The Impact of Attachment-Based Interventions on Eating Related Disorders in Girls Suffering from Eating Disorders and Obesity

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Abstract: The purpose of this study was to evaluate the impact of attachment-based interventions on eating related disorders in girls with eating disorders and obesity. This experimental study was a followed pretest-posttest control group. The study included 32 primary school female students with eating disorders and obesity problems and attachment. Sampling method was purposive. Instruments included child attachment disorder questionnaire, disorders caused by eating Questionnaire and eating disorder questionnaire. After forming groups (experimental and control) and run the test, the experimental groups' mothers participated 10 sessions over two and a half months of attachment-based intervention programs in the intervention and control groups did not receive any sessions. By the end of intervention, the post-test and follow-up test was performed after 45 days. The results of univariate analysis of covariance showed that in the post-test and follow-up of the disorders caused by eating, there were no significant differences between control and experimental groups. According to the results, the attachment-based treatment can be used as the method of intervention to reduce disorders caused by eating in children with eating disorders and obesity.

Keywords: Attachment-based therapy, disorders caused by eating, eating disorders and obesity

Introduction

Overweight and obesity in many developing countries has increased dramatically and is causing many health problems. Obesity is define when weight increases 20% over the ideal weight. Overweight and obesity in adults was limited a few years ago, but over the past two decades children and adolescents has been struggling. In such a way that in the past two decades, the rate of obesity among children became more than twice and adolescents who are overweight is multiplied by 3 (Taska et al., 2012).Many studies have been indicating an association between obesity and psychiatric disorders. This study suggests a significant association between obesity and depression, and fear of open places and panic disorders (Simon et al., 2006).Some other studies have found that there is a positive relationship between obesity and bipolar disorder (Wang et al., 2006), substance abuse and suicidal tendencies (Mather, Cox, Enns, and Sareen, 2009).Obesity in school-age is associated with many health problems such as anxiety, stress and depression and somatic complaints and has an effect on various aspects of life such as academic performance and adaptability of children. These children are somewhat anxious, irritable, and nervous and are plagued by obsessive doubts, no self-confidence, they do self-criticism and feel guilty about failing their goals. These children are dull, ceremonial and have no good social connections (Araujo, Santos, & Nardi, 2010).Also psychological factors may also be observed in obese individuals with Hypochondriacs. High Score of hypochondriacs may be due to lower tolerance threshold in these individuals than usual (Wardel & Beales, 2005). According to social learning model, overweight people may be use physical consequences of obesity to obtain a secondary benefit. This means that the role of these patients is considered as away to

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escape, which may exempt them from the desired tasks. According to psychodynamic perspective, aggressive and hostile desires towards others can be converted into physical symptoms through repression and displacement. Patients anger roots in the past failures, rejections and losses, but patient express his anger at the time by asking for help and attention and then rejecting them. According to stress and coping perspective, childhood violence is a special condition that could put them in paths that lead to the risk of obesity (Greenfield and Marx, 2009).Attachment theory, provided possibility of providing an important perspective to identify the factors that influence the initiation and persistence of eating behavior problems are. In the precise meaning, the insecure attachment can have an important role in the growth and persistence of the problems associated with eating behaviors and the consequences arising out of them; Because people with eating disorders often have poor relationships with their primary attachment figure and they report a high incidence of insecure attachment (Behzadi Pour, Besharat and Pak Daman, 1389). Longitudinal studies show that by controlling variable associated with activities related to childhood obesity, children with insecure attachment during growth at ages of 2-5 are 1.5 more obese than children with secure attachment (Anderson & Whitaker, 2011). This means that insecure attachment in early childhood cancause obesity among children. Therefore, considering the role of psychological responses in development of overeating and obesity and regarding to how insecure attachment and unhealthy emotional management reflects on stressful responses in children, a secure attachment pattern can manage the healthy emotions and healthy responses to stress among children in the best way (Score, 2005).Accordingly, some studies suggest interventions based on the modified attachment. It appears that attachment-based intervention, provides opportunities to form a secure attachment in children (Vandomboom, 1994).Main focus of this intervention is on rehabilitation of emotional attachment between child and caregiver, and repair psychological, emotional and behavioral problems which has grown as a result of the turmoil relationship between child and parents. The main goal of family therapy with the approach to attachment treatment is creating a secure base and support for child in family. Educating families on how they can built a safety support for each other, helps family members to resolve the family problems during the sessions and then use this method after sessions (Jahanbakhs, Bahadori, Amiri, Jamshidi, 1390).Attachment based therapy has employed in different areas of children problems including increasing mental health in the elementary school girls (Jahanbakhs, Bahadori, Amiri, Jamshidi, 1390),reducing symptoms of depression in primary school girls (Jahanbakhs, Bahadori, Amiri and Jamshidi, 1390), reducing the symptoms of separation anxiety disorder (ZolfagariMotlagh, Jazayeri, Khoshabi, Mazaheri, Karimloo, 1378), reducing oppositional disobedience symptoms in the girls with attachment problems (Jahanbakhsh, Bahadori, Amiri and Jamshidi, 1390) and mental anorexia disorders treatment. The efficiency of this type of intervention in the psychological problems was approved by researches. Accordingly, this research seeks to the effect of attachment-based intervention on the eating disorders as one of the antecedents and consequences of obesity in children.

Research Method

This study used a quasi-experimental design group pretest – posttest – follow up with the control group which experimental and control groups have been chose using a random selection for random assignment joining and the random equivalent. Independent variable was attachment-based intervention which the attachment intervention sessions were conducted for 10 sessions for mothers and scores of eating disorders in children were considered as the dependent variable.

The study population consisted of elementary school students with attachment problems who had a body mass index above 98 percentile and were enrolled in the 91- 92 academic years in Ahwaz. The sample size for this study consisted of 32 female primary school which

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purposive sampling was used to select them. In this way that among the four school districts in Ahwaz, One school district was chosen and from that district 2 primary schools were selected randomly and from each primary school total number of obese girls who had a body mass index above 98 percentile and their mothers were willing to cooperate with the investigation, were selected as a prototype. From this number initially attachment disorder test was performed in order to screening the children with secure attachment from children with insecure attachment and eating disorder. Then according to their scores in the questionnaire, 32 children with insecure attachment style (Score of above 30) and eating disorders and body mass index above 98 percentile was selected as the research sample. Then each of the selected elementary schools was randomly considered as the experimental group and the control group.

Measuring Tools

Attachment disorder questionnaire: This questionnaire was made by Randolph (1996) to introduce attachment disorder for age of 6 to 16 and has observed a checklist of 25 questions on various problems of numerous reports of parents who care for children over two years. This list has translated by MovahedAbtahi, Amiri and Amsaki (1387) its norm and psychometric properties has been extracted.The questionnaire was developed in Likert scale which each question is given a score from 0 to 4. Total scores have aligned on the scale of zero to 100. Scores above 30 indicate attachment problems in children. Cronbach's alpha for this scale was calculated by MovahedAbtahi and et al (1387) that the amount equals to 83/0 which indicates good internal consistency of the questionnaire. In this study, Cronbach's alpha for internal consistency evaluation scale was calculated (78/0). This test was used to assess attachment in children.

Children's Binge Eating Disorder Scale(C-BEDS): C-BEDS Scale is designed for measuring simple, understandable and relatively rapid diagnosis of binge eating disorder in children. This questionnaire was made in 7-item based on 7 behavioral criteria proposed by the Marcusand Kalarchian (2003).The questionnaire was answered by the children and with the help of their mothers. If children had difficulty understanding the questions or their answers was not clear, it was explained to the children. If children answer yes to questions number 1 and 2 and at least one of the questions of 3, 4 or 5 and mentioned symptoms in the questionnaire had been seen more than three months, and if the child given answer to question 7 is negative overeating will be detected in children. In this study, in order to assess the effectiveness of interventions, each item was scored on a Likert scale and response were as "never", "very low", "low", and "high". A high score indicates a high level of overeating. To better assessment of the obesity degree, a multiple-choice questionnaire was conducted on children to better specify the amount of changes in the post-test and follow-up after the intervention. In the present study, indicator of Cronbach's alpha was used to assess the internal consistency of the questionnaire for children overeating. Questionnaire conducted on 210 overweight 7 - 12 year old children in Ahvaz. The results showed that the internal consistency of the scale is equal to 0.79. Formal validity of the scale was confirmed by one of the faculty members of the Department of Psychology, University of Isfahan and two professors from the University of Ahvaz with previous experience in teaching and research in the field of children.

The Clinical Impairment Assessment Questioner (CIAS): Clinical Disorder Questionnaire (CIA) is a 16-item scale, self-report of secondary psychological disorder caused by the characteristics of eating disorder .16 item internal consistency of CIA (Cronbach's alpha) has reported 0.97 which all items are positively correlated with total scores of CIA (Bohen & Fairborn, 2008).The results

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showed that Cronbach's alpha internal consistency is 0.93. Criterion validity and construct was confirmed by the data. To obtain the coefficient reliability in the Iranian sample internal consistency and retest was used. The result of the coefficient reliability of Cronbach's Alpha was 0.86 and in retest was 0.89. Formal validity and construct validity scale was confirmed by one of the faculty members of the Department of Psychology, University of Isfahan and two professors from the University of Ahvaz with previous experience in teaching and research in the field of children. Each item is scored on a Likert scale. The answers are as "never", "very low", "low", "and high". Responses are scored 0,1,2,3. High scores indicate higher levels of disorder. Since the purpose CIA is measuring of the maximum intensity of the secondary psychological disorder, a total CIA disorder score is calculated. To obtain a total CIA disorder score each item scores will be tot. Obtained scores will range from 0- 84 which a high score indicates a higher level of secondary psychological disorders. The attachment-based therapy used in this study was integrated and incorporated interpretation of the appropriate therapeutic format of responding to the child by Fraiberg (2004), sensitization of the mother by Brisch (2002), attachment and connection methods by Erwin (1995), Model therapeutic attachment by Cross (2002), using storytelling for children with attachment disorder by Nicholes (2004), evolutionary therapeutic attachment by Lefebre – McGenva(2006), stress management technique and composing plays by the children. In this method, the therapist brings an example of a true situation of the mother and child interaction in the context of a specific topic, for example responding to the needs of children, and also ask mother to visualize it and express her reactions in the situation. This intervention approach was carried out by a psychologist on mothers in a group during 10 sessions (one session per week) for 2 months and a half. In a way that mothers attended school in the specified days and the intervention was done on them. Structure of attachment-based intervention sessions is shown in Table 1.

Table 1. The structure of attachment-based intervention sessions (inspired from Jahanbakhsh et al. 1390)

First session: explanation of attachment, attachment disorder, eating disorder symptoms in children, symptoms of emotional problems in children, the relationship between eating and attachment disorders in children and the mediating role of emotions.

Session II: treatment rationale and its objectives, describing the psychological and physiological needs of children and the necessity of knowing the excitements of a child and how to respond to the needs of the child excitement ,Availability of maternal intervention techniques, intervention play-making techniques and its exercise, play-making about how to respond to needs of children and exercising it with mothers.

Session III: verbal communication techniques with children, storytelling techniques, the play-making about questions and answers of the verbal relationship between mother and child and understanding the role of children in family and creating self-esteem and self-confidence in them, identification and management of maternal anxiety in children.

Session IV: The necessity of continuity and stability of positive behavior to heal disrupted child's confidence, intervention physical contact techniques and particularly eye contact, play-making about the real expression of love to the child, to embrace, caress and kiss the child, the child's identification and management of fear symptoms by mothers.

Session V: Game of collaborative care-child, facilitating childhood friend relationships with counterparts and encourage the child to communicate, providing the child active participation in group tasks in school, the play-making about active participants of child in the play, joking with the child, making the child laugh and creating happiness for the child.

Session VI: active cooperation in the child's affairs, play-making about the mother-child interaction and cooperation matters concerning

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the child's affairs to increase positive mother-child interaction and avoidance of coercion, identify signs of anger and aggression in the children and its management by the mother.

Session VII: Evaluation of child unresolved behavior problems, happy intervention and making an exciting living environment for child to reduce the negative emotions of the mother and child, intervention of enhancing verbal techniques of child to avoid child isolation, identifying symptoms of low self-esteem in the children and ways to increase it by the mother.

Session VIII: family-focused stress management techniques intervention to reduce anxiety of child, reassurance intervention techniques to child about permanent protection of child by parents and drawing a bright future for the child, the play-making about raising a happy mother-child entertainment.

Session IX: spectator parents intervention techniques about emotional eating behaviors, differential reinforcement of positive behavior intervention techniques, ignoring negative behavior.

Session X: Talking about the obstacles in applying the techniques of intervention,

Explaining the importance of continuing to practice what was learned in order to build trust and confidence and repairing the mother-child attachment, exchanging views on the objectives of the plan and the summary and conclusion.

Research findings

Descriptive statistical analysis of the variables in the different stages of research according to the mean and standard deviation can be seen in Table 2. According to Table 2, the mean score of eating disorders in the test group is 31.38, in the post-test is 36 and in the follow-up is 68.34; in the control group pre-test is 33.38, in the post-test is 25.38 and in the follow-up is 25 .38.

Table 2. Mean and standard deviation of the Eating Disorders questionnaire in the experimental group and the control group

TIME	GROUP	Mean of eating disorders	Standard deviation of eating disorders	Count
PRE-TEST	Experimental	38.31	2.27	16
	Control	38.33	1.88	16
POST-TEST	Experimental	36	2.42	16
	Control	38.25	1.65	16
FOLLOW-UP	Experimental	34.78	2.44	16
	Control	38.25	1.84	16

To evaluate this hypothesis and to determine significant differences between the experimental group and the control group and the simultaneously for the three pre-test, post-test and follow-up, univariate analysis of covariance was used. ANCOVA assumptions used in this analysis were studied. In the Table 3 the results of the Levin test, to evaluate the variance equality and in Table 4 the results of regression slope equity is shown.

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Table 3. Levine test results, equal variances between eating disorders

POST-TEST	F	df1	df2	SIG
Eating disorders	2.32	1	30	1.38

As can be seen in Table 3, Levine test, confirmed the default equality of the variances of the two groups in eating disorders of post-test scores (0/05<ρ).

Table 4. Results of homogeneity of regression slopes between covariates and dependent

Interaction of the pre-test levels with	Sum of squares	df	Mean square	F	SIG
Eating disorders	2.46	1	3.46	1.54	0.548

According to Table 4, the interaction between covariates (pre-test) and dependent (post-test) at the operating level (experimental and control groups) is not significant, so the assumption of homogeneity of regression is adhered(0/05<ρ□).

Next, to examine group differences ANCOVA analysis was conducted for the dependent variable.

Table 6. A multivariate analysis of covariance (ANOVA) on the scores of eating disorders in two groups

Source	Sum of squares	df	Mean square	F	SIG	Size effect	Expone ntiatio n
Group	31.11	1	31.11	41.42	<0.001	0.87	0.85
Error	21.03	28	24.33				

The results in Table 6 show that the difference between the experimental group and the control group in the post-test score, is also significant in variable eating disorders (F= 41.42,0 /05<ρ). This is amount of difference in the eating disorders variable is 0.87 which means 87% difference between the two groups of eating disorders variable and 0.68 of the experimental intervention.

Multivariate analysis of variance on mean scores of the tracking in variables of eating disorders in the experimental group and the control group was used. ANOVA analysis results for the dependent variable in the follow-up revealed that the difference between the scores of the experimental group and the control group at follow-up, in the range of eating disorders (F= 39.37, 0 /05<ρ□) was significant. Amount of this difference in the variable of eating disorders is 0.59. This means the intervention effectiveness amount in the changing of eating disorders is 0.61.

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Discussion and Conclusion

This research aimed to investigate the effects of attachment-based interventions in the eating disorders of primary school girls with eating disorders and obesity in Ahwaz city. Accordingly 32 primary school girls with obesity that had a BMI above the 98 percentile were selected and were randomly divided into treatment and control group. Mothers the experimental group received 10 sessions of attachment-based intervention and the control group did not receive any intervention sessions. By using their scores in the scale of trend towards eating behaviors, were compared in three time stages. The results of covariance analysis showed that the attachment-based intervention in the both posttest and follow up phase reduced eating disorders in the experimental group compared with the control group. Generally results of this study suggest that eating disorders in children is associated with attachment problems; on the other hand research indicates that eating disorder is one of the signs on mother-child interaction problems which by improving the mother – child interactions and resolving the basic problem can also overcome mental disorders caused by eating and help them by improving their mental health (mental disorder caused by eating).Regarding to explanation of these results it can be stated that the lack of secure attachment of the child leads to negative emotions in children. Inability to control negative emotions, leads them to the use strategies such as undesirable emotional overeating. The lack of secure attachment can be effective in their emotion irregularities, and play an effective role as a factor in the development of eating disorders (Santelices & et al, 2010). Thus, attachment-based intervention helps emotion regulation and therefore undesirable emotional regulation strategies (overeating).Attachment-based therapy with employing techniques such as intervention reinforces the availability of the mother, satisfying the physiological and psychological needs of children, securing the child, physical contact especially eye contact, accountability, increasing time of conversation, face-to-face play and interact of mother-child and gradually turns distrust of insecure attachment to a relationship based on trust and in the following the corrected relationship between parent – child greatly reduce behaviors leading to overeating and obesity in them. In the attachment-based intervention, the mother learns to trust her own feelings and responsiveness methods and control her own inner anxiety about how to deal with child behavior. The therapist uses empathic relationship established between the mother and him/her self to increase the interest and motivation of the person. Therefore by determining the strengths of the mother and child relationship and emphasizing on the strengths of the mother as a competent and valuable person, therapist reduces anxiety and feelings of inadequacy in relation to the child (Breisch, 2002).Also as the correct pattern of parent – child is the most important health component of this type of treatment, when parents become aware of shapes and disadvantages of their own training and relationship to the child, Most likely due to interest of parents to their child's mental health, they try to correct their interactions with their children which this new interaction and stability of parents in it, will lead to continuous improvement of children and reducing their symptoms and problems. Whilst parents are taught some techniques which in the future and in the case of such further problems can deal with the problems and child eating behavior by applying this technique.

As it was observed the reduction rate of eating disorders as a result of attachment intervention, was greater in the post-test than in the follow-up and while the majority of therapeutic interventions report that the passage of time reduces impact of therapy and recurrence of disease to some extent during the follow-up. In contrast, intervention which takes place in the context of attachment will effect better in the long run and by the passage of time; because stripping trust of insecure attached child to Parents is not able to be restored quickly and the passage of time and the commitment of parents to therapeutic techniques will gradually

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create secure attachment for the child and thus will improve disorders caused by the attachment also. It is also possible that with performing of longitudinal and annual tracking we be able to observe further improvement in the symptoms of Participant's overeating. So we can consider time and commitment to the principles of treatment element to be one of the most crucial elements of attachment's intervention. Also since obesity in children and adolescents is increasing and considering the fact that most of these children will become obese and problems associated with it in their adulthood, attachment-based interventions is one of the appropriate treatments in order to control obesity at an early age; which without having any side-effects can help to remedy this problem. The present study was performed on samples of girl students in elementary school in Ahwaz, therefore must be cautious in the generalization of the results to other people. Further researches could help to treat the problem and children's behavioral disorders by evaluating the effectiveness of attachment-based therapy on other behavioral disturbances in a wider population and in both genders.

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