

## Attachment-Based Play Therapy for Iranian Children and Parenting Stress of Their Mothers

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**Abstract:** Many children are exposed to traumatic experiences each year. The objective of this study was to examine the effect of attachment based play therapy on children with history of traumatic experiences and having developmental traumatic disorder (DTD) and parenting stress of their mothers. Fourteen children who were diagnosed as having DTD based on Vander Kolk criteria, were selected from child psychiatry clinics in Mashhad, Iran. Their parents permitted to be involved in this study. Patients were divided to 2 groups of intervention and control groups in waiting list. Mothers of all children completed Yule's scale and evaluation of children's stress parenting stress index-short form (PSI-SF) for evaluation of parents' stress. Ten sessions of play therapy were conducted for intervention groups. Then all mothers completed the tests again. Results revealed that there were not any significant differences in age, sex, grade of children and in the age and education of mothers in the 2 groups ( $P > 0.05$ ). Also, scores of Yule's scale, PSI-SF and parental distress at base-line did not have any significant differences in 2 groups ( $P = 0.10$ ,  $P = 0.34$  and  $P = 0.58$  respectively). After play therapy these tests in the intervention group were significantly different from the control group ( $P < 0.001$ ,  $P = 0.01$  and  $P = 0.01$  respectively). The differences in scores of difficult child subscale between 2 groups, before and after intervention were not significant ( $P = 0.86$ ,  $P = 0.14$  respectively). The differences in scores of malfunction in child-parent relation before and after treatment were significant in intervention group ( $P = 0.01$ ) but there were not meaningful differences in control group ( $P = 0.52$ ). It can be concluded that attachment based developmental play therapy reduced the stress of children and their mothers.

**Key words:** Attachment • Parenting Stress • Play Therapy • Trauma

### INTRODUCTION

Millions of children are exposed to traumatic experiences each year [1]. Over 30% of these children develop a clinical syndrome with physical, cognitive, behavioral and emotional symptoms recently called Developmental Traumatic Disorder (DTD) [2]. Although the sense of security from a secure attachment has been shown to be a protective factor against trauma-induced stress, when the stress is severe or the parents are the source of distress, they cannot help child to adapt [3]. Smaller children respond as excitation which should be

noticed by caregivers [4]. In other children, low activity level, feeling guilty and avoiding reactions may be seen [5]. Moreover, the bulk of violent and illegal acts are done by those who experienced trauma in childhood like parental neglect and abuse [6-8]. Treatment of traumatized children and adolescents is very complicated and difficult. The children need to feel secure and their trauma-related behaviors such as aggression and avoidance should be treated properly. In this regard, several non-pharmacological interventions including play therapy, dynamic psychotherapy and cognitive therapy have been proposed [9, 10].

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Play therapy is one of the most important therapeutic interventions for children. Studies performed in different countries about the nature and quality of their application are limited [11]. So far treatment of depression, aggression and other behavioral disorders, attention deficit hyperactivity disorder (ADHD) and posttraumatic stress disorder (PTSD) has been studied in Iran [12-14]. One of new and interesting types of play therapy for traumatic children is attachment based play therapy [15]. Regarding the impact of trauma on psychological development of children as well as limited research on the effect of play therapy in trauma-induced disorders in childhood, we decided to compare the efficacy of this type of play therapy on 3-9 years old children with a history of any type of trauma and abuse, diagnosed as developmental traumatic disorder, with the control group, regarding the indigenous and cultural specifications of Iran.

#### Materials AND METHODS

Manual for attachment based play therapy was prepared from the literature, reviewed and modified by a child psychiatrist and clinical psychologist according to the characteristics of our culture, which consisted of 10 sessions of play therapy [15]. The trial began at summer of 2009 as a quasi-experimental research with a control group and continued until late winter of 2009. The participants were 3-9 years old children referred to the Subspecialty Child Psychiatry Clinic of Ibn-e- Sina Hospital and Doctor Sheikh Hospital in Mashhad. Fourteen children who were diagnosed as developmental traumatic disorder according to van der Kolk criteria [2] at screening phase and whose parents or guardians have declared in writing their willing to participate in the study were selected. All participants were explained that the results of the study would be used anonymously as a group, merely for research purposes; and that they could leave the study at any time if they want. Inclusion criteria were lack of medical disorders and lack of drug consumption. A child psychiatrist was performing a psychiatric interview with patients in the hospital; after clinical interview and a complete history of child and his family, Yule's scale and Parenting Stress Index-Short Form were applied in order to assess the stress level in children and parents in the pretest step (10, 16). The included children were then randomly divided into two groups of 7 members. To ensure randomization, the table of random numbers was used. The treatment group participated in 10 sessions of 1.5 hours of play therapy, while the control

group was placed in the waiting list. In the treatment group, attachment-based developmental play therapy was performed by a trained resident in psychiatry, assisted by a bachelor of clinical psychology and two trained undergraduate students of clinical psychology. A child psychologist and a professional doctorate in clinical psychology supervised the trial. The control group received free therapy sessions with a supportive approach until the end of the study, then removed from the waiting list and the treatment began according to their family wish. Based on some principles of the standard manual, play therapy included training the skills of working with others, increasing confidence in children, training problem solving skills in different situations, increasing sense of emotional expressions in different situations, training awareness and relaxation raising methods, increasing imagination creativity and increasing relationships and emotions in family. For better communication and cooperation of families, some methods of play therapy were changed to make them more consistent with the culture of the parents. For example, dance was replaced with coordinate exercise movements. These skills were trained in each weekly session and children's close relatives alternatively participated in the play therapy. Depending on the patients needs, each of the mentioned components was more focused. Child developmental games were played in sessions 1 to 3, symbolic games in sessions 4 to 6 and other games, their rules and strengthening of intrapersonal successes in sessions 7 to 9. Play therapy was gradually stopped in session 10 in the presence of family, at the end of which, the parents were asked to answer again the pretest step tests. To compare the intervention results, the control group was asked to respond the tests again. The obtained data were analyzed with SPSS statistical software through descriptive and inferential methods. Independent and paired *t*-tests were used for interpretation of quantitative variables and Chi-square test for interpretation of qualitative variables. In this study,  $p < 0.05$  was considered significant.

**Assessment Tools:** Two assessment tools were used for collection of data before and after intervention.

**Yule's PTSD Scale:** A reliable and valid instrument to assess posttraumatic stress disorder in children. It consists of 25 questions with four options; very low, low, very high and high and assesses the presence or absence of posttraumatic stress symptoms and its severity in

children. Scores more than 24 shows the presence of PTSD in Children. To describe the severity of the disorder, patients are divided into 4 groups of severe (75-100), moderate (50-75), mild (25-50) and asymptomatic (<25), based on obtained scores. The questions are quite similar with symptoms of van der Kolk criteria in terms of DTD disorder, therefore the questionnaire can also be used to assess developmental traumatic disorder [10, 16].

Parental Stress Index-Short Form (PSI-SF); this standardized scale was used to precisely evaluate emotional and behavioral problems. It relies on parental stress, difficult child characteristics and unfavorable balance of parent-child [17]. PSI-SF had four separate subscales including defensive responding, parental distress, difficult child and parent-child dysfunctional interaction and describes the characteristics of the child, parent personality and situational variables. The scale, which is the reporting tool of parent or caregiver for children 12 years old and younger, has 36 items taken from complete PSI test. PSI-SF assesses observable behavior of the child and parent-child interactions based on a 5 score scale as well as the frequency of symptoms in the previous month. PSI-SF has experimentally gained validity in prevention of parent observed behavior and emotional and behavioral adjustment of child at present and future in different populations and cultures of the world such as Chinese, Portuguese, French-Canadians, Italians, Koreans, etc. Its internal consistency for clinical scales in the standardization sample is 81-91% and the test-retest correlation is 68% [18, 19].

**RESULTS**

Fourteen children (8 girls and 6 boys) were entered in the trial after a clinical interview with them and their mothers; 4 boys and 3 girls in the treatment group and 5 girls and 2 boys in the control group. No significant difference was observed between the two groups in gender variable ( $p = 0.28$ ). To assess more accurately, children’s mean ages were reported by month;  $63 \pm 25.05$  months in the treatment group and  $85.86 \pm 29.02$  months in the control group, with no significant difference ( $p = 0.14$ ). Education level was age-appropriate except in two children who were not attended school; a 78-month-old child in the treatment group expected to be in the first-grade and a 108-month-old child in the control group expected to be in the second-grade. No significant difference was found between the two groups in terms of educational level ( $p = 0.48$ ). Mothers’ education was 4 diplomas, 1 under diploma and 2 over diplomas in the treatment group and 2 diplomas, 4 under diplomas and 1 over diploma in the control group. Their mean age was  $32 \pm 3.70$  years in the treatment group and  $30.71 \pm 5.85$  years in the control group. In general, no significant differences were observed in the variables of mothers’ education and age in both groups ( $p = 0.45$  and  $p = 0.63$ , respectively).

The results of assessment of Yule’s PTSD scale in children and adolescents younger than 15 years-Parent Report Form were depicted in Table 1; no significant difference was observed in the scores of Yule’s scale between the treatment and control groups before

Table 1: Comparison of mean scores of treatment and control groups, before and after intervention

Variable		Treatment group	Control group	t	Df	Significance
		Mean $\pm$ SD	Mean $\pm$ SD			
Yule’s scale	Before intervention	57.57 $\pm$ 15.22	70.14 $\pm$ 11.25	-1.76	12	$p = 0.10$
	After intervention	46.57 $\pm$ 11.59	70.00 $\pm$ 11.00	-3.88	12	$p < 0.001^{**}$
Defensive responding	Before intervention	19.86 $\pm$ 4.88	14.00 $\pm$ 3.32	2.63	12	$p = 0.02^*$
	After intervention	21.14 $\pm$ 10.04	13.29 $\pm$ 3/64	1.95	12	$p = 0.08$
Parental distress	Before intervention	31.43 $\pm$ 9.71	28.57 $\pm$ 5.83	0.69	12	$p = 0.52$
	After intervention	45.57 $\pm$ 12.11	28.29 $\pm$ 7.27	3.24	12	$p = 0.01^*$
Parent-child dysfunctional interaction	Before intervention	41.29 $\pm$ 9.45	28.71 $\pm$ 7.11	2.81	12	$p = 0.02^*$
	After intervention	49.43 $\pm$ 9.61	28.00 $\pm$ 6.43	0.91	12	$p < 0.001^{**}$
Difficult child	Before intervention	27.43 $\pm$ 7.25	26.71 $\pm$ 7.74	0.18	12	$p = 0.86$
	After intervention	33.43 $\pm$ 7.87	26.29 $\pm$ 9.18	1.56	12	$p = 0.14$
Parental Stress Index-Short Form total score	Before intervention	80.29 $\pm$ 21.78	70.00 $\pm$ 16.72	0.99	12	$p = 0.34$
	After intervention	106.57 $\pm$ 23.59	69.29 $\pm$ 17.64	3.35	12	$p = 0.01^*$

Table 2: Comparison of mean scores before and after intervention in treatment and control groups

Variable		Before intervention	After intervention	T	Df	Significance
		Mean ± SD	Mean ± SD			
Yule's scale	Treatment group	57.57 ± 15.22	46.57 ± 11.59	3.52	6	<i>p</i> = 0.01*
	Control group	70.14 ± 11.25	70.00 ± 11.00	0.19	6	<i>p</i> = 0.85
Defensive responding	Treatment group	19.86 ± 4.88	21.14 ± 10.04	-0.35	6	<i>p</i> = 0.74
	Control group	14.00 ± 3.32	13.29 ± 3/64	1.37	6	<i>p</i> = 0.22
Parental distress	Treatment group	31.43 ± 9.71	45.57 ± 12.11	-5.30	6	<i>p</i> < 0.001**
	Control group	28.57 ± 5.83	28.29 ± 7.27	0.25	6	<i>p</i> = 0.81
Parent-child dysfunctional interaction	Treatment group	41.29 ± 9.45	49.43 ± 9.61	-0.372	6	<i>p</i> = 0.01*
	Control group	28.71 ± 7.11	28.00 ± 6.43	0.69	6	<i>p</i> = 0.52
Difficult child	Treatment group	27.43 ± 7.25	33.43 ± 7.87	-2.01	6	<i>p</i> = 0.09
	Control group	26.71 ± 7.74	26.29 ± 9.18	0.41	6	<i>p</i> = 0.70
Parental Stress Index-Short Form total score	Treatment group	80.29 ± 21.78	106.57 ± 23.59	-3.63	6	<i>p</i> = 0.01*
	Control group	70.00 ± 16.72	69.29 ± 17.64	0.43	6	<i>p</i> = 0.68

intervention. However, there was a significant difference between the two groups after treatment. Table 2 shows the scores of Yule's scale in the treatment and control groups before and after intervention, separately. Comparison of them revealed a significant difference in treatment group and no significant difference in the control group.

The results of Parental Stress Index-Short Form were also given in Table 1. No significant difference in the scale scores and parental distress and difficult child subscales was seen between the treatment and control groups before intervention. While the difference in defensive responding and parent-child dysfunctional interaction was significant before intervention. However, only defensive responding and difficult child subscales had no significant difference between the treatment and control groups after intervention. In addition, as seen in Table 2, comparison of the scores before and after intervention in the treatment group showed a significant change in total score of the test and parental distress and parent-child dysfunctional interaction subscales. Such difference was not observed neither in total score nor in parental distress and parent-child dysfunctional interaction subscales.

## DISCUSSION

Fourteen children (8 girls and 6 boys) participated in the present study; 4 boys and 3 girls in the treatment group and 5 girls and 2 boys in the control group. The ratio of girls to boys in the two groups was not statistically significant (*p* = 0.28). There was also no significant difference between the groups in terms of children's age (*p* = 0.14). Although at an early age, education level can be considered a variable dependent to the child's age, however, given the difference observed in

education and age of two children in the treatment and control groups, this variable was examined separately and no significant differences was found between the two groups (*p* = 0.48).

Comparison of mothers education and age between the two groups did not show a significant difference (*p* = 0.45 and *p* = 0.63, respectively). In general, the two groups were significantly homogeneous in studied population variables despite randomized selection of children in treatment and control groups; this may be helpful in the analysis of other variables.

No significant difference was found between the treatment and control groups before intervention in terms of Yule's scale scores (*p* = 0.10) which means the homogeneity of the two groups in terms of trauma-induced symptoms in children. But after completion of the intervention, scores in the treatment group was significantly different (*p* = 0.02), while in the control group the difference in scores was not significant (*p* = 0.85). In other words, symptoms were improved in treated children while no recovery occurred in the control group. In addition, the difference between the two groups was highly significant at the end of the intervention (*p* < 0.001). In other words, improvement of children's symptoms was significantly higher than random variations of symptoms in the control group that could be attributed to the passing of time and strengthening of child adaptation mechanisms. Other studies also used Yule's scale for assessment of trauma in children. In a study on 5-10 years old children with burning trauma in west area of Iran, Shahrekord, treatment strategies such as group work, psychological debriefing and understanding social thought, were shown to be effective in significant decrease of Yule's scale scores. In this study, the mean score was 54.26 ± 13.8 before

intervention and  $43 \pm 5.7$  after intervention, showing reduction of mean scores intensity from moderate to mild [15]. In another study in infants experienced earthquake, grief-focused group play therapy decreased significantly Yule's scale scores [10]. In the present study with a same age range, the results were similar, since pretest and post intervention mean scores were  $57.57 \pm 15.22$  and  $46.57 \pm 11.59$ , respectively, indicating a reduction of intensity from moderate to mild. As could be seen, despite differences in the methods of intervention, changes in Yule's scale in all studies indicate the reduction of children's distress and thus improvement of their mental health. The effect of attachment-based developmental play therapy was shown as reduction of emotional symptoms in children with developmental traumatic disorders in other studies [19].

The other scale used in the present study before and after intervention in the treatment group and twice in the control group was Parenting Stress Index-Short Form (PSI-SF) which its defensive responding subscale is used to verify the parents' responses. According to the author, scores less than 10 of this subscale indicate very low values and have a low accuracy [17]. The score of this subscale in one of the participants in the control group was less than 10 either in pretest or in posttest, meaning the low accuracy of responses. The score of other participants ranged 11-85 indicating a good accuracy. Mean score of defensive responding subscale differed significantly in the two groups, since scores of this subscale in most participants was in normal range and only one questionnaire lacked good accuracy, that when removed, comparison of scores between the two groups of treatment and control in Parental Stress Index showed a good accuracy. Comparisons showed that subscales of parental distress and difficult child did not significantly differ at baseline in the two groups ( $p = 0.75$  and  $p = 0.95$ , respectively), but parent-child dysfunctional interaction subscale had a significant difference between the two groups before intervention ( $p = 0.03$ ); this will affect the analysis of treatment effects on this variable. Comparison of difficult child subscale between the treatment and control groups at the end of intervention showed no significant difference ( $p = 0.20$ ), while there was a significant differences in parental distress ( $p = 0.02$ ) and parent-child dysfunctional interaction ( $p = 0.001$ ) subscales. Accordingly, it can be easily concluded that attachment-based developmental play therapy had a considerable impact on parental distress subscale but had not significantly altered difficult child subscale. Given the

significant difference between pretest scores of the treatment and control groups, interpretation of treatment effects on parent-child dysfunctional interaction subscale requires more attention. Therefore, pretest and posttest scores were compared separately in the treatment and control groups.

Comparison of the treatment group scores before and after intervention, demonstrated a highly significant change in parental distress ( $p < 0.001$ ) and parent-child dysfunctional interaction ( $p = 0.01$ ) subscales, while such a difference was not observed in difficult child subscale in the treatment group and any of the subscales in the control group. Regarding the notable and significant results of comparison of the two groups at the end of intervention, the observed significant change in parent distress subscale in the treatment group was predictable, however the significant difference in the scores of parent-child dysfunctional interaction of the treatment group is very important, regarding the lack of significant change of this subscale in the control group. Accordingly, it can be concluded that play therapy with children was associated with a significant improvement in parent-child relationships. Parental score in PSI-SF index is generally due to mother-child attachment status [17]. Therefore, it can be stated that play therapy can be effective in strengthening and development of mother-child attachment. On the other hand, difficult child subscale mostly indicates the type of parents' interventional behavior and it was not proven in this study that attachment-based developmental play therapy may significantly change maternal behavior, as the parent participated in the study [17].

When the score of whole scale was evaluated, no significant difference was found between the treatment and control groups before intervention therapy in Parental Stress Index-Short Form ( $p = 0.34$ ), while, the difference between them became significant after intervention ( $p = 0.01$ ). This significant difference was observed also in the treatment group between scores of before intervention and after intervention ( $p = 0.01$ ), while difference between scores in the control group was not significant ( $p = 0.68$ ).

Apart from confounding factors such as passing of time or group and family support which may be effective on post-traumatic disorders, attachment-based developmental play therapy reduced parental distress scores, indicating higher parental self-confidence (in this study, participated mothers) and their capability in controlling stressful situations.

## REFERENCES

1. Children's Bureau, Agency for Children and Families, 2003. Child Maltreatment. Reports from the States to the National Child Abuse and Neglect Data System, Children's Bureau, Agency for Children and Families. Available from: URL; <http://www.ndacan.cornell.edu>
2. Van der Kolk, B.A., S. Roth, D. Pelcovitz, F.S. Mandel and J. Spinazzola, 2005. Disorders of Extreme Stress: the empirical foundation of a complex adaptation to trauma. *J. Trauma Stress*, 18: 389-399.
3. Pop-Jordanova, N and T. Zorcec, 2004. Child trauma, attachment and biofeedback mitigation. *Prilozi*, 25(1-2): 103-14.
4. Pfefferbaum, B., 1997. Post-traumatic stress disorder in children: A review of the past 10 years. *J Am Acad Child Adolesc Psychiatr*, 36(11): 1503-11.
5. Clark, CC., 1997. Post traumatic stress disorder: How to support healing. *Am J. Nurs.*, 97(8): 27-32.
6. Teplin, L.A., K.M. Abram, G.M. McClelland, M.K. Dulcan and A.A. Mericle, 2002. Psychiatric disorders in youth in juvenile detention. *Arch Gen Psychiatry*, 59(12): 1133-43.
7. Widom, C.S. and M.G. Maxfield, 1996. A prospective examination of risk for violence among abused and neglected children. *Ann. N.Y. Acad. Sci.*, 794: 224-37.
8. Romano, E. and R.V. De Luca, 1997. Exploring the relationship between childhood sexual abuse and adult sexual perpetration. *J. Fam Violence*, 12(1): 85-98.
9. Perry, B.D., 1999. Posttraumatic stress disorder in children and adolescents. *Curr Opin Pediatr*, 11(4): 310-12.
10. Mahmoudi-Gharaei, J., M. Bina, M.T. Yasami, A. Emami and F. Naderi, 2006. Group play therapy effect on Bam earthquake related emotional and behavioral symptoms in preschool children: A before-after trial. *Iran J. Pediatr*, 16(2): 137-41.
11. Wethington, H.R., R.A. Hahn, D.S. Fuqua-Whitley, T.A. Sipe, A.E. Crosby, R.L. Johnson, *et al.*, 2008. The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: A systematic review. *Am J. Prev. Med.*, 35(3): 287-313.
12. Bady, Z., 2001. [Effectiveness of play therapy, cognitive-behavioral therapy in reducing aggression in children with conduct disorder (single case study)]. *Iranian psychiatry and clinical psychology*; 7(1-2): 111. (Persian)
13. Janatian, S., A. Nouri, A. Shafti, H. Molavi and H. Samavatyan, 2007. Effectiveness of play therapy on the bases of cognitive behavior approach on severity of symptoms of attention deficit/hyperactivity disorder (ADHD) among primary school male students aged pp: 9-11. *Journal of Behavioral Sciences Research*, 6(2): 109-18. (Persian)
14. Zareapour, A., M. Falahi Khoshknab, Z. Kashaninia, A. Biglarian and R. Babashahabi, 2009. Effect of group play therapy on depression in children with cancer. *Scientific journal of Kurdistan University of Medical Sciences*, 14(3): 64-72. (Persian)
15. Lefebvre-McGevna, J.A., 2006. A developmental attachment-based play therapy (ADAPT<sup>TM</sup>): A new treatment for children diagnosed with reactive attachment and developmental trauma disorders. University of Hartford, September: pp: 111.
16. Moezi, M., M. Shakeri, R. Khadivi and B. Pourheidari, 2007. The prevalence and severity of post traumatic stress disorder (PTSD) and its impact on mental health interventions in children and adolescents in the village of Chahar Mahal and Bakhtiari Sfyhan. *Journal of Shahrekord University of Medical Sciences*, 9(1): 63-9. (Persian)
17. Abidin, R.R., 1995. Parenting stress index: Professional manual. 3<sup>rd</sup> ed. Odessa, FL: Psychological Assessment Resources, pp :20. Make References like this Style.
18. Ethier, L.S., C. Lasharite and G. Couture, 1995. Childhood adversity, parental stress and depression of negligent mothers. *Child Abuse. Negl.*, 19(5): 619-32.
19. Pipp-Siegel, S., A.L. Sedey and C. Yoshinaga-Itano, 2002. Predictors of parental stress in mothers of young children with hearing loss. *J. Deaf Stud. Deaf. Educ.*, 7(1): 1-17.