Journal of Fundamentals of Mental Health

Mashhad University of Medical Sciences

Psychiatry and Behavioral Sciences Research Center

Original Article

The effectiveness of cognitive-behavioral play therapy on flexibility in aggressive children

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Abstract

Introduction: Cognitive-behavioral play therapy is combination of various play therapy techniques with cognitive-behavioral model to increase desirable behaviors and reduce harmful behaviors in children. The objective of the present research is studying the effectiveness of cognitive-behavioral play therapy on flexibility in aggressive children.

Materials and Methods: In this research, 20 aggressive children aged 6-9 years of Tehran were selected based on CSI-4 inventory and divided to test and control groups. Tool of research was computer form of Wisconsin test that was executed in both groups after receiving 10 therapy sessions for test group in pre-test and post-test steps.

Results: The results show that cognitive-behavioral group play therapy has significant effect on decreasing wrong responses and stopping mistakes and increasing correct responses.

Conclusion: It seems that cognitive-behavioral group play therapy increases flexibility in aggressive children.

Keywords: Aggression, Cognitive-behavioral play therapy, Cognitive flexibility

Please cite this paper as:

Badamian R, Ebrahimi Moghaddam N. The effectiveness of cognitive-behavioral play therapy on flexibility in aggressive children Journal of Fundamentals of Mental Health 2017; 19(Special Issue): 133-7.

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Received: Feb. 13, 2017

Accepted: Mar. 15, 2017

Introduction

Recent studies have shown that behavioral aggression in one of common behavioral problems in pre-elementary and elementary school students (1). Structural aggression is multi-dimension including an extensive range of behaviors with aim of harming or damaging (2). Studies with the aim of checking aggression have emphasized on the role of factors such as moods, social relationships, cultural factors, problems in interpersonal relationships, and attachment on aggression. In addition, gender differences have stable roles in the evolutions of mental growth and aggression from the beginning of life time (3). Aggression expression is different in children and may express itself through physical threats toward others, throwing objects toward others with the aim of harming them in classroom or playground, shouting, humiliating others, opposing them as lead to physical or verbal reactions in them an using virtual communicative and social software tools for bullying, mocking, humiliating, and pressuring other children (4).

Meanwhile, it seems that one problem of these children is their disability in proper adaptation and flexibility in environment and surrounding conditions which its turn can be resulted by inefficiency in using applied solutions and not having knowledge of various confrontation techniques with a challenge and desirable reaction (5). Educational methods include solution and increasing cognitive-behavioral play therapy of children. This approach follows by combination of cognitive-behavioral therapy model with play therapy to cure psychological disorders as anxiety, all types of phobia, stress, depression, etc. in children. Dobson introduced cognitive-behavioral play therapy as one of educational techniques of solution skills for the afflicted children to conduct disorder, *oppositional* defiant disorder, and aggression that can reduce anger in children with impulse control disorder (6). Walkup et al. on a research on an afflicted children group to anxiety disorder showed that play disorder with cognitive-behavioral approach is effective on children anxiety reduction with ad without using drug (7) . Sokhodolsky et al. knew play therapy based on cognitive-behavioral approach effective on children and teenagers aggression in a meta-analysis yet referred to its role in increasing children and teenagers social skills (8). Findings of Ghaderi research on twenty four 8-11 years old afflicted children to conduct disorder showed reduction in children aggression under the interruption of 10cognitive-behavioral play session (9).

Hassani et al. in a research on ADHD stated that cognitive-behavioral play therapy reduces anxiety and increases self-esteem of these children (10).

Salamat et al. in a research on disable children on learning dictation knew using cognitive-behavioral play therapy effective on rehabilitation of mind and social skills of these students (11).

According to what have been stated about aggression, all its faces among children, and increasing aggressive behaviors among pre-elementary and elementary school students (12), using methods such as cognitive-behavioral play therapy to improve infrastructural skills such as solution has been mentioned less such as solutions that are essential and important in its turn with children flexibility. Actually, what is mainly studied is the effectiveness of play therapy on memory, solution, etc. rather than cognitive flexibility. In this regard, the present research aims on the effectiveness of cognitive-behavioral play therapy on cognitive flexibility of aggressive children.

Materials and Methods

The present research is semi-experimental with pre-test, post-test and control group. Statistical population of this research is all present 6-9 years old aggressive children of Tehran city that 20 of them were selected in convenience using CIS-4 inventory and were divided to two test and control groups randomly. Computer form of Wisconsin cards test was executed in both groups in pre-test step. Then, test group was participated in 10 cognitive-behavioral play therapy session, and finally Wisconsin cards test was executed in both groups. Therefore, Spss20 and multivariate covariance analysis test were used to analyze data.

Research instrument

A) Child Symptom Inventory (CSI-4): this inventory is a behavior grading scale that was designed by *Gadow,* & Sprafkin to screen

behavioral and emotional disorders of 5-12 years old children for the first time in 1984 and was revised coinciding with 4th edition of diagnostic and statistical manual of mental Disorder (DSM) in 1994. CSI-4 has two parental and teacher forms. Parental form has 97 questions that screen 5 emotional and behavioral disorders and teacher form has 77 questions that screens 13 emotional and behavioral disorders and is scaled from 0 to 1 in four-point scale. Content validity of this inventory has been confirmed as an identification and screening tool of emotional and behavioral disorders in children. Mohammad Esmaeil (2001) reported parental form in 0.29 to 0.76 ranges. Parental form of this tool was used to identify aggressive children (13).

B) Wisconsin cards sorting test: this card was formed by Brant and Berg in 1948 and was prepared for studying abstract behavior and collection change (14). A collection of 14 cards are given to participants with 1 to 4 symptoms in red, green, yellow, and blue colors. The participant task is to put cards one after another based on future responses models about replacing cards by their inference, and 10 cards were collected in 1 row after one accurate alternating turn until to change the mentioned principle. Therefore, color, form, and then symptoms were considered as the principle of sorting. Test continues until participant put 10 cards for 6 times in one sort or report the mentioned infrastructural principle spontaneously. The performance in this test means abstract inference about sort acquiring, and stagnation error are when participants persist on a wrong initial assumption in the first series in sorting or participant continue sorting based on the previous successful principle. The stagnation error is usable and useful for documentation problem in forming conceptions, benefiting from cognitive correction and flexibility (15). Axelrod et al. stated that the marketers' validity was reported satisfying and excellent higher than 13%, and test validity was reported 0.90 using test, re-test method. Wisconsin card sorting test measures cognitive flexibility (16).

Cognitive-behavioral play therapy interruption was executed in ten 45-minute sessions and twice in a week for children of test group. Brief explanation of sessions was following: First session was about children introduction to each other, stating play rules of group and play room, explanations to parents, and emphasis on regular presence in sessions. Second session was about using painting and group play for making relationship between students and teaching rules of group game and emphasis on execution and respect to them by students. Third session was about checking the past homework, students' familiarity with all types of emotions, and calling them by dummy cards, asking the students to express their excitement about any experiences, determination homework for the next session. Fourth session is to check students' previous homework, relaxation training by iron man, macaroni, etc., providing necessary situations for children to use these techniques, determination further session homework. Fifth session is checking previous homework, familiarity with intellect conception, thought bubble game with examples, determination the next session. Fifth and sixth sessions are to check previous sessions' homework, training various methods for solutions using doll, fiction, and play role with students' cooperation, determination homework. Seventh and eighth sessions to check homework, play with paste and clay, playing with a group of students to present and examine various methods of facing with the communication challenge with others in the group. Ninth session is to review the previous sessions, playing strip and scarf story. Tenth session is to review on previous sessions and execution post-test.

Results

Descriptive analysis is shown in table 1.

Table 1. Descriptive analysis of Wisconsin test in experimental group

Group	Variable	Mean	SD
Pre-test	Incorrect answer	12.70	2.49
	Correct answer	24.80	5.11
	Stagnation error	34.30	5.33
Post-test	Incorrect answer	8.60	2.50

	Correct answer	30.50	5.75
	Stagnation error	29.80	6.32

Table 1 shows that test group participants' scores reduced in number of incorrect answers and stagnation error in pre-test step in comparison to post-test, and their score has increased in correct answers.

Table 2. Descriptive analysis of Wisconsin test in control group

Group	Variable	Mean	SD
Pre-test	Incorrect answer	13.60	2.31
	Correct answer	24.80	5.11
	Stagnation error	34.30	5.33
Post-test	Incorrect answer	14.20	2.39
	Correct answer	25.40	5.21
	Stagnation error	34.50	4.24

Table 2 shows no significant change is seen in control group participants' scores in number of correct, incorrect, and stagnation error. Later, play therapy effect is checked using multivariate covariance analysis.

Table 3. Multivariate covariance analysis of play therapy effects on aggressive children flexibility

Variable	Sum of squares	df	Mean Square	F	Sig. level
Incorrect answer	99.80	1	99.80	12.10	0.00
Correct answer	186.70	1	186.70	8.68	0.00
Stagnation error	106.05	1	106.05	26.71	0.00

Table 3 shows as F=12.10 in incorrect answers, F=8.68 in correct answers. And F=26.71 in stagnation error, it can be claimed that cognitive-behavioral play therapy of group in 0.05 sig. level increases number of correct answers and reduces incorrect answers and stagnation error in aggressive children under therapy.

Discussion

Pre-elementary as elementary school periods are proper years to discern and interrupt in all emotional, behavioral, social, and educational problems and disorders. Since one of today common problems, causing many children reference to medical centers is aggression and its consequences. Identification the involving factors in its occurrence with aim on reducing this problem can reduce progress and consequences (17). Various factors involve in occurrence of aggressive behaviors that can be result of social and family relationships or low level of people ability and skills in confrontation with challenging situations out of person's ability (4). Defect in execution performances can be known as one of these factors that make problems in interpersonal and social relationships and a proper emotional feedback with a situation for disability in comprehensive cognitive process (18). An individual disability in an accurate analysis of a problem, non-consideration various efficient techniques, ceasing methods application that may smooth the person in a short-time are the related cases to aggression and expression of all related behavior types and are involved in repetition and re-expression of aggressive behaviors particularly in aggressive children with no opportunity of learning and testing various coping strategies with challenging situations (19). Meanwhile, cognitive flexibility provides adaptation with changes or problems and keeps various solutions in minds to change path when necessary and not persist on repetition of one method (20). As findings of research showed cognitive-behavioral play therapy is effective by reducing stagnation error as the main cognitive flexibility index in Wisconsin test and later on increasing correct answers and reducing incorrect answers.

Several points must be considered in determination these findings. First, as children are in the initial years of their growth, particularly in cognitive growth, they are not able to study various environmental aspects simultaneously. Yet, they don't have enough knowledge about emotions and their

consequences. This action makes them select and use the first method of controlling situation (21). Play therapy interactive and communicative opportunities where a child can measure his/her aggressive behavior by play therapist supervision to be familiar with its effect on others, and teach the child how change path in an aggressive behavior to desirable behavior, and this itself shows flexibility increase in children.

Conclusion

It seems that cognitive-behavioral group play therapy increases flexibility in aggressive children.

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