

The Effective Comparison Between Modular Cognitive Behavioral Therapy (MCBT) and Child-Parent Relationship Training (CPRT) in Children with Separation Anxiety Symptoms

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Abstract: The purpose of this study was comparing effect of Modular Cognitive-Behavioral Therapy (MCBT) and Child-Parent Relationship Training (CPRT). MCBT is the new treatment form of CBT with modular approach and individual of interventions. CPRT is a method for modification mother-child relationship. This study observed and compared the effectiveness of MCBT and CPRT on children with separation anxiety symptoms. This study is a randomized clinical trial. Subjects were 45 pair mother-child 6-7 years old with diagnosis of SAD, being randomly assigned to MCBT, CPRT and control groups (15 children in each group). Subject children in MCBT group participated in variable 4-20 h weekly sessions within modular cognitive-behavioral therapy manual whereas subject children's mother in CPRT group contributed in 10 h weekly sessions within child-parent relationship training. The control group received no treatment. The screen for children separation anxiety disorder from (Child Symptom Inventory (CSI4), parent forms). Tests administered to all subjects in pretest, posttest and the follow-up measurement (2 and 3 months later). Analysis of variance with repeated measurements were applied to analyze data by Statistical Package for Social Sciences (SPSS) Software package (v. 20). MCBT and CPRT; demonstrated significant difference in reducing separation anxiety disorder from children's parent reports. MCBT in comparison with CPRT; effectively improved reducing separation anxiety in children.

Key words: Separation anxiety, symptoms, modular cognitive behavioral therapy, child-parent relationship, training

INTRODUCTION

Among the children, "anxiety disorders" have a high prevalence, 6-18%. Based on the fifth diagnostic and statistical manual of mental disorders from these disorders the diagnosis of separation anxiety in children as a human response with a value of giving durability to life is necessary. This disorder is diagnosed when at least three signs in relation to the excessive and disproportionate concern appear while being separated from the source of attachment and for 4 weeks (Jongerden *et al.*, 2015). Children with this disorder, when a person to whom there exists dependence (usually the mother) is not with one are exposed to intense anxiety and fear and the physical symptoms such as headache and cramping are occurred in them during their separation. Moreover, frequent nightmares in these children appear with the theme of separation (Lebowitz *et al.*, 2014). Moreover, frequent nightmares in these children appear with the theme of separation (Lebowitz *et al.*, 2014). The prevalence of anxiety disorder in children at an early age has been reported in girls about 4% more than boys; beside the educational activities this has a negative impact on family

performance, relationships with peers and prognosticates the psychiatric disorders in adolescence (Bithner *et al.*, 2007; Liberman *et al.*, 2006) and if untreated this disorder continues into adulthood.

In the treatment of separation anxiety disorder the orientations has been proposed based on attachment theory. With the formation of attachment relationships between mother-child, the mother has an operation as a secure base and facilitating the search and emotionally refueling of child and upon that the child searches the new challenging and unpredictable situations and the "internal working model" grows in the child that affects all other relationships; safety and healthy development of the child up to one or more symbols of sensitive and responsive attachment, leads to the emotional regulation (Maugham and Cicchetti, 2002), the self-control and problem-solving skills and lack of opportunity for the formation of the attachment leads to two clinical patterns of attachment disorder; the very insecure attachment has a direct relationship with disorders like anxiety (Rogosch and Cicchetti, 2004; Ainsworth, 1989; Barber, 1996).

In the introduction and suggestion of treatment protocols, researchers have tried to provide proper

solutions for the treatment of this disorder (Chorpita, 2007; Chiu *et al.*, 2013; Kendall *et al.*, 2008; Silvia *et al.*, 2013). In this regard, various treatment strategies such as individual therapy (Walsh *et al.*, 2007), behavioral therapy, cognitive-behavioral therapy (Bodden *et al.*, 2008) consultation with parents and the family (Musavi *et al.*, 2010), group therapy or a combination of these strategies have been used (Silverman *et al.*, 2008) but all these strategies have been useful sometimes just clinically and in short-term (Affrunti and Woodruff-Borden, 2015); also they showed that although, some children can be treated with Cognitive-Behavioral Therapy (CBT) but some of them show a minimum response to treatment (Victor *et al.*, 2007; James *et al.*, 2003).

Treatment of separation anxiety disorder should be taken seriously from the childhood; so the mother and child interactions are considered as a basis for emotional, cognitive and social development (Bowlby, 1969; Brotherson, 2006; Cassidy and Shaver, 1999). The relationship between mother and child is the first and most important relationships that the human ever has benefited of it (Waite and Creswell, 2015). Creation of all kinds of anxiety including the separation anxiety during the child development is from various reasons subject to a kind of "object relations". Also on the prediction of separation anxiety in children, the research by Ingram *et al.* (2001) through cognitive variables showed that there is a direct relationship between the negative automatic thoughts and inappropriate care on the one hand and separation anxiety on the other (Harris and Curtin, 2002; Stallard, 2007). Therefore in the treatment of child, teaching parents in order to find room for their role in treatment programs leads to better results (Rapee, 1997). Barkley (2002) believes that teaching parents cause to increase their understanding of the nature of the disorder and enhance their self-confidence in the parenting role (Orsmond *et al.*, 2006). The method of Child-Parent Relation Teaching (CPRT) to parents teaches the techniques of relation with children in the home (Kazdin, 2006; Oliver *et al.*, 2009). This method that is used mainly for parents of children 2-10 years old and having emotional problems, helps the child in changing his negative perceptions of parent and child's achievement to self-esteem and positive confidence to reduce anxiety (Lindo *et al.*, 2012). Rean (2004) stipulates that the mother relationship in the course of playing with child is effective in the development of child's social skills and abilities of his beliefs for reducing anxiety. Accordingly, it seems that teaching parent-child relationship reform can be in a structured and specific way effective according to these elements in reducing separation anxiety in children (Rean, 2004).

The effectiveness of interventions of method CPR has been stipulated in deferent researches for reducing

childhood problems in investigation of parent-child interaction (Popov and Ilesanmi, 2015), relationship between the quality of mother-child interaction and separation anxiety (Khanjani *et al.*, 2015), teaching the mother-child relation in investigating parental perception of interventions and the effectiveness of treatment (Lindo *et al.*, 2012), parent-child interaction group therapy in reducing the symptoms of separation anxiety disorder (Talebpor *et al.*, 2014), investigating mother child relations and anxiety symptoms (Khodapanahi *et al.*, 2012), parent-child interaction therapy for separation anxiety in adolescents and according to the etiology of separation anxiety disorder that has shown that this disorder is primarily related with mother-child relation (Waite and Creswell, 2015) and according to the different researches that have reported the existence of a significant relationship between separation anxiety and mother-child relation (Abbasi *et al.*, 2010; Talebpor *et al.*, 2014). Therefore, for reducing the symptoms of separation anxiety in children the present research has put on its agenda teaching the Parent-Child Relation (CPRT) as one of the treatment methods.

Also in examining cognitive-behavioral approach that is one of the classical treatments in confronting with disorders such as anxiety and depression in children (Silverman *et al.*, 2001), the results of researches conducted on separation anxiety disorder show generally the least expected result (Victor *et al.*, 2007), although many researches support this method for the treatment of various anxiety disorders (Barrett *et al.*, 1996; Musavi *et al.*, 2010; Kendall *et al.*, 1997). Regarding improvement intreated children with anxiety disorders and using cognitive-behavioral therapy or CBT, some research have reported failure; of course the success of this method under normal circumstances and without other difficulties and in older children has been also observed (Victor *et al.*, 2007; Bodden *et al.*, 2008); this can be because of the compatibility with CBT protocols. Therefore, it can be concluded that one of the reasons for inefficiency of the method CBT in some circumstances may be the lack of flexibility of this method the absence of strategies in this regard causes the weak output in the CBT protocol (Chiu *et al.*, 2013); so the researchers have considered the individualization of interventions. Chorpita and Barlow (1998) has provided a patterned method based on CBT with processing unit approach (MCBT) for responding the challenges (Wilhelm *et al.*, 2014). This approach has been used by Chorpita *et al.* (2004) for children of 7-13 years old with anxiety disorders and prescribed it for children with anxiety of avoidance of school whose behavior performance is avoidance. Protocol difference of IBT and CBT is in the number of sessions, session length, speed, treatment movement and location of meetings (Chiu *et al.*, 2013). Given that an anxious child with oppositional challenging behaviors

may require methods for controlling the destructive behaviors and the complete confrontation of a child with scary situations by providing a list of scary situations requires the special skills in this treatment method, by creating these skills we can help to child in facing with scary situations and reducing anxiety (Tabae-Emami *et al.*, 2011). Although, Chorpita (2007) has provided a positive history for this approach but there is not any integrated support on the basis of the effect of this type of treatment on the separation anxiety. Therefore, the present research has chosen cognitive behavioral treatment for reducing symptoms of separation anxiety in children with approach of processing unit MCBT. As a result, the basic problem of present research is the question of which of the proposed methods causes to improve or reduce symptoms of separation anxiety in children in the long run This question creates the assumption that “the effectiveness of cognitive-behavioral therapy focused on processing unit (MCBT) and teaching parent-child relation (CPRT) on separation anxiety in children of 6 and 7 years old is different in two and 3 months follow-through.”

MATERIALS AND METHODS

Research was experimental with a pre-test, post-test and follow-through (2 and 3 months) along with a control group. Study population was 26740 male and female students of 6 and 7-year-old of preliminary school (first grade) of Qom studying in the academic year 2013-2014. For sieving, 388 individuals were randomly selected in three stages with a cluster multi-stage sampling method. Given that the number of students with symptoms of separation anxiety was 76 individuals; 45 individuals of them were randomly selected and assigned randomly as two experiment groups and one control group. Implementing pre-test, it was assured of being at the same level of three groups. The experiment groups get cognitive-behavioral treatment focused on a processing unit with presence of child and teaching the mother-child relationship in mother presence according the determined sessions and the control group did not receive any specific intervention.

The research inclusion criteria consisted in: 6 and 7 years of age, parents' tendency to participate in the research, symptoms of separation anxiety disorder and earning highest score in CSI of this disorder, the absence of other disorders (according to CSI), the absence of growth problems related to anxiety, having 3 cases of those related with diagnosing the separation anxiety disorder during 4 weeks and finally, a distress or a considerable disorder in social, academic, ... performance

and the child (with an interview conducted by a psychiatrist). The exclusion criteria of the research were: illiterate, divorced or widowed mothers, absence of >3 sessions in the experiment group and according the criterion D in DSM-5 at times when this disorder is justified better with other mental disorder.

Research tools: In order to investigate demographic factors the researcher made form with factors such as age, sex, educational level and region were used and for measuring separation anxiety the clinical interview (to determine the dominance of separation anxiety disorder in relation with the other anxiety disorders as well as the differential diagnosis with generalized anxiety disorder by a children psychiatrist) and Child abnormal Symptoms Inventory (CSI-4) were used. This questionnaire is a common sieving tool for a most prevalent psychiatric disorder in children. The initial version of the questionnaire entitled as list of Sprafkin, Loney, Unita and Gadow (SLUG) was prepared by Sprafkin, Loney and Gadow based on the classification of the third edition of diagnostic and statistical manual for mental disorders and later by revising the third edition of diagnostic and statistical manual of mental disorders in 1987, the version CSI-3-R was also made. With the publication of the fourth edition of the diagnostic and statistical manual of mental disorders, CSI-4 was revised by Gadow and Sprafkin in 1998. Its last edition has two forms of parent and teacher. In the present research, the check list of parents has been used. The validity of criteria of this questionnaire has been designated by the experts of American psychiatric association that by method of Cronbach's alpha is 0.748 (Esmail and Alipour, 2011). Its sensitivity in a research that conducted on CSI-3-R was 93.0 and its specificity was obtained between 0.91 and 0.97. Using the dividing-in-half method, the reliability of this questionnaire was calculated 0.85 for parents' list. In this questionnaire the number of questions that measure the separation anxiety includes the questions (88-89-90-91-92-93-94-95-96-97). Cronbach's alpha coefficient in the conducted research for the pre-test and post-test is equal to 0.895 and 0.884 respectively. Being higher than 0.7 of these numbers is a reason for the validity of the questionnaire in desired research.

In stage of intervention the cognitive-behavioral treatment focusing on processing unit, borrowed from Chorpita (2007) was used; the various kinds of interventions and the auxiliary methods include: “reward, cognitive processes, active neglect, social skills and disruption”. According to Fig. 1 of this protocol, the units have been categorized based on comprehensive guide

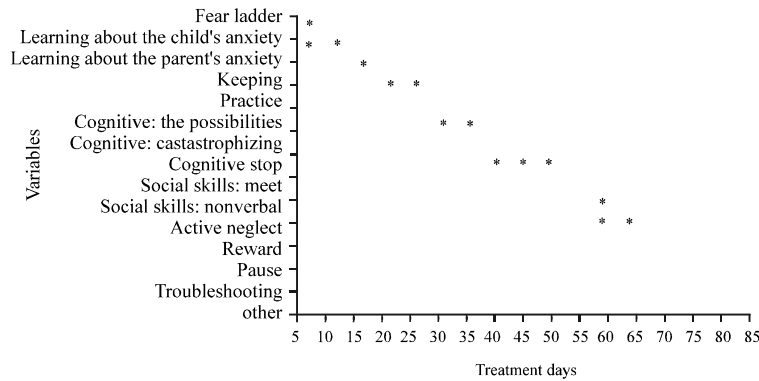


Fig. 1: Diagram of registration and drawing of units used for each individual in the therapy sessions (Chorpita, 2007)

diagram that introduces not only the treatment program but according to need, encompasses the conditioned uses of other processes. The units in the method MCBT include the following cases: “ladder of fear, learning about anxiety, exercise for confrontation, maintaining the achievements and the preventing the return.” The other intervention method is the program of teaching the relation of parent-child borrowed from Landert that has been adopted from filial therapy method and consisted of a focus on the existing emotional relation between parent-child (Dadds *et al.*, 1999).

Research methodology: In this study, sampling was carried out after coordination with the ministry of education. For the aim of screening for sampling, at first 2 districts were selected from 4 educational districts of the city of Qom; and then 4 schools were randomly selected based on random numbers table. Next, the sample of each school was selected from among pre-school and first-grade students, according to the population size and sample based on Cochran formula and the students in each class were randomly selected. Through principal teacher cooperation, after inviting mothers and filling out the CSI inventory by the mothers and after getting the psychiatrist’s views about the existence of the symptoms of separation anxiety disorder and the dominance of this disorder over other anxiety disorders, those with this disorder were randomly assigned to 3 groups of experimental and control-first we gave a code to each child and then based random number generator in Excel Software we select cases for each group after obtaining verbal consent from parents. Thus, the treatment was carried out in a group, individually with mothers in ten sessions (one session in each week) using CPRT Method.

Treatment in the other group was implemented with method MCBT and individually for child and with a

number of sessions varied according to the need of every child. It is notable this flexibility in the number of sessions is because of the nature of the treatment method MCBT. In the protocol of processing unit the number of sessions depends on the child. In treatment the units were selected according to each child’s problem; thus, there is not any prescription for the duration and number of sessions other than what is felt in the clinical practice. The use of any unit is specific to each child (Tabae-Emami *et al.*, 2011). In Fig. 1, a sample of a diagram of fear score, also the selected units and the number of days, according to the needs of the child are recorded (Chorpita, 2007).

The length of treatment sessions is determined by the children’s attention span and difficulty of training which can include 15 min of review or 4 h of alive confrontation. Beginning of a new training is when the previous trainings are well-learned or dominating them clearly is not possible. Meeting place at the clinic, school, playground and home depends on the children’s problem and the selected training (Chorpita, 2007).

Figure 2 shows that the different units is to deal with situations in which confrontation is not an ideal choice and the main question is whether the child is ready for training or not? It is noteworthy that we cannot assess immediately the circles in the top of the picture (Wilhelm, 2014).

During this period the subjects in the control group were not receiving any intervention. Of course, all of the subjects in both experiment and control groups were done a pre-test in the first session; at the last session also the questionnaire was completed by the mothers of three groups. Also second and third month after the post-test session in the course of calling and determining the presence meeting the subjects of three groups were evaluated (follow-through) again. After scoring the questionnaires based on the purposes of research, the statistical analysis was performed (Table 1).

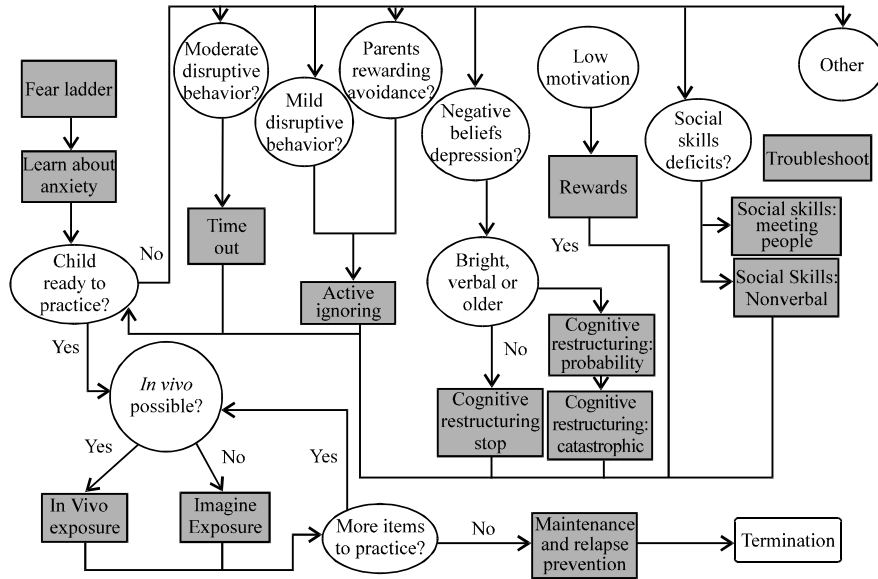


Fig. 2: Schematic of clinical algorithm for modular cognitive behavior therapy from Chorpita (2007)

Table 1: General topics of treatment based on the Child-Parent Relationship Training (CPRT) from Landreth and Bratton (2006)

Sessions	Title of sessions	Training plan
1	Reflective responding	Introduction of therapist and objectives of CPRT Reflective responding Practicing with role playing and work sheets Providing home assignments Summing up the session by the mother
2	Effective time in the play	Reviewing the topics of the previous session and reviewing the home assignments Reviewing the basic principles of play sessions at home Showing and introducing a series of plays needed for the play sessions Choosing a specific time and place for play sessions at home Role plays and providing the basic skills
3	Do's and don'ts in the play sessions	Friendly exchange of information and review of the home assignments Instructions, do's and don'ts of play sessions Practicing through role playing Decision making and conclusion
4	Delimitation principles	Reviewing the topics of the previous session and reviewing the home assignments Expression of delimitation principles and its stages Practicing through brainstorming, role-playing and worksheets Decision making and conclusion
5	Physical interaction with the child	Reviewing the topics of the previous session and reviewing the home assignments Reviewing the skill of delimitation Learning how to have physical and verbal interaction with children Practicing through discussion Decision making and conclusion
6	The skill of offering a choice, training the responsibility and decision-making	Reviewing the topics of the previous session and reviewing the home assignments The training on offering a choice Expressing the common problems faced by parents in play sessions Summing up and specifying the home assignments
7	Training the responses that cause self-esteem in children	Paying attention to the problems associated with previous sessions and answering the possible questions about reflective listening Setting the limits (delimitation) and provision of advanced choices Training the responses that create self-esteem in children Summing up the contents and providing the home assignments together with the worksheets
8	Creating a skill to encourage rather than praising	Reviewing the topics of the previous session and answering the potential questions Training and acquisition of skills to encourage rather than praising Training in mastery of using encouragement rather than praising Summing up and specification of home assignments together with worksheets
9	Review of sessions	Review of the discussions of previous sessions and review of home assignments

Table 1: Continue

Sessions	Title of sessions	Training plan
		Reporting the practices related to the encouraging responses at home Training the advanced delimitation and right of choice as a result of insubordination Generalization of delimitations to the out of play sessions Decision making
10	Review of sessions	Introduction of the resources proposed for the parents Training the skills to pay attention to the fact that good events occur gradually Summing up and presentation of home assignments Taking the test, ending the session and setting the time for follow-up test 1

Method of analyzing data: For comparing the variables in three control and experiment groups in this research, the normal distribution of scores was investigated by using the Kolmogorov-Smirnov test and then the effect of desired interventions was examined by analyzing multi-way variance with an internal factor (repeated measures) for comparing experiment and control groups.

RESULTS AND DISCUSSION

After entering the data obtained from questionnaires, they were calculated and investigated by the software SPSS 22. Demographic details about the participating individuals have been mentioned in Table 2-4.

In this research, the analysis of multi-way variance for repeated measures was used; 4 investigated factors include: experiment groups in three levels of treatment groups with CPRT, MCBT and control group, 4 times of measuring separation anxiety (pre-test, post-test follow-through 1-2), investigating the effect of gender and age (6-7 years old) were considered.

The amount of $p = 0.00$ that is >0.05 . Mochli's test shows that the Croyt's assumption is violated ($\chi^2(5) = 34.68, p = 0.000$). Based on the results of Croyt's test, greenhouse-geisser's statistic is used for comparing two methods of intervention and control group; for this purpose, the full factorial design was applied for the repeating observations.

Table 5 and 6 shows that the difference of the measured values at the different times and at the level of 0.05 is significant. Measurements at different times have created the different values ($F = 41.977$ and $\text{Sig.} = 0.000$). Moreover, since the interaction between the intervention group and measurement times is significant, it can be concluded that the difference between the methods of intervention and control groups is also significant in addition, the following table beside the confirmation of the significance of the effect of intervention methods, considers also significant the gender variable and the interaction of gender and age at the level of 0.05.

The results obtained in Table 7 show there is a significant difference between 3 experiment and control

groups at the level of $\alpha = 0.05$. This means that two intervention methods were effective in the treatment of separation anxiety. In addition, the effects of gender variable ($p = 0.031$) and the interaction between groups and age ($p = 0.018$) is significant; this means that the age has an effect on intervention performance. Also the effects of groups, gender and age ($p = 0.030$) are significant; this means that the combination of age and gender is of effect on the amount of performance of intervention.

For investigating the actual differences for effective factors, it should be done the follow-through tests. Due to lack of homogeneity of variances, Bonferroni's Method was used for the follow-through test regarding the measurement times and intervention groups.

The follow-through test regarding the intervention group factor whose results are observed in Table 8 and 9, confirms the significant difference of averages of three groups. Also the results show that the method MCBT has a significant effect more than the method CPRT. In Fig. 3 this difference can be seen.

Two methods of MCBT and CPRT were analyzed and compared in terms of age separately. The average score of anxiety of the boys in samples that for MCBT are selected randomly is equal to 8.750 with standard deviation of 0.913. This amount has been reduced after a period of intervention of MBCT to value of 3.625 with standard deviation of 0.944. According to a standard score, this amount is are latively suitable score for the child's separation anxiety; this confirms again the effectiveness of MCBT (post-test = 3.625 follow-through 1 = 2.750, follow-through 2 = 2.87) (Fig. 4).

The created reduction in the separation anxiety score as a result of intervention of MCBT for boys in compared with girls show more durability over time and the same effect is true for method CPRT, although, CPRT has shown a great effect on the boys. Comparing two methods of MCBT and CPRT, it must be said that method CPRT in the randomly selected samples in this research has not the power of a considerable reduction of separation anxiety in child while the method MCBT has been more successful in this regard.

Table 2: Summary of the results of descriptive investigation of data of method MCBT

Intervention	Gender	Age	Sample	Time	Mean	SD	
MCBT 17 children	Boy	6 years	4	Pre-test	8/00	0/816	
				Post-test	3.50	0.577	
		Follow up 1	2.75	0.500			
		Follow up 2	3.000	0.00			
			7 years	4	Pre-test	9.50	0.577
					Post-test	3.75	0.957
			Follow up 1	2.75	0.500		
			Follow up 2	2.75	0.500		
	Girls	6 years	4	Pre-test	12.00	1.826	
				Post-test	1.00	1.1550	
		Follow up 1	2.75	2.0620			
		Follow up 2	2.75	2.0620			
		7 years	5	Pre-test	8.40	0.8940	
				Post-test	4.00	2.2360	
				Follow up 1	3.80	1.9240	
				Follow up 2	5.80	3.1140	

Table 3: Summary of the results of descriptive investigation of data of method CPRT

Intervention	Gender	Age	Sample	Time	Mean	SD	
CPRT 15 children	Boy	6 years	2	Pre-test	10/50	0.707	
				Post-test	5.50	0.707	
		Follow up 1	4.00	0.000			
		Follow up 2	4.50	0.707			
			7 years	3	Pre-test	00/13	3.606
					Post-test	5.67	2.517
			Follow up 1	5.67	2.517		
			Follow up 2	7.00	2.000		
	Girls	6 years	7	Pre-test	11/00	2.582	
				Post-test	7.43	3.155	
		Follow up 1	5.86	2.478			
		Follow up 2	6.57	2.370			
		7 years	3	Pre-test	11/67	2.082	
				Post-test	8.00	4.000	
				Follow up 1	7.33	5.859	
				Follow up 2	6.33	4.933	

Table 4: Summary of the results of descriptive investigation of data of control group

Intervention	Gender	Age	Sample	Time	Mean	SD	
Control group 16 children	Boy	6 years	3	Pre-test	11/67	1.528	
				Post-test	12.00	4.583	
		Follow up 1	11.67	3.512			
		Follow up 2	10.67	1.528			
			7 years	4	Pre-test	6.5	5.260
					Post-test	8.00	2.449
			Follow up 1	7.5	2.887		
			Follow up 2	4.00	3.367		
	Girls	6 years	5	Pre-test	9/00	3.808	
				Post-test	10.80	3.633	
		Follow up 1	11.00	2.646			
		Follow up 2	10.40	1.140			
		7 years	4	Pre-test	11/50	1.000	
				Post-test	11.50	1.915	
				Follow up 1	11.50	1.732	
				Follow up 2	9.00	4.243	

Table 5: Mochli-Croyt's test

Intra-group effect	Mauchly	Chi-square	df	Sig.	Epsilon		
					Greenhouse-Geisser	Huynh-feldt	Lower-bound
Time	0.368	34.680	5	0.000	0.739	1.000	0.333

The research aimed to investigate the effectiveness of cognitive-behavioral therapy focused on processing unit (MCBT) and teaching the parent-child relation

(CPRT) on separation anxiety in children of 6 and 7 years old. After checking descriptively the normality of data and comparing two intervention methods of MCBT and

Table 6: Analysis of variance with repeated measures (inner-group effects)

References	Sum of squares	df	Mean-square	F-values	Sig.
Time	488.298	2.216	220.376	41.977	0.000
Groups x time	321.499	4.431	72.549	13.819	0.000
Gender x time	6.279	2.216	2.834	0.540	0.603
Age x time	1.691	2.216	0.763	0.145	0.884
groups x time x gender	25.539	4.431	5.763	1.098	0.366
Age x groups x time	36.828	4.431	8.311	1.583	0.181
Age x gender x time	7.835	2.216	3.536	0.674	0.527
Groups x time x age x gender	45.338	4.431	10.231	1.949	0.104
Error	418.767	79.767	5.250	-	-

Table 7: Analysis of variance for the group factors

Sources	Sum of squares	df	Mean-square	F-values	Sig.
Intercept	9549.329	1	9549.329	868.361	0.000
Groups	816.682	2	408.341	37.132	0.000
Gender	55.289	1	55.289	5.028	0.031
Age	0.603	1	0.603	0.055	0.816
Groups x gender	8.731	2	4.366	0.397	0.675
Groups x age	99.338	2	49.669	4.517	0.018
Gender	31.951	1	31.951	2.905	0.097
Groups x gender x age	85.269	2	42.635	3.877	0.030
Error	395.890	36	10.997	-	-

Table 8: Follow-through test for comparing the averages of the intervention methods relevant in treatment

Group (I)	Group (J)	Mean differences (I-J)	Error	Sig.	Confidence intervals 95%	
					Lower-bound	Upper-bound
MCBT	CPRT	-2.810*	0.623	0.000	-4.374	-1.245
	Control group	-5.012*	0.584	0.000	-6.478	-3.547
CPRT	MCBT	2.810*	0.623	0.000	1.245	4.374
	Control group	-2.203*	0.634	0.004	-3.796	-0.610
Control group	MCBT	5.012*	0.584	0.000	3.547	6.478
	CPRT	2.203*	0.634	0.004	0.610	3.796

Table 9: Interaction between age and groups

Groups	Age	Mean	Error	Confidence intervals (%)	
				Lower-bound	Upper-bound
MCBT	6 years old	4.469	0.586	3.280	5.6580
	7 years old	5.094	0.556	3.966	6.2220
CPRT	6 years old	6.973	0.665	5.625	8.3210
	7 years old	8.208	0.677	6.835	9.5810
Control group	6 years old	10.900	0.605	9.672	12.1280
	7 years old	8.687	0.586	7.499	9.8760

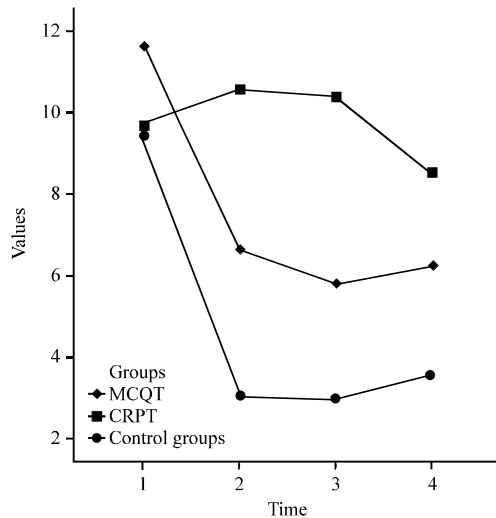


Fig. 3: Average of repeating scores for the three groups

CPRT and based on the analysis of variance of the repeating observations with 3 factors of intervention at three levels (MCBT, CPRT and control), gender and age of the child at two levels (6 and 7), the results showed that three levels considered for intervention in level of $\alpha = 0.05$ are significant. In addition, the child's gender is a variable whose effect is significant and other sources of change are not significant. The average of MCBT Method is 4.781 and one sample treated by MCBT has with probability of 0.95 the score of anxiety separation between 3.790 and 5.773; meanwhile, CPRT Method has a separation anxiety average equal to 7.501 and with probability of 0.95 a person who has been under this intervention, will have the separation anxiety score between 6.137 and 8.866. In comparing two methods of MCBT and CPRT, it should be said that CPRT Method in the randomly selected samples in this research has not a considerable reduction power in the child while the MCBT Method has been more successful in this regard. These results show that

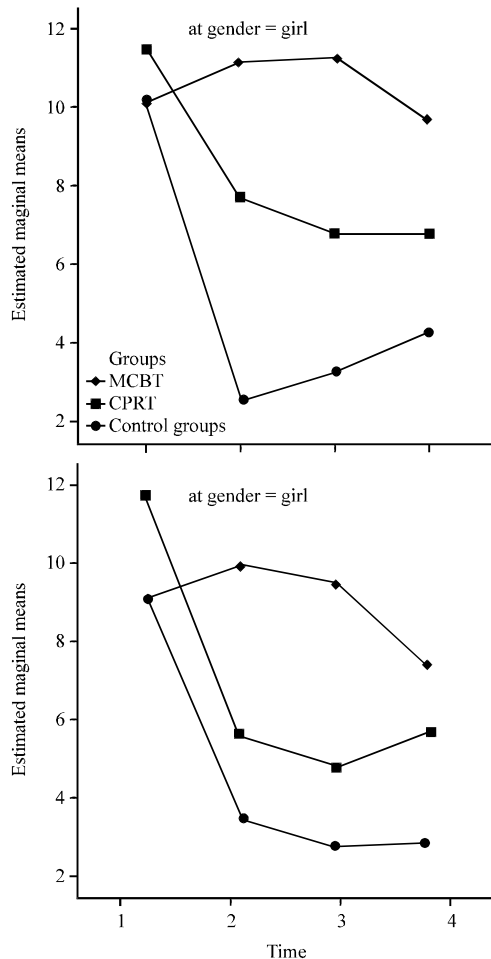


Fig. 4: Average of repeating scores for boys and girls in three MCBT, CPRT and control groups

the treatment method of MCBT is more effective in the treatment of separation anxiety in children. This finding is consistent with researches by Chorpita *et al.* (2004) who prescribed this approach for children suffering from a comprehensive anxiety and anxiety of school avoidance. Chorpita *et al.* (2004) have offered a positive history for MCBT approach but there was not any integrated support based on treatment effect. However, comparing the intervention approaches of MCBT and CPRT on the effectiveness of MCBT treatment method, this research confirmed this pattern in the treatment of separation anxiety disorder in children. Individualizing intervention, this method has been harmonized with the problem of authorities in line with previous researches (Wilhelm *et al.*, 2014; Kendall *et al.*, 1997).

The results obtained from MCBT Method in the follow-through 1 and 2 in the period of 3 months that in this research was formed, show that this therapeutic

approach is long-term. This finding is in line with the researches by Bodden *et al.* (2008). In comparative investigation of method of MCBT and the control group in every 3 measurement times after the pre-test, we witness the reduction of separation anxiety while in the control group it does not observed a considerable change. Considering that in the post-test of group of MCBT the reduction of separation anxiety is very evident and in the control group it had even an increase, these results confirm the effectiveness of cognitive-behavioral method with a processing unit approach for the treatment of separation anxiety in children. This finding is in line with the findings by Chorpita *et al.* (2004) and Chorpita (2007). It is notable that the research by Chorpita *et al.* (2004) has used this treatment for all anxiety disorders while with limiting this issue and using this pattern for treating separation anxiety, the present research has confirmed the effectiveness of this kind of treatment in reduction of anxiety symptoms. This method provides a practical pattern of the difficulty of authorities and deals with these factors regularly for identifying the fundamental problem of individual and by individualizing interventions harmonizes itself with individual's problem. As the findings of this research are consistent with other researches, it has been able to provide an answer to the challenges of CBT (Kendall *et al.*, 1997).

In this research, the effect of two factors of the gender and age among the different factors was investigated. About the girls it should be said while after the course of treatment, they received a good result of treatment but this result in follow-through period has less stability in relation to boys and anxiety has increased a little. For explaining this issue we can mention to the function of MCBT Method. When the separation anxiety is reduced and is treated clinically, the child has learned that pushes away the negative thoughts, doesn't have fear from loneliness and doesn't worry about the loneliness in the home and school. The important point in MCBT Method, unlike CPRT Method is the lack of attention of this method to child's attachment style and its reform; so the confrontation with this conditions with the lack of attention to attachment style of girls in relation to the boys causes to return the anxiety and expose them to fear again (Barber, 1996). Therefore, due to the effectiveness of this treatment method for boys in this research the use of this protocol is recommended.

By investigating the intervention with teaching parent-child relation it can be explained that CPRT Method has been structured and specified effectively in reducing the separation anxiety in children; this means that CPRT is also a significant method in the treatment of the separation anxiety. In explaining these results we can

say that this method compared with the control group caused to reduce the symptoms and improve the separation anxiety in children. The findings of this research correspond with the findings of those researches that pay attention to conditions and attachment style, "object relations" in the relationship between mother and child (Bowlby, 1969); so through improving this relationship with CPRT Method, teaching the skill of "giving the right of choice", "giving the responsibility" and "decision-making skill" in sessions to mother in order to empower the child, creating favorable and pleasant conditions as a consequence of behavior, it is helped to promote self-esteem in the child and thus, the child feels the independence as a result with the transition from dependence he achieves to independence of emotional action and object relations (Brotherson, 2006; Cassidy, and Shaver, 2008). Also the responsiveness of mother leads to emotional regulation (Maugham and Cicchetti, 2002) and causes to reduce the negative imagination from the parent and finally with formation of attachment separation anxiety in children is reduced. This finding corresponds with finding by Ainsworth (1989), based on which with the formation of attachment relations between mother-child the mother acts as a secure base and as making things easier for the child and on the basis of that the child searches the new, challenging and unpredictable situations and based on the early attachment experiences all other relationships are affected and the child achieves the self-control and problem-solving skills (Brotherson, 2006); improving the mother-child relation through the teaching sessions and creating the skill in the "reflection of feeling" to child and amending the guidelines "ought-to and not-ought to of play sessions" with the aim of increasing the mental security of child, the self-confidence of mother and child increases as a result with the confrontation of child with the challenging situations the positive confidence in him increases and subsequently separation anxiety is reduced; the consistence of this finding with the findings by Lindo *et al.* (2012) confirms the effectiveness of CPRT.

In investigating the method of CPRT in long term according to the theory of John Bowlby who believes the amendment to mother-child relation can have a positive effect on this relation in long term and with investigating the teaching models that focus on improving mother-child relation (Barkley, 2002) in this pattern the relationship between mother and child improves by increasing the "physical interaction" of mother and the child; so the result of this relationship is evident in the sustainability of treatment; also Berkeley believes that teaching the relationship between mother-child causes to increase their knowledge of the nature of disorder and will boost their

self-confidence in the parenting role and the therapeutic effects will be stable for 4-5 years after teaching. In the present research after investigating the situation of averages of separation anxiety before and after teaching with two follow-throughs 1 and 2 it is showed that in CPRT at every 3 measurement times we witness a reduction in the separation anxiety after pre-test while it is not observed any reduction in the control group. This finding is consistent with the researches by Landreth and Bratton. According to the this finding, it is recommended that in future researches the researchers improve the father-child relation so that the parent's gender not only is tested but also it is investigated what consequences this relation will have on the improvement of children with anxiety problems.

In investigating the gender variable due to being significant the effect of gender in the comparison of two Methods of MCBT and CPRT and after analyzing and comparing it was determined that the average score of boys anxiety in the samples that were selected randomly for MCBT is equal to 8.750 with standard deviation 0.913. This amount after a period of MCBT treatment has decreased to the amount 3.625 with a standard deviation 0.944. This amount according to a standard score is a relatively suitable score for the child's separation anxiety that confirms the effectiveness of MCBT again (post-test = 3.625, follow-through 1 = 2.750, follow-through 2 = 2.87). The created reduction in the separation anxiety score as a result of treatment of MCBT for boys compared to the girls shows more effective operation of this treatment for boys; of course, this investigation did not show any difference in TCPR for boys and girls; therefore, it is recommended that CBT for the treatment of separation anxiety in boys should be considered. This finding is not consistent with finding of Kazdin (2006) but it is consistent with researches of Bratton and Landreth (2006), Oliver *et al.* (2009); these researches stipulate that teaching the mother-child relation is effective in reducing separation anxiety. Accordingly, it can be explained that treatment with teaching parent-child relation can be structured and specified effectively in order to reduce separation anxiety in children in both genders. Therefore, it is recommended for the child the rapists and treatment clinics that in children's problems including anxiety problems pay more attention to the use of this method of intervention in the treatment process. Also a comparison CPRT Method with other methods in another control researches is recommended in order to follow through and expand the results of this research and investigate the effectiveness of this therapeutic approach in other anxiety disorders.

CONCLUSION

Other results showed that the interaction of three groups (MCBT, CPRT and control) gender and age is also significant. This finding is consistent with the findings by Chorpita *et al.* (2004); other controlled researches are suggested in order to follow-through and extend the results of this research and investigate the effectiveness of this therapeutic approach on other anxiety disorders. It is also recommended that consultation centers, child clinicians and planners of children's problems pay attention to the use of these methods of intervention in the treatment process; it is necessary to carry out some researches for investigating the effectiveness of cognitive-behavioral therapy with the approach of processing unit in a wider population and in other ages for treating the behavioral disorders and promoting mental health in children.

LIMITATIONS

Any research faces up to limitations and the present research also is no exception. Since in this research the individual treatment was used we suggest that this two treatment methods are investigated collectively also and the results are compared with each other. In addition with respect to the principality of the goals of these interventions the longer follow-through is recommended in future researches; also given that the present research has been carried out on a sample of 6 and 7 years old boys and girls students in Qom. Therefore, we should be cautious in generalizing the results to other people.

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