Original Article

The Psychological Rehabilitation impact through Dohsa-Hou method on motional performance and peers relationship self-efficacy of children suffering from Attention Deficit Hyperactivity Disorder (ADHD)

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Abstract

Introduction: The aim of the present research was to study the psychological rehabilitation impact through Dohsa-Hou on motional performance and peer relationship self-efficacy of children suffering from ADHD at Zahedan City.

Methods: The research is semi-experimental including pre-test, post-test and follow-up in two experiment and control groups. The statistical population of this research includes all children suffering from ADHD. 30 children 7-9 suffering from ADHD were selected through sampling. Fifteen children were assigned in control group and 15 children were assigned in experiment group randomly. Furthermore, another assessment was conducted through post-test and follow-up at the end. Dohsa-Hou treatment duration was 12 sessions in experiment group (3 sessions per week) and follow-up was conducted one week after the post-test. Data from questionnaire were analyzed using SPSS-19 software and descriptive and inferential tests.

Results: The results of MANCOVA analysis showed that psychological rehabilitation through Dohsa-Hou method has caused to increased motional performance and self-efficiency promotion of children suffering from (ADHD) in relationship with their peers ($p \le 0.01$).

Conclusion: Dohsa-Hou method is an effective treatment for promotion of their motional performance and self-efficiency in relationship with their peers.

Declaration of Interest: None

Key words: Rehabilitation, Self- Efficacy, Attention Deficit Hyperactivity Disorder.

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is the most common psychiatric disorders in the childhood, which can be recognized through inappropriate and sustainable levels of growth, inattention, and hyperactivity (1-2). Indeed, ADHD is considered as the most neurologicalbehavioral disorders in the childhood so that about 45% of the clients in the psychiatric centers refer to it as their main problem (3).

The disorder is common in 3-7% of female students. It is also common in 3-6% of students

with the age of 7-12 years old (4). In addition, to the symptoms of ADHD, the growth and development disorders are common in the childhood (5). The results of past studies revealed that the coordination skills of children with ADHD are weaker than others (6). About 47-69% of patients with ADHD experience the problems of coordination in their movements (7).

The children experience different problems and difficulties in the main movements such as jump and tumble (8). It is indicated in the FAQ of

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diagnosis of mental illness in the recognition section that the patients with ADHD experience several movement problems, which are resulted from their attention deficit disorder (9-10).

The results of past studies revealed that increase in the disorders is the main factor that the patients with ADHD are isolated from their peers. They also deal with more problems and difficulties in the social awareness and experience more antisocial behaviors (11-12).

Several treatments have been suggested for attention deficit and hyperactivity disorder. In addition to the drug-based treatments for ADHD, there are several alternatives for treating the disorder. Past studies have approved efficiency of these treatments such as music therapy and game therapy (13).

Dohsa-Hou is a Japanese psycho-rehabilitation method by motor training that has been introduced by Dr. Naruse for improving movement problems of children for the first time (13).

Dohsa-Hou is a treatment method by which the patient can know his/herself through body. Also recognition of issue, situation, and relative will be changed. Indeed, these changes and alternatives lead to change in the patient (14-15).

Ono and Dadkhah (16) used the Dohsa-Hou for patients with hyperactivity disorder and found that the method is effective on improving physical conditions, movement, and affective aspects of their life.

Toshiro (17) in a study "the effect of Dohsa-Hou on the patients with panic disorder" found that the therapy is effective on the patients and probability of panic attacks are decreased in them. As a result, physical awareness will be increased. Rika (18) found that using Dohsa-Hou in the patients with anorexia nervosa can be effective in decreasing negative attitude of patients toward control of symptoms. As a result, quality of life and interrelations will be improved.

Morizaki (19) used Dohsa-Hou for treating children with hyperactivity disorder and found perception of self and others, emotional stability, and change in the behavioral plan of life.

Mohamadkhani (20) in his study "the effect of Dohsa-Hou on the improvement of social skills and stereotype behaviors" found that 8 sessions of Dohsa-Hou can be effective on increasing social skills of children and decreasing stereotype behaviors in them. Yazdkhasti and Shahbazi (21) used Dohsa - Hou for treating patients with ADHD. They found that the use of Dohsa-Hou is effective on decreasing ADHD. As a result, social skills of children was improved and its symptoms was decreased considerably.

Rigi koote, Yazdkhasti, and Etemadifar (22) used Dohsa-Hou for decreasing depression, fatigue, anxiety, and stress and increasing quality of life. They found that Dohsa-Hou is effective on decreasing depression, fatigue, anxiety, and stress and increasing quality of life.

The main purpose of this study is to examine the effect of Dohsa-Hou on the movement performance and self-efficiency of patients with ADHD.

Methods

The present study is a pretest-posttest semiexperimental research with experiment and control groups. The statistical population includes patients ADHD with 7-9 years in the city of Zahedan (Iran) who have registered in the clinics and consulting centers in years of 2012-2013. In order to collect the research data, convenience sampling method was used. A sample of 30 children with ADHD with children aging from 7-9 years old was selected.

In the next step, the sample members were divided into two groups of control (15 members) and experiment (15 members). The questionnaires of self-efficiency in the relationship with peers and movement growth of Linklen-Ozerteski scale were used for collecting research data.

The Linklen-Ozerteski scale consists of 36 items for measuring and evaluating movement abilities of children with 5-14 years old. The scale measures different skills such as finger skills, eyes coordination, activities of hand and other parts of body, agility, and body balance. The questionnaire is a growth scale. The validities were between 51% to 91%. The main items of evaluation in the scale were speed and accuracy of movements, two-way movement coordination, continuousness, agility, and body balance. It should be noted that speed of fingers movement, agility, and body balance are the main factors in this area.

Self-efficiency questionnaire is another datacollection instrument in the present study. It was used for measuring self-efficiency of children with 7-18 years old in the relationship with others. It also consists of 23 items that each of them was developed in the Likert five-point scale in which 1: very low and 5: very high. The validity and reliability of the questionnaire were reported 87% and 74% in Iran.

Results

Based on the results of table 1, X^2 is 0.12 (sig=0.52). The results showed that there is no significant difference between control and experiment groups in terms of gender.

The means of movement growth of experiment groups in the pretest, posttest, and following steps are 57.93, 53.66, and 52.40. Also the means of movement growth of control groups in the pretest and posttest steps are 64.60 and 52.93. It can be said that the means of pretest and following steps of experiment are increased significantly.

Based on the results of table 3, the means of selfefficiency of experiment and control groups in the pretest are 59.13 and 55. Also the means of selfefficiency of experiment and control groups in the posttest are 54.40 and 66.46. Based on the results of this table, it can be said that average of selfefficiency are increased considerably in the posttest step. In other words, an improvement is observed in the self-efficiency of respondents.

The results of table 4 showed variations of both variables of self-efficiency and movement performance are equal. In other words, there is not any significant difference between variations of two groups.

The results of table 5 showed that there is a significant difference between averages of experiment and control groups in terms of movement performance ($p \le 0.0001$). Therefore, the hypothesis is supported. The effect is 0.78. In other words, 78% of variations of movement performance can be explained through Dohsa-Hou.

The results of table 6 revealed that there is a significant difference between averages of movement performance of respondents of control and experiment groups in the pretest ($p \le 0.0001$). Therefore, the hypothesis is supported. The effect coefficient is 0.78.

The results of table 7 revealed that averages of self-efficiency of control and experiment groups are not equal ($p \le 0.0001$). Therefore, the hypothesis is supported. The effect coefficient is 0.85. This means that 85% of variations of self-efficiency of respondents can be explained through Dohsa-Hou therapy.

The results of table 8 showed that there is a significant difference between means of self-efficiency of control and experiment groups in the posttest ($p \le 0.0001$). Based on the results, it can be said that the hypothesis is supported. The effect coefficient is 0.53.

	Table 1. Gend	er distribution	of the responder	its in both gro	ups of control	and experiment		
Groups		Exp	eriment group		Control group			
Gender		Frequency	F	Percent	Frequency		Percent	
Female		10	66.66		10		66.66	
Male		5	33.33		5		33.33	
Total		15	100		15		100	
The result of test		X^2	0.12					
		df	1					
		Sig			0.52	0.52		
Measures Source of variations Pretest Participation	Sum of squares 1826.889 553.925	Ta df 1 1	ble 2. The result Average of squares 1826.889 553.925	ts of MANCO F 323.001 97.925	VA Sig 0.0001 0.0001	Effect 0.62 0.78	Statistical power 1 1	
		Ta	ble 3. The result	ts of MANCO	VA			
Measures Source of variations	Sum of squares	DF	Average of squares	F	Sig	Effect	Statistical power	
Pretest	1929.128	1	1929.218	436.566	0.0001	0.62	1	
Participation	431.564	1	431.564	976.566	0.0001	0.78	1	

Table 4. The results of MANCOVA											
Measures Source of variations	Sum of squares	df	Average of squares	F	Sig	Effect	Statistical power				
Pre -test	2289.27	1	2289.27	289.3	0.0001	0.71	1				
Participation	1238.065	1	1238.065	156.45	0.0001	0.85	1				
Table 5. The results of MANCOVA											
Measures	Sum of		Average of	_			Statistical				
Source of variations	squares	df	squares	F	Sig	Effect	power				
Post -test	1983.208	1	1983.208	87.040	0.0001	0.76	1				
Participation	711.439	1	711.439	31.224	0.0001	0.53	1				

Conclusion

The results of MANCOVA indicated that average of movement performance of patients with ADHD in the experiment group is significantly more than control group. Because of high level of this effect, it can be said that Dohsa-Hou is effective on the movement performance of respondents. The results of this part of our study are consistent with findings of Narose (15), Ono and Dadkhah (16), Ddadkhah and Raeiofi (23), and Dadkhah (24).

Because Dohsa-Hou is conducted individually and the therapist trains the patient, he/she attempts to practice the movement and reach a new experience (14). It can be said that when a patient wants to practice a movement, his/her intention has a significant effect on the success. In the Dohsa-Hou, patients control their activities and have more confidence. As a result, movement performance and movement skills of patients will be improved. In other words, the patient will experience maturity and will be able to control their movements.

It can be said that there is a significant relationship between movement skills and attention defection in the children (25). Therefore, improvement in the skills will be effective on decreasing movement problems and difficulties. The reason is that physical contact and modeling of Dohsa-Hou lead increase concentration and attention in the patients.

The effects of Dohsa-Hou on the movement performance and skills were effective in the following step. This means that Dohsa-Hou can be effective in the long-term period. The use of Dohsa-Hou in treating children and their physical relaxation can be effective in long term. Indeed, the practices of Dohsa-Hou therapy are instruments by which the patient can do targeted activities in following certain movement models. Indeed, the method is effective on movement skills and performance of patients (24, 26).

On the other hand, the relationship between cognitive functions (such as attention, as one of the main cognitive indicators of children with attention defection or hyperactivity disorder) and situational control and coordination refers to the sharing of brain parts in the attention and balance (27). With respect to the effects of Dohsa-Hou on the brain (26) and attention and concertation through physical contact and modeling, it can be concluded that the effect of practice plans on the attention can improve movement performance of children.

Dohsa-Hou makes the emotions of patients stable and leads to more social activity in them. Indeed, physical contact and modeling in the Dohsa-Hou leads to more concentration, eye contact, and more individual awareness. In addition, increase in the confidence motivates patients to more relationship with others and increase in attention (26). It also can be said that the patients reach a new method of movement and changes in the body awareness and a better body balance. Indeed, such an education is a beneficial method for helping patients in increasing their body awareness and controlling body and brain.

The results of MANCOVA revealed that the average of self-efficiency of patients with ADHD in the experiment groups has been increased significantly. Given the high level of the effect, it can be concluded that the Dohsa-Hou is effective on improving self-efficiency of patients with ADHD in the relationship with others. Dohsa-Hou techniques increase attention of patients continuously through other complementary treatment process. Indeed, the patients received more feedbacks and are encouraged to follow their affairs. As a result, the patients will receive more attention to do their activities. In other words, activation of this process results in the behavioral prevention system and then hyperactivity disorder will be decreased significantly.

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