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Original Article

Developing a mixed family-focused therapy based on integrated human development model and comparing its effectiveness with Floortime play-therapy on the developmental family functioning and the functional-emotional development of children with autism spectrum disorder

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Abstract

Introduction: Autism spectrum disorder (ASD) is a major disability of childhood which is the basis of many mental pressures on children and their families. Regarding the unfavorable effects of this disorder on the family system, the present research aims to design a family- focused therapy based on the integrated human development approach which is a new approach in the treatment of ASD. In this model, to enhance the abilities of the child, family functioning is set the objective as a general unit, and its effectiveness in combination with Floortime therapy which is the center of therapy of this model is investigated.

Materials and Methods: This study uses single-subject design framework where 12 children with autism aged between 3 to 8 years old and their families are examined during 5 months; the research data were collected from three phases. In order to examine the effectiveness of therapy, the researcher-built instruments of (DFFAQ), (FEDQ) and (FEAS) were used.

Results: According to the results, the percentage of improvement in developmental family functioning in the mixed family- focused therapy group were above 50 percent, especially in the areas of intimacy, engagement, discipline and also the functional-emotional development of children in the self-regulation, attachment, and mutual interaction levels; thus, the improvement were clinically significant. The effectiveness of treatment in mixed therapy was estimated higher than 0.80.

Conclusion: The mixed family-focused therapy which was designed in this study can increase the effectiveness of Floortime therapy and be used as an effective therapy for the treatment of ASD.

Keywords: Autism, Emotion, Family, Function, Play therapy

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Introduction

Autism spectrum disorder (ASD) is one of children's complex neuro-developmental disorders which is accompanied by moderate to severe complications in social relationships, mutual interactions and repeated patterns of behavior, actions and penchants (1). These types of disabilities emerge with a comprehensive nature in the initial stage of growth and influence the life of an individual during his/her life. Personality disorders, behavioral problems, agitated and irritable mood, low adaptability, lack of self-caring ability, lingual complications, disability to learn and need for long-term care influence not

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only the person but also his/her care-takers, family, teachers and society (2). Global outbreak of ASD has had a significant rise (3). Autism spectrum disorder is one of the most common developmental disorders (4). This increase of prevalence is accompanies by severe economic pressures (5). Ganz reported that per-capita cost of autism amounts to 3,200,000 dollars (6). In addition to financial costs and as Ratajczak (2011) believed, emotional devastation is created among families due to complications of ASD patients which have led to numerous concerns on this issue (7). As Shattuck and Grosses (2007) stated, this has led to a wide range of studies on biological and genetic symptoms as well as etiology of this disorder (8). But in comparison, the number of studies which analyze treatment plans to help ASD parents and their families is very limited (9).

Treatments of autism are mostly based on behavioral patterns. Behavioral approaches to treatment of ASD children are based on the presumption that these children has basic defects in fundamental development capabilities such as joint attention, mutual emotional and social interactions, emotional cues, meaningful and creative use of language and higher levels of reflective and deductive thinking such as sympathy and theory of mind. So, they cannot access such abilities. These approaches focus on generation of behavioral changes and superficial cues to increase children's adaptability with surrounding environment (10,11). Initial reports of Lovass on the results of such interferences showed a beam of hip and they have a significant role in reinforcement of children with severe developmental challenges. Numerous studies confirmed the success of behavioral methods in increasing cognitive and independence of children (12,13). As Greenspan et.al believed, behavioral approaches might have a significant role in reinforcement of education and treatment of children with severe developmental challenges but we can't go beyond the term "behavior" and analyze underlying developmental processes which disrupt normal development of a child (14).

Greenspan introduced a new approach to treatment of developmental disorders such as ADS which is called developmental, individual-differences, relationship-based model (DIR) (11). This model presents a new roadmap of gradual development of "mind team" in humankind and has an integrated viewpoint of human capabilities including cognition, language, emotion and affection. Amin Yazdi in his study called "Integrated Development of Human kind: Developmental, Individual-Differences, Relationship-Based Model (DIR), called this model a model of integrated development (15). This model identifies developmental capabilities which must be dominated by children to attain adaptive function. DIR advocates believe that ASD children have the capacities of attaining fundamental development capabilities but due to biological challenges, such capabilities don't mature (10). DIR model proposes a comprehensive treatment and against behavioral methods, it emphasizes reduction of distinctive behaviors. DIR treatment emphasized fundamental defects caused by autism so as to develop basic functional capabilities. This model is based on this fundamental supposition that emotions are the bases of development and learning and human relationships have critical roles in development and growth of children (16). From the viewpoint of Greenspan, developmental disorders such as ASD are the result of lack of proper development of basic abilities which might be due to dysfunction of neural system of the child or improper reaction style of parents. As a result, treatment moves beyond mere emphasis on modification of disruptive behaviors and analyzes all aspects of humankind in social relationships, especially targeted interactions with parents. Therefore, the major difference of integrated model of human development with other treatment models is dominating behavioral approach. In an integrated approach to all human capabilities, developmental essence of approach, attention to individual methods of information processing by parents and significance of emotional relationships in development process are important (14).

A review of existing literature lets one understand that DIR-oriented studies such those by Solomon, Necheles, Ferch and Bruckman; Greenspan and Weider; Greenpan and Weider, emphasize the effectiveness of teaching mothers in enhancement developmental capabilities of their children (16-18). The evidences of different studies confirm that ASD has multi-aspect and comprehensive effect upon health of parents and other members of the family (19,20). The ASD children's parents have more parenting stress compared with those whose children have normal growth (21-24) as well as parents whose children have developmental delays (25-29). Parents of ASD children feel totally involved in complications of their children and they might experience numerous marital tensions (30). A study by Hartley showed that rate of divorce in families with ASD children is two-fold of families of normal children (31). Even in families in which parents aren't divorced, presence of ASD children might reduce their satisfaction of marital

relationship and significantly change their parenting experience (32). So, one could say that the association between children's ASD disease and functions of the families is mutual and instead of paying attention to children with distinctive demands, one should pay attention to families with special needs. It is necessary to adopt a comprehensive approach to treatment of children and developmental functions of families.

Despite of disruptive effects of ASD on the families, existing literature doesn't present a serious approach to this subject. If familial and nurturing environment of the child is not developed, not only achievement of treatment results and generalization of trainings to familial setting face challenges but also such results and trainings might lose their effects. As Greenspan and Weider believed, teacher and influential social policies change and family is the only group from which an ASD child receives help in long term (30). As stated before, families with ASD children face many stressful factors and challenges such as unexpected disabilities, irritating behaviors and behavioral disorders of ASD children as well as complications of receiving effective treatment and fewer interactions with relatives, friends and other members of the society. Without emphasis on families and teaching parents, familial resources (energy, time and ability of coping witch challenges) will increasingly drop, marital tensions and emotional problems increase, ineffective interactions with ASD children become a norm, an inflexible pattern is generated and development model will be disrupted. But if the familial system is regulated and there is a high level of devotion and sincerity among family members, members of the family might develop mutual interactions, provide rich experience for their child and facilitate his/her treatment. So, design of treatment methods which are focused upon empowerment of families is highly significant (33). Empowerment and activation of families are key items of family-focused therapy. Family-based interferences which use parent teaching methods to help them understand the true nature of autism and children's learning are supported by existing studies which consider family-based treatment interferences as one of the influential factors in improvement of functions of families, parents and children (34). Therefore, the present study a combined family-focused therapy based on the integrated model of human development which targets Floortime play therapy as well as communicative relationships and skills inside families, was designed. The question was that "Does family-focused therapy based on integrated model of human development and its combination with Floortime play therapy can increase the efficiency of treatments?". It seems that the present study is the first of its type in regard to family-focused therapy of ASD children based on DIR model. As a result, the necessity of such a study is evident and it can contribute to existing set of treatment methods for ASD children.

Materials and Methods

This is an applied quasi-experimental study. Due to the fact that similar complications are rarely found in ASD children and they might be categorized into different treatment groups, quasi-experimental method was used. First, test group was made based on entry criteria and then control group were matched with test group in terms of age, level of functional-emotional development and education of parents. To precisely measure desired behaviors and control research variables, single-test experiment was selected among quasi-experimental models. This model includes a compact analysis of an individual or a number of individuals who are considered as a group (35).

The statistical population of present study consists of all 3-8 year-old ASD children and their families which were visiting their special clinic in Ibn-e-Sina Psychiatric Hospital. Among the ASD children population, 12 individuals were selected based entry criteria (i.e. diagnosis of ASD by child psychiatrist, age range of 3-8 years and consent of parents) and exclusion criteria (i.e. mental retardation, great epilepsy, physical defects and disabilities and another psychological disorder) through accessibility sampling. These individuals were includes in three groups of Floortime play therapy, family-focused therapy based on DIR model and control group (receiving official teachings of autism centers).

Instruments

A)Developmental functioning family assessment questionnaire: In the present study, developmental functioning family assessment questionnaire was used which was designed by the authors. This questionnaire consists of 43 items and 7 subscales. The subscales measure developmental levels of families from DIR approach. These levels are:

-Shared attention and self-regulation

-Engagement in relationships and attachments

-Two-way intentional affective signaling and communication

-Long chains of co-regulated emotional signaling and shared problem solving

-Creating representation

-Building bridges between ideas

The rating of answers was done in Likert scale ranging from "Never" (zero) to "Always" (three),

High score in each subscale shows access of the family to that level of development while lower score implies functional weakness in that level. Psychometric characteristics of this questionnaire were analyzed in a sample of 148 individuals which consisted of mothers of 4-6 years-old children of preschools in different principality regions of Mashhad City which were selected through multi-stage cluster sampling. The levels of internal consistency based on Cronbach's alpha were 0.74, 0.71, 0.75, 0.66, 0.69, 0.58 and 0.53 for subscales of shared attention and self-regulation, engagement in relationships and attachments, two way intentional affective signaling and communication, long chains of co-regulated emotional signaling and shared problem solving, creating representation and building bridges between ideas, respectively. For the whole questionnaire, it was 0.92. Retest coefficient values in a group of thirty individuals ranged from 53 to 84 percent for subscales and it was 0.93 for the whole questionnaire. The criterion validity of this questionnaire was determined through comparison with McMaster Family Assessment Questionnaire and its correlation coefficient was 0.75 which shows that it has sufficient validity and reliability to determine developmental level of families.

B)Functional-emotional Development Questionnaire: In the present study, measurement of functional-emotional development was done through the Greenspan's scale of functional emotional development. It consists of 35 questions which were introduced by Greenspan to investigate function-emotional development level among children. These questions analyze the current condition of a child in six developmental levels. Parents or children's care-takers answer the questions in forms which include six choices for each question based on Likert scale (36).

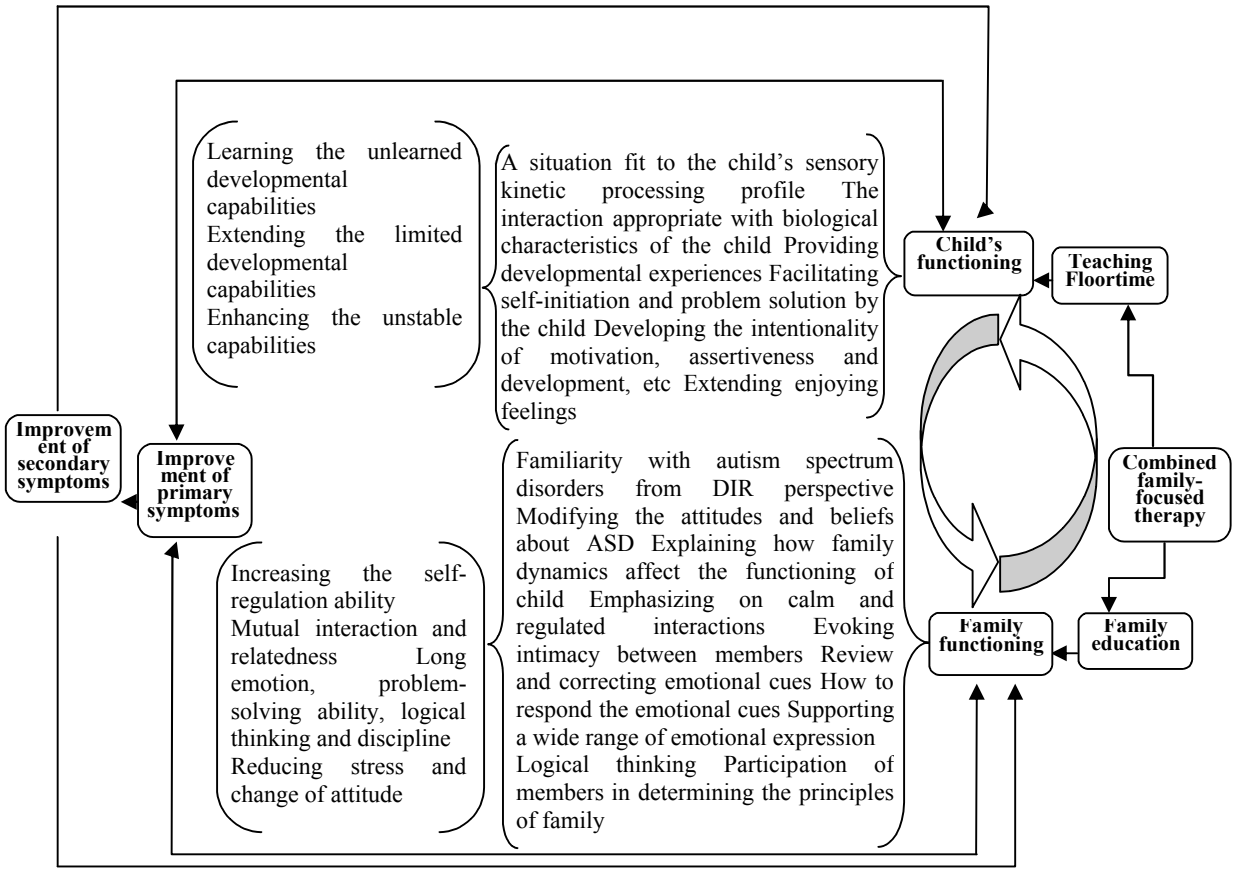
Greenspan and DeGangi reported that the validity coefficient of this questionnaire ranges between 0.89 and 0.91 and its reliability coefficient based on the method of internal consistency was estimated to be 0.90. The validity of this test in domestic studies was first reported by Karimian (2012) in a study on comparison of ADHD children and normal children through age-differentiation method at a suitable level and its Cronbach's alpha coefficient was 0.94 (37).

C)Functional-emotional assessment scale (FEAS): FEAS is an observational tool for clinical rating which was introduced by Greenspan, DeGangi and Weider to systematically evaluate and observe functional-emotional abilities of care-taker, child and their mutual relationships. Therefore, it has two forms for the child and the caretaker. In this scale, norms, defects and dangerous situations are studied based on Greenspan's significant stages of development during interaction between child and mother in playing and other natural situations (2). The questions of this scale were rated from zero to two. The reliability of assessments for coding of care-taker's form was 90 to 92 percent and it was 91 to 98 percent for the child's form. To use this tool in the present study, it was translated to Persian and re-translated into English by two English language experts. To measure the consistency of scale items with total score of the scale, Cronbach's alpha was used. Cronbach's alpha coefficient was 0.94 for the whole scale and 0.80-0.90 for subscales. The reliability coefficient of assessments was 0.92 for care-taker's form and 0.94 for child's form.

D)Floortime play therapy: Floortime contributes to development through integration of different aspects of child's experiences (physical, emotional, interactive and familial). From technical viewpoint, it is a period of play with unstructured and self-stimulated conversation in which the adults follow children's orders, try to understand his penchants and endeavor to reply in a way which might reinforce and support desired subjects of the child. The objective of Floortime is creation of a warm and close relationship in which common attention, interaction and proper exchange occurs based on the child's conditions (38). In Floortime, level of activity and attention duration of the child determined the path of game instead of a pre-determined structure. The play environment is designed in a way that the child's favorite toys are available and match his/her level of development and biological differences so that the child becomes stimulated to initiate interaction with adults and enhance his/her sensorimotor development through a target-oriented method. In Floortime, adults attract children through playing and they teach children social skills and emotional regulation (39). In fact, Floortime is a children's game which lasts 20 to 30 minutes (16) but it is not just for children and a special technique and philosophy which is used by parents and other treatment team members to deal with the child and follow his/her emotional interest. In the early sessions, mothers become acquainted with integrated development model (functional-emotional development process, sensory-regulatory differences and role of communication), ASD and its characteristics from the viewpoint of DIR model. Then, Floortime play therapy starts. The therapist observes the play between child and his/her mother and then acts as a mode. After teaching through modeling, the plan between child and mother restarts and in this way, interactions are facilitated. The stages of Floortime play therapy initiated from

developmental position of the child and progresses based on it.

E)Family-focused therapy: Family- focused therapy is derived from systematic approaches to intervention (34). Based on existing literature, the family systems theory refers to investigation of family's performance from the viewpoint of the effects of all family members upon each other and upon family performance as a single unit. Greenspan believed that for proper development, the child needs an advance family environment. In other words, obtaining each developmental ability necessitates the existence of a family that has obtained developmental abilities as a single and systematic unit. From this viewpoint, family system as a single and unique unit will experience functional-emotional development stages which are essentially similar to those that a child might experience (38). These stages are attention and regulation, closeness, two-way communication, solving social problems, creation of representations or ideas, logical thinking and discipline. In family-focused therapy, the access of the family to the above developmental levels is the primary objective of treatment. In sessions of family- focused therapy**,** the model of integrated development (i.e. functional-emotional development process, sensory-regulatory differences and rile of communication) is introduced. Then awareness of ASD and its characteristics through DIR model, correction of approaches and beliefs regarding ASD, determination of effects of dynamism inside the family upon child's complications, teaching DIR communication model in regard to relationships inside families, emphasis on calm and regulation interactions, stimulation of common feeling of closeness among members, analysis and correction of emotional cues and proper ways of responding to them, emphasis upon the significance of support of a wide range of feelings and emotion in conversation, logical and realistic thinking, realistic expectations and cooperation of all family members in determination of principles inside families are the primary objectives.



In the present study, Based on the viewpoint of Hersen and Barlow, improvement percentage is used to visualize the level of improvement in treatment groups (40).

To determine the clinical efficiency, Cohen effect is used (41).

Results

The mean age of participating children in the present study was 5.1 year, the mean age for their mothers was 35.58 and for their fathers, it was 40.91. The level of education for fathers and mothers in the three groups had similar means.

Table1. Percentage of improvement of groups in FEAS (child)

Variable	Family-focused		Floortime		Control	
	Treatment	Follow-up	Treatment	Follow-up	Treatment	Follow-up
Self-regulation	25	22	15.50	15	2.68	2
Attachment and engagement	52	62	21	17	1	0
Two-way communication	36	12	29	27	-3	25
Behavioral organization	12	10	0	0	0	0
Creating representation	13	6.31	0	0	1.11	-7
Emotional thinking	0.33	0	0	0	-10	-10

Table 2. Percentage of improvement of groups in FEDQ (child)

Variable	Family-focused		Floortime		Control	
	Treatment	Follow-up	Treatment	Follow-up	Treatment	Follow-up
Self-regulation	58	45	37	35	14	12
Attachment and engagement	123	66	96	48	12	-6
Two-way communication	83	125	15	0	15	15
Behavioral organization	19	12.50	22	1.75	-3	-21
Creating representation	13	1.26	-11	1.29	3.57	-27
Emotional thinking	5.76	5.70	-1.96	-5.88	0	-2.22

Table 2 showed the observations of developmental abilities of the children in communication with their mothers. Table 3 summarizes the results of mothers' reports of developmental abilities of their children. As the information of these two tables show, a higher increase in the set of developmental capabilities of participating children in family-focused therapy and in all stage of development except behavioral organization stage is obtained compared with other groups. The percentage of improvement in self-regulation, engagement and attachment and two-way communication in family-focused therapy group is 50 percent higher. In Floortime play therapy, the percentage of improvement in engagement and attachment was clinically significant which reduced in follow-up stage. To determine the real value of this effect, calculation of effect size should be done (Table.3).

Table 3. Percentage of improvement of groups in FEAS (mother)

Variable	Family-focused		Floortime		Control	
	Treatment	Follow-up	Treatment	Follow-up	Treatment	Follow-up
Self-regulation	31	40	17	17	6.45	3.22
Attachment and engagement	39.13	56.52	15.15	21.73	4.76	14.28
Two-way communication	31	24.13	3.12	6.89	-3.44	0
Behavioral organization	32.14	35.71	40	40	0	0
Creating representation	17.85	17.95	14.28	14.50	-3.70	0
Emotional thinking	18.75	12.50	40	30	-7.69	-7

Table 4 shows the observed performance improvement of the mothers in their interaction with the children. Based on this table, the ability of mother in interactions with her child within subscales of self-regulation, engagement and attachment, two-way communications and creating representations shows an improvement compared with other groups.

The percentage of this improvement in follow-up period is more than 50 percent for subscale of attachment and engagement which is clinically significant.

Table 4. The calculated effect size for functional-emotional development in the three groups

Group	Pretest		Posttest		Follow-up		Effect-size	
	μ	SD	μ	SD	μ	SD	Treatment	Follow-up
Family-focused (FEAS-Child)	19.50	3	36.62	2.56	38.25	4.78	6.11	4.75
Floortime (FEAS-Child)	18.50	0.57	24.50	2.04	23.50	2.73	4.02	2.65
Control (FEAS-Child)	17.75	2.21	21.37	2.05	20.37	1.10	1.70	1.73
Family-focused (FEAS-Mother)	39.50	5.25	60.50	4.50	62.50	3.51	4.40	5.26
Floortime (FEAS- Mother)	39	7.11	64.50	6.65	67.50	5.25	3.70	4.53
Control (FEAS- Mother)	37.25	8.46	36.50	7.32	36.50	7.59	-0.18	-0.09
Family- focused (FEDQ)	100.75	13.32	114.75	9.91	119.75	13.59	1.19	1.41
Floortime (FEDQ)	98.50	19.48	125	21.18	125.5	15.64	1.30	1.52
Control	99.50	15.77	101	14.75	90.25	13.76	0.09	-0.60

In the above table, the effect sizes of three treatment methods of family- focused therapy, Floortime play therapy and control group (official control) on increase of functional-emotional development of children in ample group are separately shown in sample groups (FEAS Children and FEDQ) and their mothers (FEAS mother).

The presented effect sizes show the high effectiveness of Floortime play therapy and Family-focused therapy on improvement of functional-emotional capabilities and advantageous effectiveness of family-focused therapy compared with Floortime play therapy.

Regarding the findings presented in Table 5, it can be said that the improvement of developmental family functioning in the families who participated in this therapy has a significant difference compared to participants of other groups, in terms of subscales of attention and regulation, being attracted and related to people, conscious mutual interaction, common social problem solution, and discipline. These improvements were found to be higher than 50 percent and clinically significant in the subscales of intimacy, relatedness and discipline.

Table 5. Percentages of improvements in groups in developmental function of family

Variable	Family-focused		Floortime		Control	
	Treatment	Follow-up	Treatment	Follow-up	Treatment	Follow-up
Attention and Regulation	35.50	34.35	27.79	27.54	8.19	8.19
Closeness and Attraction to Human Beings	50.53	50.56	4.35	1.66	2.92	2.84
Two-way Communication	12.62	9.31	0.61	2.22	2.18	1.38
Solving Common Social Problems	19.73	16.33	4.54	4.54	2.51	5.73
Creating Representation and Ideas	10.50	7.02	6.98	6.98	1	2.83
Logical Thinking	11.29	12.76	16.36	16.36	18.53	8.82
Discipline	60.40	66.46	6.50	6.50	3.52	3.52

Table 6. The calculated effect sizes for developmental functions of the family in three groups

Group	Pretest		Posttest		Follow-up		Effect-size	
	μ	SD	μ	SD	μ	SD	Treatment	Follow-up
Floortime	84.87	6.34	90.37	6.74	94.75	5.35	0.87	1.77
Control	80.62	16.21	82.75	14.35	89.35	14.46	0.07	0.81

The information of above table represents the means and values of effectiveness of three types of therapy on developmental family functioning. As it is observed, the three therapies improve the developmental family functioning. Comparing the effectiveness of treatment among the three groups shows that the family- focused therapy (d=1.05) and (d=1.92) made a better improvement in the developmental family functioning compared to Floortime play therapy (d=0.78) and (d=1.77), and the control group (d=0.81).

Discussion

The main objective of present study was to investigate the effectiveness of family- focused therapy designed by researchers compared with Floortime play therapy and official teachings of different centers upon improvement of developmental function of families and functional-emotional development of ASD children. Comparison of scores in the three groups shows that in family- focused therapy based on an integrated model of human development has been successful in improving developmental function of families and increase of functional-emotional development of ASD children. In explained model of Greenspan for ASD disorder, biological characteristics of the child develop in interaction with characteristics of the family in which he/she lives. If the child lacks sufficient interactions with his/her biological capabilities, he/she will deviate from normal development path and this disorder leads to presentation of other symptoms (14). In a studies by Aali, Amin Yazdi, Abdekhodaei , Ghanaei Chamanabad, Moharreri, developmental profile of ASD children was compared with normal ones and it was confirmed that ASD children have significant differences with normal children in all levels of development (42). In opposition to theories which regard autism as an output of permanent biological defects and founded upon this idea that ASD children cannot obtain developmental abilities, DIR approach regard ASD as dynamic which if diagnosed earl, it can be resolved through an interferential design which is based on emotional relationships matching with developmental profile of the child (38). In this regard, the objective of present study was to compare the effectiveness of treatment methods (i.e. family- focused therapy, Floortime play therapy and official teachings of autism centers) on treatment of ASD.

The results showed that functional-emotional development of children who participated in family-focused therapy and Floortime play therapy showed significant improvements compared with control group, especially in subscales of attention and regulations, closeness and attraction to human beings and two-way communication. This confirms the possibility of treatment of ASD (2,10,11,17,43,44) which is supported by results of previous studies (10,11,44,47). This means that Floortime play therapy contributes to functional-emotional development of ASD children and can generate significant changes in adaptive skills of

these children (45,46). In addition, findings of present study show that ASD children and their mothers both benefit from DIR teachings (10,11,44,47). In the present study the mean level of functional-emotional development in children who received Floortime play therapy increase from 18.5 to 23.5 in FEAS scale. This shows that participants of present study experienced higher improvement than previous ones (e.g. 38.1 to 44.6 in a study by Solomon et.al, 2007). In regard to this issue, one might say that treatment duration of present study was more than previous ones (i.e. six month compared with three month in Solomon et.al, 2007). Therefore, the results of treatment in Floortime group showed higher improvements compared with previous studies but the average level of functional-emotional development of children in family-based combined group increased from 19.5 to 38.25 in FEAS scale. This means that family- focused therapy increases the effectiveness of Floortime interventions. The performance of mothers who had received family- focused therapy had higher increase in subscales of self-regulation, attachment and engagement, two-way communication and creation of ideas and representation compared with other groups. The results of subscale of engagement and attachment showed clinically significant results. In Floortime play therapy, the mothers of ASD children were taught to interact with their children based on their level of development. A therapist observed their interaction and guided parents if problems occurred in attraction of and interaction with children. This helped parents to understand abilities of their children and their sensorimotor characteristics so as to develop their capacities based on current behavior and development status. The objective of Floortime play therapy for parents, especially mothers, is better understanding of child's cues and demands, enhancing responsive interaction and feeling of competency and empowerment (48). The findings of present study also show that family-focused therapy and Floortime play therapy can lead to higher improvement of developmental function of families compared with other methods of treatment and this improvement is more visible among fathers of ASD children. The difference in efficiency of treatment between family- focused therapy and Floortime play therapy was more evident among mothers of ASD children. One could conclude that in family- focused therapy, something beyond teaching parents is the objective because this method of treatment seeks to enhance the dynamism inside a family. As stated before, discovering and presentation of feelings of parents and communication patterns inside the family as well as their way of response s a significant part of family-focused therapy method. This treatment modifies approaches and beliefs of parents regarding ASD to determine the effectiveness of dynamism inside families, teach proper communicative patterns based on integrated model of human development, emphasize calm and regulated intrapersonal relationships, stimulate a common feeling of closeness among members, correct emotional clues and ways of response, emphasize the significance of supporting a wide range of feelings and emotions in conversation and promote logical thinking, realistic expectation and engagement of all family members in codification of house rules so as to positively influence developmental function of family and child-mother interaction quality both of which lead to increase of child's rate of functional-emotional development. Numerous studies confirmed this fact that participation of parents in treatment process has a significant effect upon improvement of conditions of an ASD child (49-52). Mcconachie and Diggle found out that engagement of parents in treatment process can lead to improvement of communicative skills of the child, increase of mothers' knowledge of autism and improvement of mother-child interaction (53). The fundamental part of DIR treatment is mutual communications of the care taker and the child (2).

In the present study, the interactions between child and mother, especially in the initial stages of improvement, is significant which proves development capacity of these abilities is. It also shows that increase in duration of treatment can lead to higher improvement in level of development. In regard to discipline, Hoffman et.al (2009) believe that diagnosis of autism is a supportive factor in child-parent relationship because children are considered as less responsible for their behaviors (54). Whittingham et.al believe that parents of ASD children attribute behavioral abnormality of their children to symptoms of this disease (55). Powers (2000) believed that the higher level of stress among care-takes might lead to a radically supportive way of parenting (56) which as Ivey stated, this type of support might significantly limit independent skills of children and increase their behavioral problems (57).

Due to the results of present study, those families properly taught on proper discipline in family-focused therapy method manifested significant improvement. In sum, one could say that attention to proper and efficient performance of families in treatment process of ASD is essential and it is one of the influential factors in improvement of ASD children's condition. Of limitations of present study,

one could point to lack of registration in ASD centers for ASD children who are less than 4 years old which created age range for present study. Special limitations of official ASD centers has led to registration of families with identical socioeconomic background and relatively similar level of education both of which make it difficult to generalize the results of present studies to other social groups and strata. Also, diverse and different disabilities of ASD children has limited the number of ASD subjects included in a homogenous sample the parents of whom are ready to participate. Drop in number of participants during treatment and lack of a control groups which doesn't receive any treatment were other limitations of present study because morally speaking, it is impossible to deprive ASD children of teaching.

Conclusion

The mixed family- focused therapy which was designed in this study can increase the effectiveness of Floortime therapy and be used as an effective therapy for the treatment of ASD.

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