The comparative effectiveness of parental behavior management training and schema therapy on aggression and oppositional defiant in adolescents

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ABSTRACT Context: Adolescents with conduct disorder have many problems in oppositional defiant and aggressive behaviors, which can be exacerbated by not treating these problems.

Aims: The purpose of this study was to evaluate the comparative effectiveness of parental behavior management training and schema therapy on aggression and oppositional defiant in adolescents.

Settings and Design: This was a semi-experimental study with two experimental and control groups with pre- and posttest plan.

Materials and Methods: The statistical population of this study included all 63 adolescents girls and boys with conduct disorder in Ahvaz city in 2019, that using the voluntary sampling method, 45 of them were selected and randomly divided into two experimental groups and one control group (each group of 15 people). To collect the data of aggression questionnaire of Buss and Perry (1992) and oppositional defiant questionnaire of Harada *et al.* (2004) was used. The experimental groups underwent parental behavior management training (9 sessions 60 min) and group schema therapy (8 sessions 90 min), but the control group received no training.

Statistical Analysis Used: The collected data were analyzed using analysis of covariance using the SPSS version 24.

Results: The results showed that parental behavior management training had a greater effect than group schema therapy on the improvement of aggression and oppositional defiant (P < 0.01).

Conclusions: Parental behavior management training has more effectiveness on reducing aggression and coping disobedience and it can have practical implications for therapists.

Keywords: Aggression and oppositional defiant, Group schema therapy, Parental behavior managementtraining

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INTRODUCTION

Adolescence is a period of development that produces vast changes in cognitive, emotional, and behavioral spans of individuals.^[1] Many behavioral problems occur in adolescents in these conditions.^[2] Since behavioral and emotional patterns in adulthood are difficult to change, therapists emphasize the importance of early diagnosis and treatment of mental health problems in children and adolescents.^[3] One of the common disorders of this period is conduct disorder.^[4] The existence of three types of age-related behaviors such as threatening other individuals, causing panic in other persons, and returning late to home indicates the existence of conduct disorder.^[5,6] In addition, the prevalence of this disorder was higher in boys than in girls and is reported to be 13% in 8-16-year-old persons.^[7] Following conduct disorder, other disorders will be developed in adolescents too. One of these disorders is aggression.^[8] Aggressive behavior is one that is intended to harm oneself or other individuals.^[9] In a definition by Juárez-Treviño et al., [10] aggression is defined as the unpleasant internal feeling within each person. It is often accompanied by intensity and frequency to do verbal, nonverbal, or anti-cultural or immoral physical behaviors.^[11] Some researchers attribute the failure as the main cause of aggression emergence that is resulted from annoying events in the individual,^[4] and some others consider the conditionality of adolescents, which is conducted in mediation by the environment, as an important factor in aggression emergence.^[12,13] Another disorder, which gets developed in adolescence following conduct disorder, is coping disobedience disorder. This disorder is a prominent pattern of hostile behaviors against power references.^[14] These persons have problems in the classroom and in relationships with peers.^[15] Early childhood disobedience is associated only with pertinacity, while it occurs more intensively in adolescence,^[16] so that they argue more intensively.[17,18]

On the other hand, no single factor can justify a child's conduct disorder, but many biological, psychological, and social factors contribute to the development of the disorder.^[19] One of the most fundamental problems in children with conduct disorder can be parental disability in child's correct control.^[20] Tyrannical parenting without paying proper attention to children's desirable behaviors increases the child's aggressive behaviors.^[21,22] Therefore, psychological treatments such as behavior modification methods and parental behavioral training have been considered.^[23] However, these interventions often emphasize on improving the relationships between caregivers and children.^[24] Teaching parental behaviors

to parents cause them to monitor these behaviors and reinforce affirmative behaviors by recognizing events and consequences of their children's inappropriate behaviors.^[25,26] Another treatment approach for parents is schema therapy.^[27] Schemes are patterns and general motif schemes from cognitive-emotional experience of an event that can help improve the persons' life situation significantly by altering or modifying the maladaptive schemas in psychotherapy process.^[28,29] In this regard, Zeinali et al. (2016) and Shah Ali Nia showed that parents' training has an impact on reducing the symptoms of conducts disorder and aggression in adolescents.^[30,31] Hemmati Sabet et al. (2016) showed that schema therapy impacts on decreasing aggression and social anxiety in adolescents.^[32] Goli et al. (2016) showed that schema therapy has an effect on aggression.^[33] Bearss et al. and Kazdin et al. concluded in research that parental behavioral management training was effective in reducing their children's aggression.^[34,35] Previous studies have confirmed the efficacy of these two therapies. Therefore, in order to help the therapeutic process to determine the most therapeutic effect of each of these therapies, it is necessary to conduct this research. This can ultimately help in the treatment of adolescents with conduct disorder. Not treating the adolescents with conduct disorder can impact on creating other disorders, and conducting this research seems to be necessary considering the importance of two treating methods of parenting behavior management training and schema therapy and lack of comparison of these two intervention methods on aggression and coping disobedience in adolescents with conducts disorder. Therefore, the main question of the research is that, is there a significant difference between effect parental behavior management training and group schema therapy on aggression and coping disobedience in adolescents with conducts disorder?

MATERIAL AND METHODS

The research methodology was a semi-experimental study with pre- and posttest plan with the control group. The statistical population of this research included 63 female and male adolescents with conduct disorder with records in the Department of Education Clinic in District 2 located in Ahvaz city in 2019. Of all the 63 individuals, 45 were selected first using the voluntary sampling method, and then randomly divided into two experimental groups and one control group (each group of 15 people).

Inclusion criteria for parents

Having adolescents with conduct disorder, at least cycling literacy, in the age group of 2–4 years.

Exclusion criteria for parents

Absence at two consecutive sessions, whenever they wish to exclude the investigation.

Inclusion criteria for adolescents

Higher-than-average grade in aggression and coping disobedience questionnaires, age between 13 and 16 years, not receiving other treatments, lack of existence of another disorder, and not consuming any drugs concurrently by psychiatrist diagnosis based on criteria DSM5.

Exclusion criteria for adolescents

Absence at two consecutive sessions, withdrawal by the diagnosis of psychologist and psychiatrist of the center based on criteria DSM5, whenever they wish to exclude the investigation.

After obtaining permission from the university and the educational organization, meetings were held at the Department of Education Clinic. Before the sampling was started, explanations of the purpose of the study and confidentiality were given to the individuals. First, consent was obtained from the parents of adolescents, and then, a pretest was received from both groups. The first experimental group was under the parental behavior management intervention and the second experimental group under the group schema therapy training but the control group received no training in parental behavior management and group schema therapy. After ending the training sessions, the experimental and control groups received the same posttest in the same circumstances. It took about 20 min to fill in the data collection form used in the study. Then, the interventions were performed by an expert psychotherapist. After collecting pre- and posttest data, the collected data were analyzed using the multivariate analysis of covariance statistical tests in the

SPSS software version 24 (SPSS Inc., Chicago, Illinois, USA). Furthermore, the results were assessed within a confidence interval of 95% and at a statistical significance level of P < 0.05.

Summary of parental behavior management sessions

In accordance with the Table 1, the parental behavior management training program was developed by Kazdin^[20] and was executed on the experimental group in eight 60-min weekly sessions.

Summary of Schema therapy

In accordance with the Table 2, Summary of group schema therapy sessions – schema-based group intervention based on Young's schema-therapy techniques and guideline^[36] was executed on the experimental group in eight 60-min weekly sessions.

Research tools

Aggression questionnaire

The Buss and Perry Aggression Questionnaire^[37] is composed of thirty questions. It has an overall score. The questionnaire's scoring method is in four-choice Likert style ranging from never, rarely, sometimes, and always (0, 1, 2, and 3). The construct validity of the questionnaire was confirmed by its developers and the reliability was reported to be 0.86 in Cronbach's alpha method, respectively. In Iran, Akbari Balotbangan *et al.*^[38] confirmed the validity, and the reliability in Cronbach's alpha method was reported to be 0.85. Cronbach's alpha coefficient was 0.80 at the present research.

Coping disobedience questionnaire

Harada *et al*'s^[39] Coping Disobedience Questionnaire has 18 questions. It has an overall score, each question of the questionnaire has the option of "rarely, once or less per month," "sometimes, once a week," "often, two or three times

Session	Goals	Content
First	Introduction and initial evaluation	Assessment of conduct disorder situation and communication with parents and explanation of the sessions' purposes
Second	Training of effective discipline	Goal: Training of ordaining regulations and disciplinary procedures
		Technique: Training of positive and negative reinforcement and negligence technique
Third	Training of inductive control	Goal: Winning the cooperation and preventing the conflict with child
		Technique: Reasonable and logical training of proper behaviors to parents
Fourth	Training of expectations' creation	Goal: Creating age-appropriate expectations for parents
		Technique: Recognizing and reconstructing the parents' beliefs in relation to the expectations
Fifth	Dependency contract	Goal: To reduce the child's behavioral disorders
		Technique: Applying the dependency contract technique with child over several steps by
		concluding the dependency contracts in the presence of child and parents
Sixth	Cognitive reconstruction	Goal: To identify and treat irrational and dysfunctional beliefs of parents in relation to ego and children
		Technique: Cognitive reconstruction
Seventh	Cognitive adjustment	Investigating into emotional aspects and adjusting it by cognitive approach
Eighth	Training of communication skills and overall	Goal: Modification of parental communication styles with children and bug fixes
	assessment of sessions and conclusion	Technique: Training of proficient verbal response style and active listening skill

Table	I: Parental	behavior	management	training program
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Table	2:	Schema	therapy	sessions
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Session	Goals	Description of the session
First	Introduction and evaluations	It was spent by executing the evaluation and training phase of schema therapy, outlining the guidelines and general rules of teamwork, explaining the schema-therapy model in a simple and clear language to the participants
Second	Introducing the nature of conduct disorder	The purpose of this session was to make the participants understand the nature of conduct disorder, aggression, and coping disobedience disorder, their evolutionary roots as well as their mechanism. The nature of conduct disorder was formulated according to the schema-therapy approach
Third	Cognitive techniques of challenging the schema	Introducing, training, and applying cognitive techniques of challenging the schemas such as schema validation test, redefining the evidence verifying the schema, establishing a dialog between healthy and unhealthy aspects of the schema, developing training card, and completing the schema registration form
Fourth	Training the cognitive techniques	The purpose of training the cognitive schema-therapy techniques was to help participants learn to argue against the schema and question the validity of the schema at the logical level by applying the cognitive techniques
Fifth	Emotional experimental techniques	It was introduced and trained so that the participants could address the origins of schemas evolution at the emotional level: Introducing and performing imaginative dialog techniques, traumatic events imaging, writing letter to parents and mental imaging for the behavioral model busting of the basis of intervention guideline
Sixth	Mental imaging and teamwork	Teamwork in these sessions was designed to help the participants fight the schemas in emotional level so that patients express their anger and unhappiness with their childhood events using empirical techniques such as mental imaging and conversation and break the schema continuity cycle at the emotional level
Seventh	Training and conducting behavioral model-busting techniques	Persuading the participants to abandon maladaptive coping styles and practicing the effective coping behaviors: such as behavior change, motivation creation, reviewing the benefits and disadvantages of the behavior continuance and practicing healthy behaviors, and preparing individuals for the sessions' termination
Eighth	Conclusion and termination	Final assessment, conclusion, and termination

a week," "always, four times in a week or more» (0, 1, 2, 3). The scores range from 0 to 54. The construct validity of the questionnaire was confirmed by its developers and the reliability in Cronbach's alpha method was reported to be 0.84, respectively. In the research of Hamid *et al.*,^[40] the validity was confirmed, and the reliability was reported to be 0.81 in Cronbach's alpha method. Cronbach's alpha coefficient was 0.78 at the present research.

RESULTS

Table 3 shows the mean and standard deviation of the research variables of the experimental and control groups in pre- and posttest. The Shapiro–Wilk test was confirmed for the data normality investigation. In addition, Levin test, Box test, and regression line slope homogeneity were used for the homogeneity of variances assumption, and the nonsignificance of these tests indicates compliance with the homogeneity of variances assumption.

As shown in Table 4, the F-ratio of covariance analysis for the dependent variables shows that there is a significant difference in aggression and coping disobedience variables between the "parental behavior management" training groups, "group schema therapy," and control group.

With regard to the results of Table 5, the mean difference of parental behavior management training group with the control group is more than the one between the group schema therapy group and control group, which shows that parental behavior management training method has more effectiveness on reducing the aggression and coping disobedience than the group schema therapy.

DISCUSSION

The purpose of the present research was to compare the effectiveness of parental behavior management training and group schema therapy on aggression and coping disobedience in adolescents with conduct disorder. The results of this study are in line with the findings of some researches. Zeinali et al. (2016) showed that training the parents has an effect on reducing the symptoms of conduct disorder and aggression in adolescents.^[30] In another research, Shah Ali Nia showed that parental behavior management training affects the mothers of children with disobedience and pertinacity disorder.[31] Hemmati Sabet et al. (2016) showed that schema therapy impacts on decreasing aggression and social anxiety in adolescents.^[32] Goli et al. (2016) showed that schema therapy has an effect on aggression.^[33] Bearss et al. concluded in the research that parental behavioral management training impacted on reducing their children's aggression.^[34] Kazdin et al. concluded that parenting behavioral management training impacts on changing the behavior of the involved children.[35]

In explaining the results of this research, it can be said that parental behavior management training is a preventive and effective approach to reduce aggression and coping disobedience and enables the parents to learn adaptive skills to cause a reduction in aggression and coping disobedience in their children in this way.^[25] The results of this research showed that parental behavior management training is one of the most effective therapeutic methods in which the parents learn how to cope with conducts disorder in their Mohammad Hasani, et al.: Parental behavior management and schema therapy on aggression and oppositional defiant

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Dependent	Assessment	Mean (SD)					
variables		Parental behavior management training group	"Group schema therapy" group	Control group			
Aggression	Pretest	62.65 (10.60)	67.40 (8.26)	63.50 (8.54)			
	Posttest	26.85 (9.77)	43.40 (8.74)	63.85 (14.51)			
Coping disobedience	Pretest	28.85 (3.15)	30.52 (2.68)	30.68 (3.01)			
	Posttest	17.60 (4.36)	21.54 (2.98)	28.95 (2.66)			
CD. Ctonologial deviation							

Table 3: Mean and standard deviation of research variables in the experimental and control groups in pre- and posttest

SD: Standard deviation

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Table 4: Results of multivariate analysis of	covariance on coping	disobedience and	aggression posttest marks

Dependent variable	Sum of squares	DF	Average of squares	F	Significance level	Test power
Aggression	11,845.913	2	5922.957	55.181	0.001	0.971
Coping disobedience	1098.320	2	549.60	58.613	0.001	0.876

Table 5: Bonferroni follow-up test results to compare the differences in the posttest phase

Variable	Compared groups	Average differences	SD	Significance level
Aggression	Parental behavior management - control group	35.094	3.394	0.001
	Group schema therapy - control group	21.292	3.257	0.001
	Parental behavior management - group schema therapy	13.166	3.580	0.001
Coping	Parental behavior management - control group	10.367	10.03	0.001
disobedience	Group schema therapy - control group	7.652	0.985	0.001
	Parental behavior management - group schema therapy	2.715	10.015	0.009

SD: Standard deviation

child and to reduce conflicting behavior toward their child to prevent further deterioration of the circumstances.^[41] This training causes the parents' behavioral performance to improve and their stress on their child to reduce and thereby it causes an improvement in adaptation and a reduction in the children's behavioral problems such as conducts disorder, aggression, and coping disobedience.^[42]

The more effectiveness of parental behavior management training can be explained by the fact that since the parents' inability to manage the child behavior and negative parent-child interaction is among the factors influencing the children's behavioral problems^[19] and with regard to the fact that psychologists believe that parenting is a complex activity and an exclusive behavior and applying it can change the child's behavior, feeling and expectations, and his/her emotional and behavioral adaptation at all stages of development.^[21] It can be said that children's behavioral problems are often due to the way parents communicate with the child than to biological or hereditary factors.^[43] Parental behavioral management training has enabled the parents group under this treatment to improve their relationships with children with conducts disorder and adaptation with them and to reduce aggression and coping disobedience disorder in their children more than schema therapy. The studies' results showed that there is a significant relationship between parents' misconduct and behavioral problems in children and it indicates the fact that the family factor and especially parents' behavior during childhood play an important role in the emergence of behavioral problems in childhood and adulthood.^[26] Since the children

have the most interaction with their parents during the childhood period, parents can certainly play a decisive role in improving their children's behavioral disorders.^[34] Therefore, parents' training is one of the effective ways to treat the children's behavioral problems. On the other hand, parents' training, which is the best intervention method to reduce the symptoms of adolescent's coping disobedience disorder,^[44] causes a reduction in parents' incompetency and decrease in parents' stress levels, neutralization of parents' negative feedbacks, and a reduction in conflicts between the parents and increases parents' skill levels in managing child behavior and parental use of positive disciplinary methods, and consequently, the coping disobedience behavior in the child decreases.

This research was limited to male and female adolescents with conduct disorder. The impossibility of follow-up due to lack of access to samples, Ahvaz city and time interval of 2019 were the other limitations of this research.

CONCLUSIONS

The results of this research showed that both parental behavior management training and group schema therapy impacted on reducing aggression and coping disobedience. In addition, comparing the posttest results of the two experimental groups showed that the effectiveness of parental behavior management training was more than the group schema therapy. With regard to the effectiveness of two methods of parenting behavior management training and group schema therapy, especially the more effectiveness of parenting behavior management training, it is suggested to make parents familiar with these strategies and trainings in training workshops and courses to cause a reduction in aggression and coping disobedience in adolescents with conducts disorder. Other researchers are advised to increase the power of generalization of results to the target population by repeating this study and also select cognitive variables such as memory and concentration as dependent variables.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

All authors contributed equally.

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