



The effects of sand therapy on the anxiety, positive & negative emotions & social adjustment pr-school children with attention deficit / hyperactivity

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ABSTRACT

The purpose of this research was to investigate the influence of sand therapy on anxiety, positive and negative feelings, and consistency of pre-school children with Attention Deficit and Hyperactivity Disorder (ADHD). Research scheme consisted of an experimental plan in the form of pre-test and post-test and the research society included all the children with ADHD being referred to the therapy centers of Isfahan City. Among these children, 30 persons were put into test and control groups randomly and equally after being diagnosed by psychiatrists. Research tools consisted of the followings: anxiety test on pre-school children, Positive and Negative Affect Scale for Children (PANAS-C), and Wineland Social Maturity Scale. Results were analyzed by means of SPSS Software through co-variance analysis method. Conclusions indicated that sand therapy would cause meaningful reduction in the level of anxiety in the test group in comparison with the control group ($P < 0.05$). However, this therapy method had no influence on the positive feelings of test group. In addition, game therapy could reduce negative feelings in children with ADHD ($P < 0.05$). On the other hand, this has caused meaningful increase in their social maturity ($P < 0.05$).

Keywords: Sandtherapy, Attention Deficit and Hyperactivity Disorder (ADHD), anxiety, positive and negative feelings, social maturity.

INTRODUCTION

One of the disorders that showed so much among children is Attention Deficit/ Hyperactivity Disorder. This disorder was recognized by German doctor who called Hoffiman in 1845. After 1980 the psychiatrist called attention deficit/ hyperactivity (ADHD) for these children [1].

Attention Deficit/ Hyperactivity Disorder can be along with other disorders such as; disobedience, defiance, conducts disorder & learning difficulties. Regarding to the most of studies; these disorders are along with; anxiety & depression [2].

The results of different researches showed that almost 73 percent of children suffer from at least one disorder & 67 percent of them suffer from more than two disorders simultaneously. The neuro-developmental deficits are increased along with anxiety among children with Attention Deficit Hyperactivity Disorders. Taylor & et al showed that neuro-developmental deficits include language & motor development delays & increase neurological soft signs associated with inclusive Hyperactivity[3].

The researchers believed that anxiety is normal among children suffer from Attention Deficit Hyperactivity Disorders who treat during medium & long term using stimulant drugs whereas Clinicians posed it as ongoing signs of Attention Deficit Hyperactivity Disorders.

One of the main problems among children with Attention Deficit Hyperactivity Disorders are disability to maintain & adjust their behavior, as a result, often cannot show the proper behaviors that match up each minute [4].

The social skills acquisition is considered as main social development, the formation of social relationships the quality of social interaction, social adjustment & mental health which these skills have deficit in among children with Attention Deficit Hyperactivity Disorders. In the recent years, pay more attention to the social skills education to children with Attention Deficit Hyperactivity Disorders, because various studies showed that impaired social skills have negative effects on the students' education & some times, caused to compatibility problems such as exclusion from the peer group [5].

Moreover, in most times, parents don't know & the problems of children's behaviors (who suffer from Attention Deficit Hyperactivity Disorders) & also cannot control them, then use threats, humiliation or punishment. The stressful family ties, parents' mental disorders affect on the children's disorders development, despite these difficulties caused to the frustration factors among children & increase their negative emotions. Experiences of successive failure in activities, physical punishment, blame & humiliation & neglect children, all caused to decrease confidence & self-esteem in children that predispose depression among children & teenagers [6]. The ultimate goal is treatment the Attention Deficit/ Hyperactivity Disorders enabling children to solve problems that are encountered during life, this goal cannot be obtained by using drug or forcing children to comply with the rules. But the only way to accomplish it, teaching strategies about how to deal with people & in the performance of daily tasks that benefits children. One of the non-drug therapy is using the techniques of play therapy with different approaches.

Play therapy is one of the therapeutic technique for the children's disorders treatment. This kind of therapy is used in various disorders among children such as; depression, fears, behavioral problems, anxiety roots, administrative night, nail biting, lying, aggression, hyperactivity, attention deficit, etc. & in many cases, it is evaluated effective & has less limitation than other therapies. One of the executive techniques is using sand in play therapy. Sand (play) is one of the complete activities for children in different ages & allows the children to extension & develop their imageries & it is the best way to learning physical, social & cognitive skills. Sand therapy are used for treat most of children's disorders & difficulties (for example; in the Ziny's research that depicted different aspects of sand play among 10-11 years old children & the goal of this research is answering to this questions whether there is different significant between controlled & testing groups in sand plays or not? & the results showed that there is different significant between them [7].

Wan & et al (2012) researched on the 9 children with impulsive & aggressive behaviors by using sand tray techniques & surveyed the results as quantity & quality. The results showed the substantial progress in reducing aggression in children [8,9].

According to the done researches, little researches benefits sand therapy & treat the Attention Deficit Hyperactivity Disorders & in the other way, other variables such as; social adjustment or positive emotions are surveyed in this research.

Sand therapy is established as a treatment of many childhood disorders till now, but as noted earlier, in terms of variables consistent with the treatment, there are many studies that the more research that adds to the sensitivity.

So, the aim of this research is surveying on the effects of sand therapy on symptoms of anxiety, positive & negative emotions & social adjustment of pre-school children with Attention Deficit/Hyperactivity Disorders.

EXPERIMENTAL SECTION

Research project

This research is pre-test & post-test with controlled group as term of goal & nature. The population included 15 children with Attention Deficit / Hyperactivity Disorders & using drug under psychiatric treatment & be affected under independent variable, which includes 10 sessions of 45-minute group was playing with sand & 15 children with Attention Deficit / Hyperactivity Disorders who just using drug included controlled group, too.

Population, sample & sampling

The population included male & female children with Attention Deficit / Hyperactivity Disorders who were 5-6 years old in pre-school in Isfahan. In the present method of sampling, sampling is available so that after visiting a medical center, children who meet criteria for Attention Deficit / Hyperactivity Disorders were diagnosed after psychiatric center & 30 persons of them selected randomly & they were randomly divided into 2 groups of 15 members (controlled & testing group).

But among these 30 persons; 1 person in controlled group & 1 person in testing group were excluded because of not-filling questionnaire from parents, the absence of a meeting of participants & the lack of cooperation at the start of treatment on 28 children. Members of testing group did 10 sessions of sand therapy for 45 minutes in each session.

Research Tools

Anxiety questionnaire of pre-school children was designed by Spence, Rapee, McDonald & Ingram (2001).

All of its subscales had internal reliability from moderate to good (Cronbach Alpha is more than 70%). Social development subscale & Inland reliability coefficient with retest 123 persons was reported 92% & the positive & negative emotion PANAS-C & internal validity & consistency (Cronbach Alpha coefficient) for positive emotion is 89%-90% & for negative emotion is 92%-94%, moreover Cronbach Alpha coefficient is obtained 87% for two subscales (positive & negative emotion).

RESULTS

Table (1): the results of tests of pre-hypotheses of Covariance analysis

Shapiro-Wilks tests						
Variables of research	Testing group		Controlled group		Levin test	
	statistic	significantly	statistic	significantly	F	Significantly
Anxiety	0.972	0.932	0.931	0.395	5.845	0.024
Positive emotion	0.858	0.046	0.811	0.012	1.026	0.322
Negative emotion	0.924	0.318	0.923	0.316	0.333	0.570
Social adjustment	0.943	0.535	0.928	0.360	0.134	0.717

Table (1) showed that by controlling the scores of pre-test of anxiety there is significant difference among testing & controlled groups ($P \leq 0.05$) the amount of difference is 0.197 & it means that 19.7 percent of score's anxiety variance associated to membership of group. The statistical power of test is 0.85, so null hypothesis is declined & researcher hypothesis is determined by 95 percent. These results showed that sand therapy is effective in decreasing the level of children's anxiety.

Also the table shows that there is no significant difference between positive emotion of testing & controlled groups by controlling pre-test of positive emotions, as the statistical power is just 0.147 so null hypothesis is determined & researcher hypothesis is declined, these results show that sand therapy is not effective in increasing the positive emotion.

Moreover, by controlling the scores of pre-test of negative emotion, there is significant difference among testing & controlled groups ($P \leq 0.05$) & the amount of difference is 0.274 & it means that 27.4 percent of score's negative emotion variance associated to membership of group. The statistical power of test is 0.776, so null hypothesis is declined & researcher hypothesis is determined by 99 percent. These results showed that sand therapy is effective in decreasing the level of negative emotion.

Also this table shows that by controlling the scores of pre-test of social adjustment there is significant difference among testing & controlled groups ($P \leq 0.05$) & the amount of difference is 0.403 & it means that 40.3 percent of score's social adjustment variance associated to membership of group. The statistical power of test is 0.948, so null hypothesis is declined & researcher hypothesis is determined by 99 percent. These results showed that sand therapy is effective in increasing the level of social adjustment.

Table (2): the results of statistical tests for determining the effects of sand therapy on testing group in research variables

Tests	Covariance						
	Sand therapy group & controlled group with pre-test control						
Statistic	Total of squares	Mean of squares	Freedom rate	F	Significantly	Eta Coefficient	Statistical Power
Anxiety	106.150	106.150	1	51.141	0.034	0.197	0.580
Positive emotion	8.283	8.283	1	0.890	0.356	0.041	0.147
Negative emotion	128.55	128.55	1	7.923	0.010	0.274	0.766
Social adjustment	31.409	31.409	1	14.16	0.001	0.403	0.948

The results of table (2) show that by controlling the scores of pre-test of anxiety, there is significant difference among testing & controlled groups ($P \leq 0.05$) & the amount of difference is 0.197 & it means that 19.7 percent of score's anxiety variance associated to membership of group. The statistical power of test is 0.85, so null hypothesis is declined & researcher hypothesis is determined by 95 percent. These results showed that sand therapy is effective in decreasing the level of children's anxiety.

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DISCUSSION AND CONCLUSION

This research is done with the goal of surveying on the anxiety, negative & positive emotion & social adjustment signs among pre-school children with Attention Deficit/ Hyperactivity Disorders. The results of research showed that there is significant difference between the levels of anxiety controlled & testing groups ($P \leq 0.05$). As a result, sand therapy caused to decreasing children's anxiety that had Attention Deficit/ Hyperactivity Disorders & this result is same as Haken Bari (2011), Rei Chattel Korb Sai (2007), Bagreli & Baker (2005), Breton & et al (2005)[10,11,12,13].

Sand therapy is the effective method to decreasing children's anxiety with Attention Deficit/ Hyperactivity Disorders. This method helps children in expressing deepest inner conflicts & the problems by making safety frame work of part [14].

Since the presence of children in a new environment will lead to increased anxiety, sand therapy provides conditions for the reduction of anxiety by creating a cheerful atmosphere & friendly at the beginning of the presence of children. Other reason that sand therapy caused to decreasing the children's anxiety with Attention Deficit/ Hyperactivity Disorders is; none of children not to force doing especial game in sand & when they want to not play, they will declare & therapist must to obey & his therapist fun other games & activities until the child again treated for a return to therapy. The non-refoulement & the release of children in the game will be decreased children fear, anxiety, tension & discomfort. So it shows significant difference among before & after starting sand therapy of decreasing anxiety.

Over than, the results of research show that there is no significant difference of positive emotion between controlled & testing groups. So sand therapy caused to increasing positive emotion in children with Attention Deficit/ Hyperactivity Disorders, the obtained results are not same as Daick & Vidous (2001), Chattel (2007) & McKiv (2000).

But the results show that there is significant difference between amount of negative emotion among testing & controlled groups ($P \leq 0.05$) & obtained findings are same as researches that did by Lewis (1999), Lee (2001) & Arlow (2003).

The low families' knowledge on about children's disorders & how to interact with children led to the intensification of negative emotions, as a result, as we seen, led to decreasing the effects of sand therapy on children's positive emotion. Children with disorders are be humiliation & blamed constantly by family because of too much trouble, continuation of this situation is far resulted in the formation of negative emotions & low positive emotions painted on them, especially when the parents are too strict. So these children with such conditions mentioned above, will not be able to get a significant increase in positive affect compared to before & after therapy sessions. It may be necessary to accomplish this goal, offer training to their parents. Also, the researchers were determined the effects of sand therapy on Attention Deficit/ Hyperactivity Disorders signs, but it doesn't find effectiveness (about above method) in increasing children's positive emotion & doesn't find significant results & it seems that the children's emotional problems is so high that therapy can decrease the level of them.

One of the compelling reasons for the effectiveness of this treatment technique to reduce negative emotions is to allow children to safe and calm environment and without direct intervention therapist & evacuate their negative & aggressive emotions. Since the capacity of therapy is considered to their speech and cognitive harmonious and it is considered as a pleasant experience for them. It can more effectively plan lets out negative emotions, conflicts and disturbing emotions. Play therapy helps to persons with disorders by creating safely & communicated situation by using play tools that caused to externalize & re-construct the problems & also caused to adjust the emotional status. It provides status for a child tried to overcome conflicts & adapted solutions and thus reduce negative emotions in them.

Positive and negative emotions are a continuum that one of the continuums is related to frequency of positive feelings or negative feelings such as depression or anxiety & pleasures & other continuum is related to being too negative emotions such as fear, anxiety &...

It seems that based on Watson & Telgon (1988) stated; decreasing the negative emotions don't led to increasing the positive emotions, in the other words; decreasing & increasing each of them, don't led to increasing or decreasing other dimensions & obtained results is same as this theory, too.

Also, the research results show that there is significant difference between the levels of social adjustment among two groups (controlled & testing groups), $P \leq 0.05$. so it can be resulted that sand therapy led to increasing the children's social adjustment with Attention Deficit / Hyperactivity Disorders & the obtained findings are same as before researches determined them (Reheao & et al, 2002. Wenzel & et al, 2009. Bushman & Peacock, 2010. Backer & et al, 2010. Hanser & et al, 2000)[15,16,17].

Increasing the social adjustment among children in testing group showed that they had behaviors that led to positive social-mental results such as peer acceptance and effective relationships with others. On the other hand those who have not acquired the necessary social skills, often with behavioral disorders and not be accepted by peers & don't work well with others or teachers. Parents provided positive feedback about the interactions after the implementation of therapeutic play sessions with their children that appear to contribute to the improvement of children's social interactions.

It is obvious that social skills learning along with plan, be regularity & continuum in during learning will be caused to children's development & growth & their cooperation in all aspects among families, teachers & coaches.

The limitations of this research included; generalization of the results to older children of preschool (5-6 years) or below Preschool (5-year low), and in addition to the results of the study on children other than sand play therapy treatment techniques applied on them.

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