must have been the first or second child of the family; 2. The child should have had an anxiety score, at least, one standard deviation above the society's mean anxiety score (35 on Spence's preschoolers' anxiety scale); and 3. Mothers had to at least have high school diploma. The exclusion criteria were: 1. Child's score on each subscale of the Connor's behavior rating scale (parents' form) had to be above the mean score, except for the anxiety subscale; 2. Child must have been under other psychological or pharmacological therapies simultaneously; 3. Presence of severe psychological disorders was investigated in mothers by asking questions about taking medications or undergoing psychological therapies; and 4. Being absent in more than two sessions of the instructional classes (for those who were absent for one or two sessions, the material of the class was explained at the end of the next session).

First, all mothers were asked to fill in the Spence's anxiety scale for preschoolers. Mothers whose children had an anxiety score one standard deviation higher than the average were selected (35 or more). From 287 parents, 74 were chosen and their children completed the Connor's scale to exclude those who had serious psychological problems in addition to anxiety. Mothers who were taking medications or having psychotherapy due to psychological problems were also excluded from the study. Then, 61 mothers who had the inclusion criteria entered the study. In every nursery, there was a group of 8-12 mothers. It wasn't possible to randomly specify mothers into the experimental and control group. Then, nurseries were randomly assigned to the experimental and control groups. Three groups (30 people) were assigned to the experimental and three groups (31 people) to the control group.

In the experimental group, mothers were ranged from 26 to 46 years old ($M = 33.47$ years, $SD = 4.83$), and children ranged from 28 to 6 months old ($M = 51.14$ months, $SD = 10.94$). In the control group, mothers were

ranged from 24 to 43 years old ($M = 32.35$ years, $SD = 4.95$), and children ranged from 29 to 59 months old ($M = 48.50$ months, $SD = 7.47$). Results of using dependent t-test showed that there is no significant difference between mothers' age in the experimental and control groups ($t = 0.73$, $p = 0.88$) and also between the children's age in the experimental and control groups ($t = 0.86$, $p = 0.53$). Among the experimental group, 13 mothers had a job and 7 were housewives, also seven of them had diploma degree, 11 had bachelor's degree and 2 had master's or higher degrees. Among the control group, 12 mothers had a job, 9 were housewives, also seven of them had diploma degree, 13 had bachelor's degree and 1 had a master's degree.

Children were paired according to their anxiety, such that each experimental group must have been analogous to a control group whose mean anxiety score wasn't significantly different. Parents' instructional sessions in the experimental group were implemented by a researcher expert in child and adolescent clinical psychology. After the completion of the instructional sessions, the Spence's anxiety scale for preschoolers was filled in again. Twenty three mothers from the experimental group and 21 people from the control group attended the post-test. Three months later, this scale was completed as the follow-up in which 21 mothers from the experimental group and 20 people from the control group participated. Repeated measures ANOVA was used to analyze the data. An informed consent was obtained from all mothers included in the study. Moreover, for control group mothers, four teaching sessions were held about the anxiety symptoms and their causes in preschool children.

Connor's behavior rating scale (Parents' Version) which is designed to diagnose and evaluate the emotional and behavioral disorders in 3-17-year-old children includes 48 items categorized in 5 areas involving behavioral problems, anxiety, learning problems, psychosomatic problems, hyperactivity, depression, and aggressiveness. Internal and content consistency coefficient for the DSM scales were all above 0.80 most of which were higher than 0.90. Test-retest coefficient was also higher than 0.70 for all scales [32]. Factor analysis has also confirmed five-factor structures for all the scales. All the internal correlations between the subscales were moderate to high (0.36 to 0.98). Criterion validity also showed a moderate to high correlation between Connor's subscales and it related subscales in the Child Behavior Check-List (CBCL) and behavioral assessment system for children. It has been successful in discriminating normal from abnormal groups based on the differential validity [33]. Iranian studies have reported high validity (0.76 to 0.90) and reliability (0.93) for this scale [34, 35]. This scale was used as a screening tool to investigate the presence of other disorders in anxious children.

Spence's anxiety scale for preschoolers which was completed by parents has 28 items. This scale is based on the DSM-IV list of anxiety disorders and evaluates pathological symptoms of separation anxiety disorder (5 items), GAD (5 items), social phobia (6 items), injury phobia (as a specific phobia) (7 items) and OCD (5 items)

in 2-6 year-olds. There's an open-ended question about any traumatic experience that the child might have had. In case of such an experience, 5 additional items targeting PTSD had to additionally be answered. All its subscales had moderate to good internal consistency with Cronbach's alpha higher than 0.70 (except for the OCD). The validity between informers involving the correlation between the information acquired from parents (father and mother) was more than 0.60 and test-retest correlation was also more than 0.60 (in a 12 month period). Results of factor analysis have shown that symptoms classification are compatible with the DSM-IV. Furthermore, all the Conner's behavior rating subscales have considerable positive correlation (at least 0.42) with subscales of CBCL (36). Ghanbari et al. (37) evaluated the reliability and validity of this scale and found that all subscales related to preschoolers' anxiety (except for the OCD: 0/53) had moderate to high (0.64 to 0.76) internal consistency. The validity of the scale was confirmed by experts. Moreover, its criterion validity was confirmed by

moderate to high (0.41 to 0.67) correlations with the Connor's anxiety subscale and it had a high test-retest correlation (0.73 to 0.82) in a 20-day period. Finally, a significant difference was observed between the scores of the normal and clinical group which confirms its differential validity.

The package which included 8 sessions of instruction held in groups of 8-12 people, was presented to the mothers in the experimental group. Every session took about 2 hours and was held weekly. A summary of the package contents in each session has been presented in Table 1. In the beginning of every session, tasks from the last session were discussed. Instructions were provided and were given to the parents in a written form, too. Mothers practiced the presented instructions with the therapist's help, and finally, homework assignments were explained to them. In building this instructional package, the literature concentrating on mother-child relationship and also recent effective treatments based on the attachment theory were utilized [28, 29].

Table 1. Contents of attachment-based parent training package

Session	Primary goals	Secondary goals	Assignments
1	Making members acquainted, talking about group's goals and rules, introduction to attachment theory	Promoting observation skills for distinguishing anxious behaviors from other problematic behaviors	Recording the intensity and circumstances of the problems
2	Getting familiar with secure and insecure attachment styles, effective factors in creating them and their consequences, recognition of attachment and exploring behaviors in children, training how to respond to these behaviors and training free play	Improving observational and inferential skills	Recording the attachment and exploring behaviors, mother's way of responding and child's reaction (recording of behavioral loops), free play in a certain amount of time and type of play
3	Understanding the role of parents' mental representations of attachment in relationship with children, recognition of mental representations that are sensitive to security, progress and relationship	Recognition of the relationship between childhood experiences and parental behaviors	Monitoring thoughts and emotions and recording them in order to recognize mental representations
4	Essential behavioral training considering mothers' mental representations, creating essential balance in paying attention to attachment and exploring behaviors	Promoting mothers' recognition of their own behavioral foundation and decreasing the number of children's behaviors that intensify problems	There were special assignments for each group of mothers considering their mental representations which had been recognized
5	Discussion about positive and negative behaviors in children, teaching the skills of understanding their own internal emotions and ability to verbalize them	Promoting mothers' responsiveness ability when they are confronted with children's negative behaviors and reducing conflicts between them	Recording the thoughts and emotions in response to children's behaviors and the way they express them verbally to children and children's reaction to them
6	Teaching mothers the skills for understanding children's fundamental needs and ability to verbalize them	Promoting mothers' sensitivity and responsiveness to anxious behaviors and decreasing mothers' abandoning behaviors	Recording children's behaviors and the way mothers guess their needs or reasons of them and speaking on behalf of the child
7	Developing multi-dimensional insights into the child and encouraging mothers to change their mind about considering new experiences in children	Creating a real and complete picture of the child including positive and negative features and reviewing them considering new conditions	Recording the positive and negative features of children and mothers' feelings about them, exploring the changes that have been made during sessions and comparing the child before and after the sessions
8	Reviewing last sessions, training how to maintain and promote the changes that have been made	Making mothers ready for using sessions' contents alone	Arranging a time for re-test

To investigate the effect of parents' training on children's anxiety, repeated measures ANOVA was used. First, prerequisites of this statistical method were investigated and confirmed. Normality of multi-variation (Moshley's $W=0.97$, $\chi^2=0.83$ and $p=0.66$) and consistency of the covariances ($F=2.60$, $p<0.01$) were also approved.

As we observe in table 3, both analyses of the variance of time factor and the interaction of time and group factors are significant, whereas group factor alone has created a significant effect, too ($F=10.35$, $p<0.01$). ANOVA with repeated measures was used to further investigate the differences (table 4).

Considering mean scores of the experimental (Pre-test mean=46.76 and Post-test mean=26.85) and control (Pre-test mean=47.80 and Post-test mean=41.95) group, interactional effect significance means that the reductions in general anxiety scores of the two groups from pre-test to the post-test were significant. Also, the insignificance of the change from post-test to follow-up scores shows that these scores were stable.

Discussion

The current study was conducted to investigate the effects of parents' attachment-based training on reducing preschoolers' anxiety symptoms. Findings showed that in total, the anxiety score had a significant reduction in the experimental group more than the control group and this reduction was sustained during the three months of follow-up.

Although the developmental psychologists and experts have postulated about the role of parent-child interaction on anxiety, attachment styles or the mental representations of the children, parent-child interaction or family's recent pathologies are not well explored [10]. Also, treatments based on the attachment styles, particularly targeting these disorders are not formed yet. That is why it wasn't possible to compare these results with the findings from other studies employing attachment-based parent instructing to reduce anxiety problems.

Table 2. Mean score and standard deviation of preschoolers' anxiety in the experimental and control group in pre-test, post-test and follow-up

Index / Subscales	Group	Pre-test		Post-test		Follow-up	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
GAD (0-20)	Experimental	10.57	4.30	6.04	3.80	5.66	2.93
	Control	9.75	3.76	9.30	3.70	9.10	4.68
Social phobia (0-24)	Experimental	9.52	4.82	4.23	3.44	6.00	3.31
	Control	10.60	6.29	9.55	5.11	10.30	4.90
OCD (0-20)	Experimental	4.00	4.38	2.09	2.34	2.28	3.03
	Control	4.19	2.97	4.05	3.28	3.75	3.02
Fear from physical injuries (0-32)	Experimental	10.80	4.11	7.61	4.14	6.52	3.21
	Control	11.45	4.58	8.70	4.42	9.35	4.74
Separation anxiety (0-20)	Experimental	12.14	3.62	6.85	3.43	6.19	3.26
	Control	12.00	2.65	10.35	3.28	10.80	3.30
Anxiety total score	Experimental	46.76	13.76	26.85	12.97	26.66	10.22
	Control	47.80	9.79	41.95	11.45	43.60	14.15

Table 3. ANOVA of the main and interactional effects on the anxiety scales

Factor/Index		Lambda Wilks Index	F	Supposed degree of freedom	Significance
General anxiety	Within subject	0.644	10.49	2	0.0001
	Interaction of between and within subject	0.739	6.72	2	0.003
Social phobia	Within subject	0.533	16.64	2	0.0001
	Interaction of between and within subject	0.737	6.76	2	0.0001
Obsession-compulsion	Within subject	0.915	1.76	2	0.18
	Interaction of between and within subject	0.90	1.98	2	0.15
injury phobia	Within subject	0.49	19.38	2	0.0001
	Interaction of between and within subject	0.88	2.42	2	0.102
separation anxiety	Within subject	0.38	29.80	2	0.0001
	Interaction of between and within subject	0.61	11.98	2	0.0001
total score of anxiety scale	Within subject	0.349		2	0.0001
	Interaction of between and within subject	0.597		2	0.0001

Table 4. Results for comparing the anxiety scales in pre-test vs. post-test and post-test vs. follow-up

	Source/Index	Comparison	Sum of Squares	Degree of Freedom	Mean of Squares	F	Significance
General anxiety	Within subject	Pre-test – Post-test	253.42	1	253.42	19.37	0.0001
		Post-test – Follow-up	3.45	1	3.45	0.36	0.55
	Interaction of time and group	Pre-test – Post-test	170.00	1	170.00	12.99	0.001
		Post-test – Follow-up	0.33	1	3.33	0.03	0.85
Social phobia	Within subject	Pre-test – Post-test	411.20	1	411.20	30.65	0.0001
		Post-test – Follow-up	80.99	1	80.99	14.30	0.001
	Interaction of time and group	Pre-test – Post-test	183.78	1	183.78	13.6	0.001
		Post-test – Follow-up	5.19	1	5.19	0.91	0.34
Obsession-compulsion	Within subject	Pre-test – Post-test	42.85	1	42.85	3.40	0.07
		Post-test – Follow-up	0.12	1	0.12	0.03	0.85
	Interaction of time and group	Pre-test – Post-test	47.12	1	47.14	3.74	0.06
		Post-test – Follow-up	2.46	1	2.46	0.72	0.40
Injury phobia	Within subject	Pre-test – Post-test	0.361	1	0.361	31.82	0.0001
		Post-test – Follow-up	2.03	1	2.3	0.22	0.63
	Interaction of time and group	Pre-test – Post-test	1.98	1	1.98	0.17	0.67
		Post-test – Follow-up	31.20	1	31.20	3.49	0.07
Separation anxiety	Within subject	Pre-test – Post-test	492.77	1	492.77	46.10	0.0001
		Post-test – Follow-up	0.48	1	0.48	0.07	0.78
	Interaction of time and group	Pre-test – Post-test	135.40	1	135.40	12.66	0.001
		Post-test – Follow-up	12.77	1	12.77	1.94	0.17
Total score of anxiety scale	Within subject	Pre-test – Post-test	253.422	1	253.422	19.37	0.0001
		Post-test – Follow-up	3.45	1	3.45	0.36	0.55
	Interaction of time and group	Pre-test – Post-test	170.07	1	170.07	12.99	0.001
		Post-test – Follow-up	0.33	1	0.33	0.035	0.85

The effectiveness of interventions concentrating on parents training to reduce anxiety symptoms is shown in some studies [38, 39]. Most of these studies have a cognitive-behavioral approach and the only research that used an additional attachment-based approach has reported reduced anxiety and isolation symptoms [40]. Moreover, attachment-based method was mostly done on premature infants or those with developmental delays [19] or other problems of the infants, such as eating disorders [41], behavioral problems [42], and internalizing and externalizing problems [43], all effective in reducing the problems.

To explain the findings of the current study, it can be

said that mothers of children who have anxiety, are excessively controlling, meddlesome and don't permit their children to decide, and have problems in mutual relationships [40]. Maternal care quality can be an effective factor in the formation of anxiety disorders, because the first stress that the child experiences – separation of the child from mother – can contribute to the appearance of anxiety disorders in childhood and adulthood [44]. The insecure attachment of children predisposes them to high levels of chronic anxiety later in life, as unavailability, irresponsiveness, and unpredictability of the caregiver makes them sustain a constant fear from being alone and inability in coping

with potential threats. This fear is located at the center of the child's coping strategy and creates a vigilant state that can lead to anxiety disorders in adolescence and adulthood [45]. Since they are not confident about the availability of the caregiver, the attachment system is continuously active and makes the child dependent on the mother, reduces an exploratory activity and interrupts them with the smallest dangers in the environment [46]. Various studies have also found relationships between parental behavior components such as anxious parenting, excessive control, emotional rejection [47], high levels of seriousness, disorganized and unstable discipline, low emotional intimacy [48], negative interventionist behaviors focusing on mother's needs and ignoring the child [49] with anxiety symptoms in the children.

Results of the current study also showed a distinctive decline in GAD, social phobia and separation anxiety subscale scores. These three disorders can be explained by the attachment theory.

From the attachment perspective, GAD which is characterized by extended worry and anxiety most of the time about some of the daily events and activities [50] can be considered as a representation of some kind of vigilance and alerting in which daily events seem dangerous for the person and make him/her worry, and mother's in/ability in reducing primary stresses and anxiety has a fundamental role in the acquisition of negative emotion modification and management by the child. Social phobia disorder which is characterized by fears and anxiety when confronting one or more social situations [50] can be explained by the fact that the fundamental attachment pattern is changed based on the cognitive and linguistic developments during the preschool years and they approach psychosocial adjustment. A child with secure relationships is encouraged by the caregiver to get out of the mother-child relationship and experience other relationships. In these children, the employed secure strategies lead to learning reciprocal relationships with others, alliance with the others and forming a social dimension of personality [40]. Separation anxiety disorder characterized by fear and anxiety when getting separated from the attachment figures [50] can be considered as the overactivity of the behavioral attachment system due to various factors which include parental anxiety, excessive control and interference of the parents or failure to satisfy child's fundamental attachment needs. In such a condition, the activity of the exploratory system is shut down and any kind of separation is perceived as threatening for the child. Extreme dependence on parents due to parents' inability in controlling anxiety and interfering with their activities is observed in these children.

The effectiveness of the parents' attachment-based instruction can be attributed to several factors. Since the interaction between attachment and exploratory systems provides a secure base for the child; in the current research, these systems and their interaction were explained to mothers to enable them to understand their children's needs and respond to them. Research results have indicated that providing information about it can

influence parents' caring behaviors [51]. Mothers were asked to play with the child one hour a day as an assignment in our package which was supposed to be done in a certain amount of time and place. Such a fixed plan can create availability and security in the child [52].

Attachment-based interventions, along with reaching a better parental caring quality, challenges children's negative internal patterns by changing the parental styles. Such a component in child's attachment can teach them that the emotional arousals are not necessarily harmful [44] and they can learn to verbalize their negative emotions and prevent them from being externalized in the form of anger, aggression, anxiety or depression. Inability to regulate and modify the emotions and arousals and failure in learning to communicate with others results from the parents' unavailability and non-responsiveness during the childhood [53]. In our package, assignments were given to the parents in order to become more sensitive to children's anxious behaviors. Mothers are helped to find out children's true source of anxiety, respond to them well and change the children's image of them. A part of the intervention must challenge children's representation of the parents as unavailable, insensitive and punishing responsive individuals and assure them about being available and responsive [27]. Mothers learned about different levels of the forming of anxiety by which they could distinguish anxious behaviors from the other behaviors. Parents sometimes apply an "anxiety" label for some behaviors which are completely irrelevant to anxiety. Getting familiar with anxious behaviors was essential for treatment.

Parents' capacity in seeing the world through the children's eyes and understanding their motivations and fundamental needs related to their most problematic behaviors is an important stage in relationship-oriented treatments [54]. Such a capacity is usually accompanied by sensitivity, responsiveness, constant care and emotional support of the caregiver [55]. In our package, mothers were asked to speak on behalf of the child when he/she is nervous to find his/her fundamental reason and hidden need. Understanding these needs can promote mothers' responsiveness.

Insecure children are reluctant and resistant to get close to their caregiver which leads to emotional separation of the mother and child. As a result, the caregiver feels incompetent in child-caregiver relationship and transfers his/her anger to the child which leads to further separations of the child from caregiver and it is escalated repeatedly. Breaking this vicious circle is one of the major goals of the attachment-based interventions [56]. We instructed the parents to confront their children's fear and anxiety. First, they tried to understand their fears and anxieties and verbally express them to their children, stay with their children and pave the way for the exploratory behaviors.

Although the main focus of our intervention was on the behavioral aspect of the parents' caregiving, mental representations of the parents were also discussed in two sessions. Knowing these representations and their effects on the relationship with the children can improve

mothers' sensitivity and responsiveness.

The current study couldn't find a significant reduction in the problems related to obsessive compulsive disorder and physical injury phobia after the intervention. On one hand it can be concluded that this method is not effective on these disorders, thus more research must be done in order to design effective treatments for them. On the other hand, it seems possible that this depletion is due to the fact that the instrument used in this study was not appropriate for evaluating these disorders, regarding the low internal consistency of OCD subscale reported by other scholars [36, 37].

Conclusion

The results of current study indicated that attachment-based parent training method can be effective in reducing children's anxiety. This study had some limitations: Due to the inadequate validity and reliability of Spence's anxiety scale for the OCD subscale, evaluating the effectiveness of attachment-based parent training method on problems related to obsessive-compulsive cannot be concluded. Moreover only mothers were trained and there was no direct intervention for the children. Furthermore, this study did not consider the role of father-child attachment. One factor that can affect such interventions is marital relationships, but this study could not assess them. It is suggested that future studies include some interventions for children at the same time as their parents, investigate the role of father-child attachment in decreasing children's anxiety and assess the marital relationships. They also can investigate effective methods for reducing OCD and physical injury phobia in children, and design appropriate instruments for evaluating OCD in children. Based on the current findings, it is also suggested that child therapists use this method in order to prevent and treat children's anxiety.

Acknowledgement:

The authors would like to thank all those who participated in this study.

References

1. Cartwright-Hatton S, McNicol K, Doubleday E. Anxiety in a neglected population: Prevalence of anxiety disorders in pre-adolescent children. *Clinical psychology review*. 2006;26(7):817-33.
2. Polanczyk GV, Salum GA, Sugaya LS, Caye A, Rohde LA. Annual Research Review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*. 2015;56(3):345-65.
3. Maughan B, Rowe R, Messer J, Goodman R, Meltzer H. Conduct disorder and oppositional defiant disorder in a national sample: developmental epidemiology. *Journal of child psychology and psychiatry*. 2004;45(3):609-21.
4. Pine DS, Helfinstein SM, Bar-Haim Y, Nelson E, Fox NA. Challenges in developing novel treatments for childhood disorders: lessons from research on anxiety. *Neuropsychopharmacology*. 2009;34(1):213.
5. Luby JL. *Handbook of preschool mental health: Development, disorders, and treatment*: Guilford Press; 2009.
6. Egger HL, Angold A. Common emotional and behavioral disorders in preschool children: presentation, nosology, and epidemiology. *Journal of child psychology and psychiatry*. 2006;47(3-4):313-37.
7. Priceputu M. Attachment style-from theory to the integrative intervention in anxious and depressive symptomatology. *Procedia-Social and Behavioral Sciences*. 2012;33:934-8.
8. Mash EJ, Barkley RA. *Child psychopathology*: Guilford Publications; 2014.
9. Muris P. The pathogenesis of childhood anxiety disorders: Considerations from a developmental psychopathology perspective. *International Journal of Behavioral Development*. 2006;30(1):5-11.
10. Cassidy J, Shaver PR. *Handbook of attachment: theory, research and clinical applications*. New York: Guilford; 2008.
11. Ainsworth MDS. *Infancy in Uganda: Infant care and the growth of love*. 1967.
12. Bowlby J. *Attachment and Loss: Attachment*.-1969-(RUIDnr.: M102591232): Basic books; 1969.
13. Bowlby J. *Attachment and loss: Separation: Anxiety and anger (Vol. 2)*. new york: Basic Books; 1973.
14. Bowlby J. *Attachment and loss: Loss, sadness and depression (Vol. 3)*. New York: Basic Books; 1980.
15. Knappe S, Beesdo-Baum K, Fehm L, Lieb R, Wittchen H-U. Characterizing the association between parenting and adolescent social phobia. *Journal of anxiety disorders*. 2012;26(5):608-16.
16. Festa CC, Ginsburg GS. Parental and peer predictors of social anxiety in youth. *Child Psychiatry & Human Development*. 2011;42(3):291-306.
17. Ziv Y, Oppenheim D, Sagi-Schwartz A. Social information processing in middle childhood: Relations to infant-mother attachment. *Attachment & Human Development*. 2004;6(3):327-48.
18. Woodhouse SS. Attachment-based interventions for families with young children. *Journal of clinical psychology*. 2018.
19. Bakermans-Kranenburg MJ, Van IJzendoorn MH, Juffer F. Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological bulletin*. 2003;129(2):195.
20. Ainsworth MDS, Blehar MC, Waters E, Wall SN. *Patterns of attachment: A psychological study of the strange situation*: Psychology Press; 2015.
21. Ainsworth MDS. Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. *Child development*. 1969:969-1025.
22. Egeland B, Weinfield NS, Bosquet M, Cheng VK. Remembering, repeating, and working through: Lessons from attachment-based interventions. *WAIMH handbook of infant mental health*. 2000;4:35-89.
23. Beijersbergen MD, Juffer F, Bakermans-Kranenburg MJ, van IJzendoorn MH. Remaining or becoming secure: Parental sensitive support predicts attachment continuity from infancy to adolescence in a longitudinal adoption study. *Developmental psychology*. 2012;48(5):1277.
24. van den Boom DC. Do first-year intervention effects endure? Follow-up during toddlerhood of a sample of Dutch irritable infants. *Child development*. 1995;66(6):1798-816.
25. Van Zeijl J, Mesman J, Van IJzendoorn MH, Bakermans-Kranenburg MJ, Juffer F, Stolk MN, et al. Attachment-based intervention for enhancing sensitive discipline in mothers of 1- to 3-year-old children at risk for externalizing behavior problems: a randomized controlled trial. *Journal of consulting and clinical psychology*. 2006;74(6):994.
26. Ebrahimzadeh MF, Ghasemzadeh A, Borjali A, Sohrabi F, Soleimani M. Effect of secure attachment style based on mother-adolescent training on reducing depression in female adolescents. *Procedia-Social and Behavioral Sciences*. 2012;46:1365-70.
27. Goldsmith DF. Challenging Children's Negative Internal Working Models: Utilizing Attachment-Based Treatment Strategies in a Therapeutic Preschool, 2007. In D. Oppenheim, & D. F. Goldsmith (Eds.), *Attachment Theory in Clinical Work with Children* New York: Guilford Press.
28. Cooper G, Hoffman K, Powell B, Marvin RS. The Circle of Security Intervention: Differential Diagnosis and Differential Treatment, 2005. In L. J. Berlin, Y. Ziv, L. A. Jackson, M. T. Greenberg (Eds.), *Enhancing Early Attachments Theory, Research, Intervention, and Policy*. New York: Guilford Press.
29. Dozier M, Lindhiem O, Ackerman JP. Attachment and Biobehavioral Catch-up, 2004. In L. J. Berlin, Y. Ziv, L. Amaya-Jackson, & M. T. Greenberg (Eds.), *Enhancing early attachments: Theory, research, intervention, and policy* New York: Guilford Press.
30. Koren-Karie N, Oppenheim D, Goldsmith D. Keeping the inner world of the child in mind: Using the insightfulness assessment

- with mothers in a therapeutic preschool. Attachment theory in clinical work with children. 2007:31-57.
31. Moretti MM, Obsuth I. Effectiveness of an attachment-focused manualized intervention for parents of teens at risk for aggressive behaviour: The Connect Program. *Journal of Adolescence*. 2009;32(6):1347-57.
 32. Frick PJ, Barry CT, Kamphaus RW. *Clinical assessment of child and adolescent personality and behavior*. New York: Springer; 2010.
 33. Conners CK. *Conners 3rd edition manual*. Toronto, Ontario, Canada: Multi-Health Systems; 2008.
 34. Khushabi K, Pour-Etemad H, Mohammadi M, Mohammadkhani P. The prevalence of ADHD in primary school students in Tehran. *Medical Journal of The Islamic Republic of Iran (MJIRI)*. 2006;20(3):147-50.
 35. Shahaecian A, Shahim S, Bashash L, YOUSEFI F. STANDARDIZATION, FACTOR ANALYSIS AND RELIABILITY OF THE CONNERS' PARENT RATING SCALES FOR 6 TO 11 YEARS OLD CHILDREN IN SHIRAZ. 2007.
 36. Spence SH, Rapee R, McDonald C, Ingram M. The structure of anxiety symptoms among preschoolers. *Behaviour Research and Therapy*. 2001;39(11):1293-316.
 37. Ghanbari S, Khanmohamadi M, Khodapanahi M, Mazaheri A, Gholamali Lavasani M. Study of psychometric properties of preschool anxiety scale. *Journal of psychology*. 2011;15:222-34.
 38. Wood JJ, Piacentini JC, Southam-Gerow M, Chu BC, Sigman M. Family cognitive behavioral therapy for child anxiety disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2006;45(3):314-21.
 39. Mayer-Brien S, Turgeon L, Lanovaz MJ. Effects of a parent training programme for the treatment of young children with separation anxiety disorder. *the Cognitive Behaviour Therapist*. 2017;10.
 40. LaFreniere PJ, Capuano F. Preventive intervention as means of clarifying direction of effects in socialization: Anxious-withdrawn preschoolers case. *Development and psychopathology*. 1997;9(3):551-64.
 41. Benoit D, Madigan S, Lecce S, Shea B, Goldberg S. Atypical maternal behavior toward feeding- disordered infants before and after intervention. *Infant Mental Health Journal: Official Publication of The World Association for Infant Mental Health*. 2001;22(6):611-26.
 42. Robert- Tissot C, Cramer B, Stern DN, Serpa SR, Bachmann JP, Palacio- Espasa F, et al. Outcome evaluation in brief mother-infant psychotherapies: Report on 75 cases. *Infant Mental Health Journal: Official Publication of The World Association for Infant Mental Health*. 1996;17(2):97-114.
 43. Koren- Karie N, Oppenheim D, Getzler- Yosef R. Mothers who were severely abused during childhood and their children talk about emotions: Co- construction of narratives in light of maternal trauma. *Infant Mental Health Journal: Official Publication of The World Association for Infant Mental Health*. 2004;25(4):300-17.
 44. Sroufe LA. *Emotional development: The organization of emotional life in the early years*: Cambridge University Press; 1997.
 45. Egeland B, Erickson M. Attachment theory and findings: Implications for prevention and intervention. *Prevention in mental health: Now, tomorrow, ever*. 1993:21-50.
 46. Manassis K. Child-parent relations: Attachment and anxiety disorders. *Anxiety disorders in children and adolescents*. 2001:255-72.
 47. Muris P, Meesters C, van den Berg S. Internalizing and externalizing problems as correlates of self-reported attachment style and perceived parental rearing in normal adolescents. *Journal of Child and family Studies*. 2003;12(2):171-83.
 48. Steinberg L, Lamborn SD, Darling N, Mounts NS, Dornbusch SM. Over-time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*. 1994;65(3):754-70.
 49. Propper C, Willoughby M, Halpern C, Carbone M, Cox M. Parenting quality, DRD4, and the prediction of externalizing and internalizing behaviors in early childhood. *Developmental Psychobiology: The Journal of the International Society for Developmental Psychobiology*. 2007;49(6):619-32.
 50. Sadock BJ, Sadock VA. Kaplan & Sadock's concise textbook of clinical psychiatry: Lippincott Williams & Wilkins; 2008.
 51. Juffer F, Bakermans-Kranenburg MJ, Van Ijzendoorn MH. *Promoting positive parenting: An attachment-based intervention*. London: Taylor & Francis Group; 2008.
 52. Juffer F, Bakermans-Kranenburg MJ, MH. v1. The importance of parenting in the development of disorganized attachment: evidence from a preventive intervention study in adoptive families. *Child Psychol Psychiatry*. 2005;46:263-74.
 53. Steele H, Steele M. Understanding and resolving emotional conflict. Attachment from infancy to adulthood: The major longitudinal studies. 2005:137-64.
 54. Zeanah CH, Benoit D. Clinical applications of a parent perception interview in infant mental health. *Child and Adolescent Psychiatric Clinics of North America*. 1995;4(3):539-54.
 55. Koren-Karie N, Oppenheim D, Dolev S, Sher E, Etzion-Carasso A. Mothers' insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. *Developmental Psychology*. 2002;38(4):534.
 56. Fonagy P. *Attachment Theory and Psychoanalysis*. New York (Other Press) 2001.