

Determining the effect of sand play therapy on the treatment of social anxiety

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ABSTRACT

The aim of this research was to investigate the effectiveness of sand play therapy in treating social anxiety disorders in children. It is applied in terms of the purpose. It is also descriptive-experimental because the researcher intends to examine the relationships between variables. The statistical population of the present research is all 5-year-old children in the children's home of Pishrow. From all 5-year-olds in the children's home of Pishrow, we selected randomly 40 children at convenience (the total number of members of the children's home is 250, of which 100 anxious children were selected at convenience). They were randomly assigned to experimental (n = 20) and control (n = 20) groups. We used Spence Children's Anxiety Inventory (2007) to collect information. We analyzed Data using univariate analysis of covariance (ANCO) and multivariate analysis (MANCOVA) in SPSS software. The mean of anxiety disorders in children after sand play therapy in the experimental group (with pre-test control) was lower than the control group. We can say that sand play therapy has a positive effect on reducing anxiety disorders in these children. Therefore, we can consider sand play therapy as one of the treatment methods for anxiety disorders in young children.

Keywords: sand play therapy, anxiety disorders, young children, social anxiety

Introduction

In any society, the health of children and adolescents is of special importance and paying attention to their mental health helps them to be mentally and physically healthy and to play their social role better ^[1]. Researchers have always emphasized the physical, emotional, psychological and behavioral development of children. In the last 25 years, behavioral, social and emotional problems of children have been one of the major issues in psychiatry and psychology ^[1].

Anxiety problems are the most common form of psychological problems in children and adolescents ^[2]. Studies on the prevalence of this disorder have shown that about 8 to 12% of children and 5 to 10% of adolescents face one of the diagnostic criteria for anxiety disorder, to the extent that it disrupts their

normal life and daily functioning ^[3]. These problems often start at preschool age and are more behavioral in primary school ^[4].

Evidence gathered by the World Health Organization shows that by 2020, behavioral and emotional disorders in children and adolescents will increase by more than 50% and will become the fifth leading cause of disability among children ^[5].

The results of studies have shown that children's anxiety problems can have long-term effects on the level of behavioral, physical, cognitive and emotional functioning ^[6]. It can lead to impaired academic performance, social adjustment, family life, and peer relationships. Social anxiety disorder includes persistent and severe fear of being humiliated and embarrassed in social situations such as talking in class ^[1].

Anxiety disorders remain often undiagnosed and untreated in children because parents and teachers overlook easily them.

Effective intervention in childhood not only improves current adjustment, but also significantly reduces future behavioral disorders. Among the various treatments for a variety of adaptive and emotional disorders in childhood, play therapy is a method that has been confirmed for many common childhood problems ^[7]. Nowadays, various play therapy methods are used to treat anxiety disorders, one of which is sand play therapy. Sand play is one of the treatment methods. The "sandy areas" intervention method has attracted the attention of many

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therapists, consultants and researchers. The techniques that use sandy areas are inspired by the work of Margaret Lowenfeld (known as the World Technique).

In fact, this technique establishes a relationship between the conscious and the unconscious and develops and rebuilds individual's self-confidence. Sand play therapy can be effective in reducing children's anxiety disorders arising from previous experience by creating deep thinking in children and placing them in different situations and using different methods to solve existing problems^[8].

Sand play therapy reduces social anxiety and increases the courage to interact with the environment in children. This leads to improved creative ways to interact with the environment by increasing the functional creativity created by sand play therapy for the child. The child's independent performance in sand play therapy makes him feel his/her mastery of the situation and reduces separation anxiety. Since the introduction of sand play as a therapeutic intervention, various studies have focused on its effectiveness. Many studies have used it for a wide range of problems in adults and children. Play therapy allows children to present in the form of play the issues that they cannot raise in their daily environment and to reveal their hidden emotions under the guidance of a therapist. In play therapy, the therapist accepts children's behavior unconditionally. These studies suggest that sand play therapy affects the mental, social, emotional, and behavioral health of participants (mostly adolescents and adults)^[9]. The study of^[10] showed the effect of sand play therapy on reducing social avoidance and anxiety symptoms in Chinese students and improving social awareness. In general, not paying attention to timely and appropriate treatment of anxiety disorders in children can have many negative effects on children's personality, behavior, learning and education. Therefore, it is necessary to conduct studies on how to treat anxiety disorders in children. Children suffering from anxiety disorders will face many problems in their personal and social lives in the future. On the other hand, sand play therapy, due to its ability, can be effective in reducing these anxiety disorders.

However, there are very limited researches on the effectiveness of sand play therapy in reducing anxiety disorders in children. No research has been done on the effects of sand play therapy on the treatment of anxiety disorders in children. Considering the evidence of high rate of anxiety disorders in Iranian children and the negative consequences of this variable in their lives and those around them, the aim of this study was to determine the effectiveness of sand play therapy in the treatment of anxiety disorders in children.

Theoretical Foundations of Research Anxiety Disorders

Anxiety is an integral part of normal childhood life and clearly reflects the normal developmental process of the child. In fact, anxieties may have a beneficial effect on children's development

because they provide good opportunities for the development of coping mechanisms to deal with future stressors and anxiety^[11]. Anxiety, in its adaptive form, helps children adjust to the world of others. Moderate anxiety has a regulatory function and helps children adjust their behavior to social, educational, and cultural expectations.

Anxiety disorders are among the internal disorders. Internal disorders are uncompromising patterns of behavior that irritate the child more than they annoy others; their main core is mood or emotion disorders^[12].

Social factors such as traumatic events, problematic relationships with peers and other such factors increase the risk of anxiety disorders in children. On the other hand, social support is a factor in preventing anxiety disorders. Social support is a shield that keeps safe people in bad conditions or helps them adopt a successful lifestyle. Researches show that low levels of family and peer support are associated with negative indicators including anxiety and stress. Conversely, social support is effective in promoting self-efficacy, physical and psychological well-being, social skills, adaptive skills, and academic competencies, and protects children from physical and psychological distress.

Therapeutic strategies are adopted from behavioral patterns including dependency control, regular desensitization, coping, shaping, and accepting pattern.

Social skills training is very useful for children and adolescents with social phobias who have serious problems with social skills. Beidel et al. (2002) taught social skills to a number of children with social phobias and found that the treatment was very effective in reducing social fears and related psychological damage^[13].

According to behavioral theory, behavior is influenced by antecedents and consequences. Consequences that increase the likelihood of behavior occurring are called corroborators. Therefore, by changing the antecedents and consequences, we can make changes in behavior. The development of behavior therapy towards cognitive processes was done mainly by Albert Bandura and with the development of social learning theory.

Cognitive-behavioral therapy is also very effective. This treatment can be done individually or in groups at school or in a medical center. In this method, the child is asked to apply the learned skills both in therapy sessions and in other settings. So it can finally control his/her anxiety in the face of anxious stimuli. The ultimate goal of this treatment is for the child to perceive the world as safe and less threatening (ibid.). Studies in four different countries have found that cognitive-behavioral interventions are effective in treating anxiety disorders (Van Melick, 2002, quoted by Godwin, 2004). The moderate recovery rate for children who used cognitive-behavioral therapy was 65.1%; this was 13% in the control group. The results also show that recovery resulting from cognitive-behavioral therapy lasts from 6 months to 7 years.

Play Therapy

Play therapy is a technique by which the nature of children is interpreted in expression. It is a way to deal with emotional stress and for children who are suffering from family problems. For about 60 years, play therapy has been a suitable method in treating children. We can define play therapy as an interpersonal process in which the therapist tries to help children with psychological problems or prevent emotional problems by using play on a regular basis. In this technique, by developing relationships of playing different roles, interacting and communicating, we can provide the opportunity of prevention and treatment. Play therapy techniques show how to use toys in a therapeutic situation. The techniques presented in this program can improve skills such as anger management, improving self-control, reducing fear, anxiety and depression, feeling empowered, and problem-solving skills. Taken together, these methods provide an opportunity for the child to become aware and express emotions.

Sand play therapy

Sand play therapy developed by Kallf, D. (1980) is a method of treating children and adults. Kallf was the first to heal his clients by putting together small sculptures, sand and applying the principles of Jung's theory. Kallf's sand play therapy is a non-verbal, symbolic method based on people's creative experiences in which the child expresses his / her conflicts, desires and emotions by building his / her world in the sandbox ^[14]. In fact, this technique establishes a relationship between the conscious and the unconscious and develops and rebuilds individual's self-confidence.

Kallf sand play therapists believe that images made in sand, created by the clients, are often representations of different archetypes to express their world ^[15]. The key assumption in sand play therapy is that the materials selected and the way small objects are placed in the sandbox, reflect the concerns and issues related to the client and the objectification of these concerns. This process leads to greater understanding and ultimate mastery of problems.

The use of sand has a long history in the healing and rehabilitation process. Sand Play therapy is for treating anxiety problems. Because working with sand tray gives the child the opportunity to search and discover his fears in a safe environment and to objectify the fears by recreating the events, to gain insight into them and to solve various problems.

Research background

Researchers have performed various studies on pediatric anxiety disorders and various treatment methods. Reviewing various studies on the subject of research has shown the existence of significant relationships between research variables.

Sharifi Daramadi et al. (2019) conducted a research on the effect of sand play therapy on challenging behaviors and anxiety in children with high-functioning autism ^[16]. Findings of this research showed that sand play therapy reduced challenging behaviors and anxiety in children with high-functioning autism.

In a research, Shamsipoor et al. (2015) investigated the effectiveness of play therapy (with sand play approach) in children with post-traumatic stress disorder ^[17]. According to the results, sand play therapy significantly reduced the symptoms of post-traumatic stress disorder in children with this disorder. Sand therapy significantly reduced also annoying thoughts and avoidance of children with post-traumatic stress disorder.

In a research on the effectiveness of sand play therapy in improving students' self-esteem, Yahya et al. (2019) conducted a pilot study in Brunei Darul Salam ^[18]. The results showed that the effect of sand play therapy was significant and the use of sand play therapy improved general and social self-esteem.

In a research, Kim and Sim (2018) studied the effectiveness of sand play therapy for male students in an elementary school with social and emotional problems. The results showed that sand play therapy can reduce social and emotional problems of male students ^[19].

Research Method

The present research is applied in terms of the purpose. Based on the method of data collection, the present research is an experimental research with pre-test and post-test and the control group.

The statistical population of the present research is all 5-year-old children in the children's home of Pishrow, whose number is 250. According to the trainers, 100 people suffer from anxiety disorders (based on a psychological test).

Inclusion criteria for entering the research are:

- Age of 4.5 to 5.5 years
- No other treatment plan for anxiety problems

Method of data collection

We used a questionnaire to collect data and information for analysis.

Spence Children Anxiety Disorders Scale: In this research, we used the Spence Children Anxiety Scale (2007) consisting of 39 items in a 4-option range (never, occasionally, often, always). This scale has 4 dimensions. the measurement is as follows: Social anxiety with questions 3, 10, 14, 16, 22, 29, 33, 37, 39, separation anxiety with questions 4, 7, 11, 17, 19, 23, 26, 30, 34, avoiding harm with questions 2, 6, 9, 13, 21, 25, 28, 32, 36, and physical symptoms with questions 1, 5, 8, 12, 15, 18, 20, 24, 27, 31, 35, 38. In the study of Ivarson (2006), the whole scale of alpha coefficient was 0.87 and the subscale of social anxiety, physical symptoms, avoidance of injury and separation anxiety, Cronbach's alpha coefficient were 0.83, 0.84, 0.71 and 0.64, respectively. Mashhadi et al. (2012) also evaluated and confirmed the validity and reliability of this questionnaire in a study entitled Psychometric Properties of Multidimensional Scale in Children Anxiety.

This scale is filled in by parents given that the sample is young.

Treatment program

Sand play therapy: The total number of sessions was 10, which was done in six stages. Each of the first and last steps is held in two sessions. In this research, we have used a box with dimensions of 60 × 70 cm with a depth of 10 cm. The walls and floor of this box are painted blue and filled with sand to a depth of 5 cm. we also used dolls and small toys.

The treatment plan is summarized in Table 1:

Number of session	Title
Stage 1: Creating the World	A: Introducing sand play to client B: Making the world
Stage 2: Experiencing and re-arranging the world	A: Experiencing (building)
Stage 3: Treatment	A: Travelling around the world B: Therapeutic interventions
Stage 4: Documentation	A: Imaging B: Therapist's photography
Stage 5: Transition stage	A: Signification-making B: Connecting this play and the sandy world with the real life and world of client
Stage 6: Destroying the world	A: Understanding the world B: Clearing the world

Procedure

In order to identify 5-year-old children in the children's home of Pishrow, we went to the children's home. The reason for choosing this center is that children who are brought to this center by their families generally have disorders. Anxiety disorder is one of the most common disorders. According to psychological tests performed in advance at this center, children with anxiety disorders were identified. Using random sampling method, from among children with anxiety disorders, we selected 40 children as sample. We determined 20 children as the experimental group and 20 children as the control group. Before the experimental variable, ie sand play therapy, we measured the level of children's anxiety disorders for both groups. After performing sand play therapy for the experimental group and without performing a method for the control group, we measured again the level of anxiety disorders in children. We scored questionnaires answered by parents to prepare for statistical analysis.

Data analysis method

We analyzed the data obtained from our research in two sections: descriptive statistics and inferential statistics. In order to describe the findings, we used frequency distribution tables. In order to better describe the data, we benefited central indicators such as mean and dispersion indicators such as standard deviation. In order to test the research hypotheses, we used MANCOVA and ANCOVA tests through SPSS software.

Results

Gender status

Figure 1 shows the gender status.

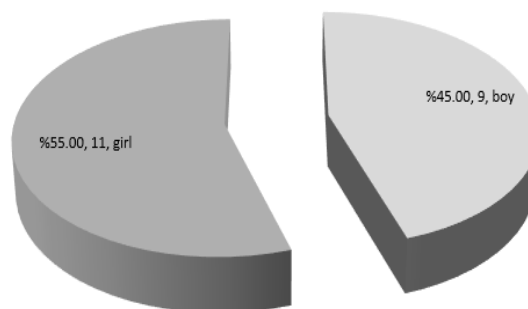


Figure 1- Gender status of respondents

According to the diagram, we can see that 9 people (45.00%) are boys and 11 people (55.00%) are girls.

Descriptive findings

Table 2- Analysis of data normality by Kolmogorov-Smirnov test

Treatment of social anxiety		
40	Number of data	
3.052	Mean	Normal parameters
0.548	Standard deviation	
1.033	Statistic Z of	
	Kolmogorov-Smirnov	
0.236	Significance value	

According to the results of Table 2, the dependent variables have a normal distribution and do not differ significantly from the normal curve. This means that the null hypothesis that the information is not normal is rejected and concluded that the information is normal. Consequently, data analysis concerning hypotheses does not have the problem of data abnormality.

Table 3- Description of research variables before and after sand play therapy

Variables	Measurement time	Number	experimental group	
			Mean	Standard deviation
Social anxiety	Pretest	20	3.361	0.551
	Posttest	20	2.744	0.336

The descriptive findings in Table 3 show that the mean of dependent variables (social anxiety) in the experimental group decreased from pretest to posttest.

Inferential findings

In order to evaluate the effectiveness of sand play therapy on the treatment of social anxiety, we used ANCOVA test. The assumptions of the analysis of covariance were tested and confirmed in this research. Table 4 shows the results of the ANCOVA test to test the first hypothesis of the research.

Table 4 - ANCOVA test results related to the first research hypothesis test

	Total squares	Degree of freedom	Mean squares	Statistic F	Significance
Constant value	6.857	1	6.857	21.442	0.000
Control group	0.1456	1	0.1456	1.426	0.240
Experimental group	2.885	1	2.885	9.020	0.005
Error	11.832	37			
Total	348.259				

According to the results of ANCOVA test, the significance level for the experimental group is less than 0.05. Therefore, the hypothesis of equality of the mean of the variable of social anxiety treatment for the experimental group (before sand play therapy and after sand play therapy) is rejected. But the level of significance for the control group is greater than 0.05 and the mean of social anxiety treatment variable for the control group (before sand play therapy and after sand play therapy) are not significantly different. Considering that the level of treatment of social anxiety in 5-year-old children in the children's home of Pishrow after sand play therapy (2.622) is higher than the treatment of social anxiety in 5-year-old children in the children's home of Pishrow before sand play therapy (3.150), so we can say that the results of ANCOVA test have known this difference to be statistically significant. Therefore, the first hypothesis of the research is confirmed based on which the sand play therapy is of effect on the treatment of social anxiety in 5-year-old children in the children's home of Pishrow.

Discussion and Conclusion

In this research, we investigated the effect of sand play therapy on anxiety disorders in preschool children.

According to the obtained results, sand play therapy is effective in treating social anxiety in 5-year-old children in the children's home of Pishrow. Considering the decrease in the level of social anxiety after sand play therapy, we can say that sand play therapy has a positive effect on the treatment of social anxiety in 5-year-old children in the children's home of Pishrow.

According to previous studies, the results of this research are consistent with the results of studies conducted by Akbari et al. (2015), Kahrizi et al. (2015), Aghajan Beigi and Sharifi Daramadi (2015) [1].

In explaining the results of this hypothesis, we can state that with sand play therapy the child will place himself in different social environments and will have different experiences from social environments. In this environment, the child learns how to communicate with others and show appropriate reactions. Children in sand play therapy are constantly in different social situations and find themselves in an environment that is under their control and if they are interested, they can quickly change their environment. By increasing their ability to leave or be in different environments, children can identify their anxious environments and come up with a solution to their problem.

With different mental activities in sand play therapy, a child can control various physical symptoms such as biting nails or playing with the tongue due to anxiety and lead to creative activity. Sand play therapy can help the child control his anxiety and teach him coping strategies by placing the child in different situations many times and giving the ability to experience different reactions.

In general, we can say that sand play therapy can also treat social anxiety. Sand play therapy can cause physical activity in children, which leads to physical strengthening of children. In sand play therapy, the child puts himself in different social environments and reduces his level of social anxiety.

Finally, in order to reduce the child's social anxiety, we recommend that parents enroll them in kindergartens that use play-based therapies.

Research Limitations

1. Limitation of the population under study and sampling; we used only one kindergarten.
2. Limitation of data collection tool; it was a questionnaire analyzed quantitatively.
3. Resistance of some children to doing proper the sand play therapy
4. Lack of active cooperation of parents in some test cases

Suggestions

We suggest that the present research be repeated in other statistical populations such as children in other schools and kindergartens. This is because the effect of sand play therapy may vary from age to age and from school to school due to the involvement of other variables such as the quality of learning age.

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