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Comparison of Efficacy of Child Cognitive – Behavioral Therapy (CCBT) Versus Family Cognitive – Behavioral Therapy (FCBT) and Mother - Child Attachment Intervention in Reduction of Separation Anxiety Disorder in Children between 7-12 Years Old

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ABSTRACT

Objective: The purpose of this study was to compare and evaluate the effectiveness of child-based cognitive-behavioral therapy (CCBT), family-based cognitive-behavioral therapy (FCBT) and mother-child attachment intervention in reducing separation anxiety in children aged 7 to 12 years.

Methods and Materials: The method of this semi-experimental study was pre-test-post-test with a control group and a three-month follow-up. For this purpose, 48 children with separation anxiety disorder were selected by purposive sampling and were divided into four groups of 12 people. The first group received child-based cognitive behavioral therapy, the second group received family-based cognitive behavioral therapy, the third group received mother-child attachment intervention, and the control group did not receive any intervention. The measurement tools of this research include the semi-structured diagnostic interview of mood disorders and schizophrenia for children and adolescents (K-SADS-PL) and Separation Anxiety Scale (Parental Form). The data were analyzed using mixed variance analysis with repeated measurement and Bonferroni's post hoc test.

Findings: The findings show that child-centered cognitive-behavioral therapy has been more successful in reducing separation anxiety compared to family-centered cognitive-behavioral therapy and mother-child attachment-centered intervention. Also, family-centered cognitive-behavioral therapy has been more effective in reducing children's separation anxiety compared to mother-child attachment-centered intervention ($P<0.05$).

Conclusion: The results of the present study show that the therapeutic methods used can be effective in the treatment of separation anxiety disorder by psychologists and psychiatrists.

Keywords: *Separation anxiety, cognitive-behavioral therapy, attachment-oriented therapy*

1. Introduction

Concerns about children's mental health and its impact on their growth and performance have significantly increased in recent years, along with the rise in the prevalence of diagnosable mental disorders. Experts emphasize the importance of timely assessment and treatment of cognitive and psychological disorders. According to research, anxiety disorders are among the most common disorders in children and adolescents, and there is ample evidence that most adults with these disorders also had this problem in childhood (Galán-Luque, Serrano-Ortiz, & Orgilés, 2023). The global prevalence of anxiety disorders in pre-school children shows that about 5.6% of these children are affected by anxiety problems, and separation anxiety symptoms are found in 6 to 18% of children (Evans et al., 2019). Three-quarters of school-refusing children suffer from separation anxiety disorder, and if left untreated, these children may develop secondary excessive anxiety and disorders such as social phobia, fear of open spaces, and panic (Last, 2005).

Separation anxiety in children is manifested by excessive and repetitive concern about temporary or permanent separation from home or loved ones (father, mother, or caregivers), which clearly goes beyond the individual's developmental level and causes excessive distress. Children with separation anxiety are often concerned about the health or death of their attachment figures and may express concern about unfortunate events such as getting lost (Sadock & Sadock, 2010). In addition, when separation occurs, they become afraid of harming themselves or not returning to their attachment figures. This fear leads to further damage to these children in school age, as they refuse any situation of separation, including going to school (Talaienejad, 2018). In this regard, research shows that three-quarters of school-refusing children suffer from separation anxiety disorder, and if left untreated, these children may develop secondary excessive anxiety and disorders such as social phobia (Ahmad Zadeh et al., 2022).

In order to reduce the symptoms of separation anxiety disorder and treat it, many efforts have been made by relevant specialists, and various methods have been used in this regard. Cognitive-behavioral interventions have been successful in reducing anxiety symptoms. This treatment focuses on reconstructing the child's thinking patterns and simultaneously correcting their behavioral characteristics, taking into account their level of abilities (Otte, 2022). Although many studies have confirmed the effectiveness of this type of intervention, a significant number of children and adolescents do not respond to short-term interventions with one type of treatment or experience anxiety symptoms again after a while (Giani et al., 2021). Additional research indicates that 40 to 50 percent of children with separation anxiety do not respond to short-term interventions with one type of treatment. Results of complementary studies show that there is a gap in the role of parents in creating, sustaining, or helping to improve children's anxiety symptoms (Evans et al., 2019; Hudson et al., 2015). Mothers of children with anxiety symptoms are the best people who can have a positive impact on their child's behavior; they can understand their fear and anxiety and teach them effective ways to cope with scary situations (Afshari et al., 2014; Pagsberg et al., 2022). Therefore, combined treatments for mothers and children seem necessary.

On the other hand, from the perspective of attachment theory, anxiety is both a precursor and a consequence of attachment-related developmental damage. According to this view, children have a kind of bias for behavior in a way that facilitates their proximity to their caregivers, and the sensitivity of caregivers determines the child's safety in these relationships (Cooke et al., 2019; Mofrad, Abdullah, & Uba, 2010). Attachment-based treatments focus on emotional experiences related to past attachment relationships and aim to correct distorted mental representations of self and others. These treatments are also effective in improving attachment styles in parents and children, increasing the effectiveness of intervention by placing parenting skills and psychological factors that affect the parent-child relationship (Nadali et al., 2016).

Based on this, the present research intervention model with a focus on the attachment factor, called the mother-child-separation anxiety triangle, was conducted to evaluate the effectiveness of reducing separation anxiety symptoms in children and compare it with cognitive-behavioral interventions based on child and family. It was to determine whether child-centered cognitive-behavioral treatment, family-centered cognitive-behavioral treatment, and mother-child attachment-based treatment are effective in reducing separation anxiety disorder symptoms. Do they operate differently in achieving treatment outcomes? And is there a difference in the stability of treatment outcomes between the three methods?

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2. Methods and Materials

2.1. Study Design and Participants

This study was a quasi-experimental design with pre-test-post-test and a three-month follow-up with a control group. The statistical population of the study consisted of elementary school children with separation anxiety disorder (and their mothers) in Tehran during the academic year 2021-22. The study sample was selected using purposive sampling method based on the required sample size of 48 participants determined by G*Power software.

2.2. Measures

2.2.1. Separation Anxiety

The Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime (K-SADS-PL) was used to assess current and past psychopathology in children and adolescents aged 6 to 18 years based on the revised diagnostic criteria of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The initial diagnoses examined with this questionnaire include: major depression, dysthymia, mania, hypomania, cyclothymia, bipolar disorders, schizoaffective disorders, schizophrenia, schizophreniform disorder, brief reactive psychosis, panic disorders, agoraphobia, separation anxiety disorder, childhood and adolescent avoidant disorders, simple phobia, social phobia, generalized anxiety disorder, obsessive - compulsive disorder, attention – deficit/ hyperactivity disorder, conduct disorder, oppositional defiant disorder, enuresis, encopresis, anorexia nervosa, bulimia nervosa, tic disorders, tourette's disorder, chronic motor or vocal tic disorder, alcohol abuse, substance abuse, post-traumatic stress disorder, and adjustment disorder. The ranking scale data support the concurrent validity of the screening and diagnostic measures of this questionnaire. The agreement between evaluators in scoring and diagnoses based on this tool was high, ranging from 93% to 100%. The validity and reliability of this questionnaire have been reported to be acceptable, with kappa coefficients ranging from good to excellent (76% to 91%) (Arechavaleta et al., 2006). The validity and reliability of this questionnaire have been confirmed for the assessment and diagnosis of psychiatric disorders in Iranian children and adolescents (Shahrivar et al., 2010). The reliability of the Persian version of this questionnaire was reported to be 81%, and the inter-observer reliability based on retesting was 69% (Ghanizadeh, Mohammadi, & Yazdanshenas, 2006). This tool was used for the initial screening of the study sample.

The Parent Version of the Separation Anxiety Assessment Scale (SAAS-P) (Hahn et al., 2003): This scale was designed to assess separation anxiety in children in 34 items based on the revised diagnostic criteria of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). This scale is scored on a 4-point Likert scale and identifies four dimensions of separation anxiety, including fear of being alone, fear of abandonment, fear of physical illness, and concern about dangerous events (Talaienejad, 2018). The external validation results of this scale show an internal consistency coefficient of 91.0 and a test-retest reliability coefficient of 83.0, which supports the validity, reliability, and clinical usefulness of this scale (Hahn et al., 2003; Hahn, 2006). The validation of this scale in Iran shows a correlation validity of 69.0 with the Spence Separation Anxiety Scale and a Cronbach's alpha coefficient of 86.0 for the total score (Mofrad, Abdullah, & Uba, 2010).

2.3. Intervention

The intervention was implemented by preparing an educational video clip on separation anxiety and sharing it on the Instagram pages of three counseling centers and pages related to children. The audience was invited to refer to the recommended counseling centers for evaluation if they observed symptoms of separation anxiety in their child. After referral, volunteers were assessed and screened, and if they met the study entry criteria and were willing to participate, they were recruited as the sample group. The entry criteria included informed consent to participate in the study, the presence of separation anxiety symptoms in the child based on clinical interview, no use of psychotropic medication, average or above-average intelligence based on academic records, and the presence of both parents.

The target sample (48 parents-child pairs) were randomly assigned to four 12-member groups. After providing explanations about the research objectives and the confidentiality of personal information, questionnaires (including semi-structured diagnostic interviews for mood and schizophrenia disorders in children and adolescents, current and lifetime diagnoses, and separation anxiety rating scales) were administered to the participants for pre-test purposes. Then, each group participated in weekly online therapy sessions for 10 weeks and received treatment related to their assigned group, including child-focused cognitive behavioral therapy, family-focused cognitive behavioral

therapy, and attachment-based mother-child therapy. The control group did not receive any experimental intervention and only participated in pre-test, post-test, and follow-up assessments. After the group sessions were completed, members of each of the four groups completed the separation anxiety rating scale as a post-test to evaluate the results of the sessions. This evaluation was repeated three months after the end of the sessions for follow-up purposes.

2.3.1. *Child Cognitive – Behavioral Therapy (CCBT)*

The Ssummary of Coping Cat Program by Kendall and Hedrick (2006) is presented in Table 1.

Table 1

Child Cognitive – Behavioral Therapy (CCBT): Coping Cat Program (Kendall & Hedtke, 2006)

Session	Content
1	Creating a therapeutic relationship and directing the child towards the program. Encouraging and supporting the child's participation and cooperation, assigning the task "show me I can do it", engaging in interesting activities at the end of the session.
2	Identifying anxiety feelings: performing tasks to identify facial expressions in oneself and others, helping the child recognize different emotions and distinguish between feelings of anxiety and worry, regulating the hierarchy of anxiety-provoking situations, assigning the task "show me I can do it".
3	Identifying physical reactions to anxiety: reviewing the task "show me I can do it" from session 2, discussing specific physical reactions to anxiety, practicing identifying physical responses, introducing the concept of relaxation, preparing the child for the parents' attendance at the session, assigning the task "show me I can do it".
4	Confirmation of the session with the parents. Reviewing the task "show me I can do it" from session 3, introducing the concept that many physical sensations related to anxiety involve muscle tension, introducing the concept of relaxation and practicing relaxation techniques, creating awareness in the child of how and when relaxation can be helpful, practicing relaxation techniques through coping modeling and role-playing, practicing relaxation techniques with the child's parents, assigning the task "show me I can do it".
5	Identifying anxious self-talk and learning to challenge thoughts: reviewing the task "show me I can do it" from session 4, introducing the concept of thoughts (self-talk), discussing putting self-talk in anxiety-provoking situations (anxious self-talk), distinguishing and differentiating anxious self-talk from coping self-talk, introducing the step of (anticipating bad things happening), practicing coping self-talk, assigning the task "show me I can do it".
6	Attitudes and actions: reviewing the task "show me I can do it" from session 5, at this stage, the child is taught how to modify their reactions so that they can move forward even with feelings of anxiety. The child and therapist work together to transform anxious self-talk into coping self-talk. Assigning the task "show me I can do it".
7	Reviewing anxiety and coping self-talk and expanding problem-solving skills: reviewing the task "show me I can do it" from session 6, reviewing and discussing the first two steps of the program. Discussing the concept of problem-solving. Practicing problem-solving in anxiety-provoking situations. Assigning the task "show me I can do it".
8	Introducing self-evaluation and self-reward and reviewing learned skills: reviewing the task "show me I can do it" from session 7, discussing the concept of self-evaluation and self-reward. Practicing self-evaluation and rewarding oneself for effort. Reviewing the program. Implementing the program. Reviewing the hierarchy of fear and discussing the task of confrontation. Providing awareness for the session with parents. Assigning the task "show me I can do it".
9	Exercising in anxiety-provoking situations using exposure tasks: reviewing the task "show me I can do it" from session 8, reviewing the idea of progress from learning new skills to practicing those skills. Practicing using visualization exposure in anxiety-provoking situations. Briefly reviewing relaxation exercises. Planning exposure tasks for session 8. Assigning the task "show me I can do it".
10	Celebration and end of treatment: After completing exposure tasks, it is time to celebrate the child's effort and success. The child has acquired a set of strategies for coping with anxiety. They can always have these strategies with them and use them in different situations. Assigning the task "show me I can do it".

2.3.2. *Family Cognitive – Behavioral Therapy (FCBT)*

The summary of Cool Kids Program by Wood, Piacentini, and Scahill-Gotham (2006) is shown in Table 2.

Table 2

Family Cognitive – Behavioral Therapy (FCBT): Cool Kids Program (Wood et al., 2006)

Session	Content
1	Understanding Anxiety: Explaining when anxiety becomes a problem, the prevalence of anxiety disorders in children, and their impact on children, as well as the causes of anxiety in children.
2	How thoughts and feelings influence anxiety: The first steps towards learning anxiety management skills, learning about anxiety, anxiety measurement, and how anxiety affects thoughts, the relationship between situations, thoughts, and feelings.
3	Learning realistic thinking: The relationship between events, thoughts, and feelings, common thinking errors.

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4	Parenting an anxious child: Over-reassurance of children, impatience with children, consistency, emotional regulation, and distinguishing between anxious and mischievous behavior.
5	Facing fear to fight fear: Familiarity with ladders, parental beliefs that the child is capable of doing things, practicing fear ladders.
6	Simplifying detective thinking and creative ladders: Developing creative ladders, preventing avoidance, facing consequences, practicing more and self-reliance.
7	Ladder troubleshooting: Children's obstacles to progress, parental and child activities.
8	Courage and social skills: The importance of social skills, the hierarchy of social skills, coping skills for teasing and bullying.
9	Evaluation: Putting all skills together and reviewing previous sessions' learnings.
10	Planning for the future: Maintaining achievements and planning for the future.

2.3.3. Mother - Child Attachment Intervention

The summary of mother-child attachment therapy sessions by Parnell (2004) and King and Neunham (2008) is presented in Table 3.

Table 3

Mother-Child Attachment Therapy (King & Newnham, 2008; Purnell, 2018)

Session	Content
1	General introduction and familiarity with the psychologist and mother: Explanation of attachment and separation anxiety symptoms in children and how it relates to insecure attachment in children, and the flawed process of forming separation anxiety in children; Explanation of emotions as the central point of attachment in order for the mother to access extreme emotions present in her own disrupted relationships; Explanation of secure attachment and its signs; Identification and notation of child anxiety symptoms, signs, and how to communicate with the child by the mother to present in the next session.
2	Explanation and clarification of therapeutic attachment logic and treatment goals: The necessity of responding to the child's psychological and physical needs by the mother using available teaching techniques, with practical examples, simultaneous response with sensitivity to child signs such as hugging a crying child when in need of physical contact with the mother; Teaching and practicing scriptwriting techniques to find ways for mothers to respond to their children's needs with the goal of reducing negative cycles such as attack-retreat that hinder the maintenance of insecure attachment and prevent safe emotional participation.
3	The importance of positive verbal communication between mother and child in the normal emotional and emotional development of the child: Review of the previous session, teaching verbal communication techniques with the child, storytelling techniques for the child about questioning and answering and how to communicate verbally with the mother, emphasizing unconditional acceptance of the child and strengthening the sense of value and self-acceptance; Explanation of how to create new response cycles and mother's availability to reduce child isolation, activate and strengthen their ability to express their needs and fears; Helping mothers identify patterns in their interactions with their children and discovering and expanding attachment-based emotional processes; Helping and teaching mothers to discover their experiences and identify emotional patterns and their responses to their children during the week as a homework assignment.
4	Review of previous sessions, recognition of parental mental representations of their relationship with their caregivers and their role in their relationship with their child, explanation of attachment styles: Explanation of the role of parental mental representations of attachment in relation to the child and recognition of maternal mental representations, identification of the mother's attachment to her caregivers/parents and its role in her relationship with her child; Explanation of the three styles sensitive to safety, progress, and the relationship between mother and child, and how to recognize attachment behaviors and exploratory behaviors to understand, formulate, and reshape basic emotions; Teaching effective response methods and the importance of positive communication with the child and the need for continuity and stability of positive behavior to restore the child's damaged trust and using the child's metaphor (using a teddy bear); Explanation of the importance of positive communication with the child and the need for continuity and stability of positive behavior to restore the child's damaged trust, avoiding pretense and unrealistic behaviors in relation to the child, teaching and practicing contact techniques (physical and especially visual), scriptwriting about how to express genuine love to the child, hugging, caressing, and kissing the child.
5	Teaching parent-child play techniques: Creating group play and recreational conditions for the child, facilitating the child's friendship relationships with peers and encouraging them to establish relationships, providing a platform for active participation of the child in group tasks at school, scriptwriting about active participation with the child, joking with the child and making them laugh.
6	Review of previous sessions, creating a multidimensional insight in the child, encouraging the mother to change her perspective on the child: Teaching the mother to change her perspective on the child based on new experiences and providing a platform to reassure the child; Helping to create a realistic and complete picture of a reassuring relationship between mother and child (magic wand technique) with the goal of overcoming anger and pain and avoiding control of the relationship using negative emotions and memories; Repeatedly performing the magic wand technique at home during the week; Teaching the importance of active cooperation in child affairs to increase positive mother-child interaction, scriptwriting about how to cooperate and interact with the child in matters related to the child and avoiding coercion, teaching techniques to strengthen the child's relationships with classmates and peers.
7	Investigating unresolved behavioral issues in children and the impact of therapeutic attachment on previous behavioral problems in children: teaching children verbal reinforcement techniques to create a secure attachment and the role it plays in reducing mother-child conflict; teaching stress management techniques to mothers with a focus on reducing child anxiety by managing stressful situations and providing ongoing parental support, and offering exercises for practicing these techniques at home; teaching children verbal reinforcement techniques, playwriting about creating a positive family connection and avoiding child isolation to create a happy and exciting environment for the child, with the aim of reducing maternal and child depression.
8	A brief review of previous sessions, mother's justification for controlling emotions during anxiety using playwriting techniques, practicing how to control emotions about target behaviors through hugging, which increases secure attachment; encouraging mothers to face their experiences

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	and frame them in a reasonable and acceptable way; teaching stress management techniques in families with a focus on reducing child anxiety, teaching children reassurance techniques about parental support and drawing a bright future for the child, and playwriting about increasing happy parent-child recreation.
9	Teaching children emotional control techniques by mothers, playwriting about how to control emotions: mothers' justification for teaching children emotional control techniques during anxiety, playwriting about how to control emotions about target behaviors, and practicing with mothers.
10	Attention to obstacles in using taught techniques; explaining the importance of continuous action: discussing and exchanging ideas about obstacles to using taught techniques, explaining the importance of continuous action to build confidence and repair mother-child attachment, determining the level of achievement of the initial goals of the treatment plan, and finally summarizing and concluding. It should be noted that in each session, in addition to reviewing the previous session and exercises, homework is also given.

2.4. Data analysis

The data were analyzed using repeated measures analysis of variance and the 25 SPSS statistical software.

3. Findings and Results

In the present study, 48 child participants were divided into four groups. The cognitive-behavioral child-centered group consisted of 7 girls and 5 boys, the cognitive-behavioral family-centered group consisted of 8 girls and 3 boys, the attachment-focused group consisted of 8 girls and 4 boys, and the control group consisted of 7 girls and 6 boys. In the cognitive-behavioral child-centered group, 4 participants had a high school diploma or less, 1 had a post-secondary diploma, 5 had a bachelor's degree, and 3 had a master's or doctoral degree. In the cognitive-behavioral family-centered group, 1 participant had a high school diploma or less, 7 had a bachelor's degree, and 4 had a master's or doctoral degree. In the attachment-focused group, 4 participants had a high school diploma or less, 6 had a bachelor's degree, and 3 had a master's or doctoral degree. In the control group, 6 participants had a high school diploma or less, 4 had a bachelor's degree, and 3 had a master's or doctoral degree. It should be noted that one-way analysis of variance showed no significant differences in the maean age of children and mothers among the four groups.

Table 4 shows the mean (standard deviation) and Shapiro-Wilk values (significance level) of separation anxiety scores in participants of the research groups in three stages of pre-test, post-test, and follow-up.

Table 4

Descriptive statistics and Shapiro-wilks normality test

Index	Group	Pre-test	Post-test	Follow-up
Mean (Standard Deviation)	CCBT	31.56 (11.99)	23.54 (6.43)	24.92 (4.65)
	FCBT	54.75 (11.64)	42.33 (26.7)	25.36 (20.6)
	Attachment	53.14 (9.96)	43.84 (8.85)	23.45 (21.7)
	Control	68.59 (13.10)	54.56 (8.63)	61.58 (20.8)
S-W statistics (p)	CCBT	0.945 (0.528)	0.909 (0.179)	0.937 (0.415)
	FCBT	0.936 (0.448)	0.884 (0.098)	0.944 (0.552)
	Attachment	0.949 (0.585)	0.958 (0.726)	0.903 (0.147)
	Control	0.971 (0.905)	0.986 (0.998)	0.967 (0.861)

Table 4 shows that separation anxiety scores in the three experimental groups decreased compared to the control group in the post-test and follow-up stages. Table 4 also shows that the Shapiro-Wilk value for separation anxiety scores in all four groups and in all three stages of pre-test, post-test, and follow-up is not significant at the 0.05 level, indicating a normal distribution of separation anxiety scores in all four groups and in all three stages.

In this study, the Levene's test was used to evaluate the hypothesis of homogeneity of error variances among groups, and it showed that the difference in error variance of separation anxiety scores among the four groups in the pre-test ($p=0.642$, $F=0.560$), post-test ($p=0.428$, $F=0.920$), and follow-up ($p=0.471$, $F=0.860$) stages was not significant at the 0.05 level. Therefore, the hypothesis of homogeneity of error variances of separation anxiety scores among the data was established. The hypothesis of equality of covariance matrices of dependent variables was also examined using the Box's M test statistic, and the results showed that the hypothesis of homogeneity of covariance matrices of dependent variables among the data was established ($p=0.251$, $F=20.1$, M.Box=47.24). After examining the

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hypotheses and ensuring their validity, the data were analyzed using repeated measures analysis of variance.

Table 5

Analysis of Variance with Repeated Measurement

Effect	SS	MS	F	p	$^{2}\eta$
Group	11495.61	4034.39	44.50	0.001	0.740
Time	5519.53	3789.96	68.45	0.001	0.593
Time*Group	4509.56	6624.70	10.67	0.001	0.405

Table 5 shows that the group × time interaction effect on separation anxiety scores is significant at the 0.01 level. Furthermore, Table 6 shows the results of the Bonferroni post-hoc test for separation anxiety scores in the four groups and in the three stages of the study.

Table 6

Bonferroni's post-hoc test

Times		Mean difference	Standard error	P
Pre-test	Post-test	16.64	1.76	0.001
Pre-test	Follow-up	14.72	1.78	0.001
Post-test	Follow-up	-1.92	1.43	0.559
Groups				
Group 1*	Group 2**	-6.55	2.14	0.022
Group 1	Group 3***	-12.49	2.10	0.001
Group 1	Group 4****	-22.36	2.10	0.001
Group 2	Group 3	-5.94	2.14	0.043
Group 2	Group 4	-16.81	2.14	0.001
Group 3	Group 4	-12.49	2.10	0.001

*Child Cognitive – Behavioral Therapy (CCBT) group; **Family Cognitive – Behavioral Therapy (FCBT) group; ***Mother - Child Attachment Intervention group; ***Control group

The results of the Bonferroni post-hoc test in Table 6 show that cognitive-behavioral child-centered therapy significantly reduced separation anxiety scores compared to cognitive-behavioral family-centered therapy (p=0.022) and mother-child attachment intervention (p=0.001). In addition, the results of the Bonferroni post-hoc test in Table 6 show that cognitive-behavioral family-centered therapy is a more effective method for reducing separation anxiety in children compared to mother-child attachment intervention (p=0.043).

4. Discussion and Conclusion

As the statistical results show, all three treatments have been successful in reducing separation anxiety in children aged 7 to 12. Comparing these three treatments, it can be said that child-centered cognitive-behavioral therapy has been more successful than others, and in the next stage, family-centered cognitive-behavioral therapy has been more effective in reducing separation anxiety in elementary school children compared to mother-child attachment-based therapy. The results of this study are consistent with other studies on the effectiveness of child-centered cognitive-behavioral therapy for separation anxiety in children (Afshari et al., 2014; Hudson et al., 2015; Kodal et al., 2018). According to the studies by Giannì and colleagues, cognitive-behavioral therapy is an approved standard treatment for separation anxiety disorder in children and adolescents. Furthermore, studies show that cognitive-behavioral therapy, aimed at eliminating the maintaining factors of separation anxiety, has been successful, especially among younger children, by including parent sessions. The effectiveness of family-centered cognitive-behavioral therapy in reducing parental anxious sensitivity and separation anxiety in children and adolescents has been confirmed by research (Schneider et al., 2013).

In explaining the effectiveness of child-centered cognitive-behavioral therapy, it should be noted that the main idea is to use exposure and prevention of response as

one of the most important cognitive-behavioral therapy techniques for dealing with anxiety. In child-centered cognitive-behavioral therapy, children are gradually exposed to structured and safe environments that cause anxiety in them. As they get used to each of these stimuli, anxiety disappears, and they become ready to accept more powerful stimuli. In a broader sense, researchers believe that parental behaviors can maintain anxiety factors (Lawrence, Murayama, & Creswell, 2019). When a child is dealing with separation anxiety, parents often unintentionally reinforce their child's anxiety. Small behaviors to reassure the child may ultimately intensify fear and reinforce avoidance. Therefore, family-centered cognitive-behavioral therapy targets the factors that maintain the disorder in the family (Ariasadr et al., 2021; Bertelsen, Himle, & Håland, 2023). In this treatment, parents learn how to reduce unhelpful reassurance and show more tolerance for their children's anxious and avoidant behaviors. This treatment creates stable reactions in the parent-child relationship by teaching emotion management and distinguishing between anxious and mischievous behaviors, and reduces separation anxiety in children.

On the other hand, studies support the effectiveness of mother-child attachment-based therapy in reducing separation anxiety (Ahmad Zadeh et al., 2022). Mother-child attachment intervention, through improving the mother-child relationship by methods such as teaching the mother to be available, providing security, meeting the child's physical and psychological needs, physical and eye contact, increasing the quality and quantity of child-mother interactions, etc., affects attachment and children's mental representations of the relationship with their mother, and transforms the child's mistrust of the mother resulting from insecure attachment into trust. This process can explain the effectiveness of mother-child attachment intervention in reducing children's separation anxiety. According to Cassidy et al. (2005), mother-child attachment intervention increases the mother's understanding of the concept of a secure base and teaches her appropriate responsiveness to the child's needs (Cassidy et al., 2005). The mother's ability to identify the child's needs and respond appropriately can help correct these mental representations and change internal working models, which plays an important role in reducing anxiety.

In explaining the observed differences in the effectiveness of treatments, it can be said that child-centered cognitive-behavioral therapy with an emphasis on cognitive information processing with anxiety facilitates emotional awareness and can be a step towards regulating anxious children's emotions. The higher success of this treatment can be discussed from the perspective that the child's participation alone in treatment, by enhancing their self-efficacy, independence, and self-confidence, plays a significant role in reducing their anxiety. In child-centered cognitive-behavioral therapy, the child's fear of separation is directly addressed, and practicing anxiety-provoking situations using exposure tasks helps the child directly confront the source of anxiety and fear, leading to a reduction in separation anxiety (Yaghoubi, Rashid, & Bayat, 2021).

On the other hand, the weaker effectiveness of mother-child attachment-based therapy can be related to the child's age and the duration of the intervention compared to other treatments. Although attachment is flexible, evidence suggests that its flexibility is greater in early growth periods when attachment is ready for fundamental changes, and it is more rapid and prominent (Nadali et al., 2016). Although attachment-based therapy emphasizes improving the mother-child relationship, self-control, and emotion management in the child (Bacro, Forslund, & Granqvist, 2021), it seems that due to the greater flexibility of attachment in early growth periods, the effectiveness of mother-child attachment intervention may be more difficult and delayed in elementary school-aged children, and cognitive-behavioral therapies may have a more rapid and prominent effect on older children.

5. Limitations and Suggestions

The present study had limitations such as using a quasi-experimental research design, not using random sampling, and bias in response due to using a fixed questionnaire in three stages of separation anxiety assessment. It is suggested that in future studies with similar topics, other sample groups be used, and if possible, a larger sample size be used to increase the generalizability of the results. Additionally, in future studies, placebo programs should be implemented to control for the expectation effect.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

This article is based on the doctoral thesis of the first author in the Psychology Department of the Islamic Azad University, Central Tehran Branch, with the thesis code of 1014800418759901400162369018. The proposal for this thesis was approved on 8/8/2019. In this study, ethical considerations such as obtaining full consent from all participants, maintaining confidentiality and secrecy of information, allowing participants to withdraw from any stage of the research if they do not wish to cooperate, and conducting more effective interventions for the control group after the end of the study were observed.

Authors' Contributions

The first author of this article played the role of the main researcher, the second and third authors as supervising professors, and the fourth author as a consulting professor in this research.

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