

Study of the Effectiveness of Dreikurs Training Program on the Perceived Stress and self-control of Mothers with Hyperactive Children in Najafabad

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ABSTRACT

The present study aimed to evaluate the effectiveness of Dreikurs training program on perceived stress of mothers with hyperactive children in Najafabad city. The statistical population of this study consisted of 44 mothers with attention deficit-hyperactive children who were randomly sampled with alternatives from the middle schools of Najafabad city. First, selected children who had previously been diagnosed with hyperactivity were tested by Connors' hyperactivity test along with clinical interviews. The individuals below the cut line were selected and then trained in 90-min eight sessions in the experimental group of the Dreikurs Training Package. After the training, the post-test, which included Cohen's perceived stress test, was repeated and the responses and the level of these two categories were measured and the results were finally recorded. The results of data analysis using multivariate analysis of variance are significant at the level of $P = 0.05$. According to the results, the Dreikurs training package has an effect on the perceived stress of mothers with hyperactive children.

Keywords: Perceived stress, self-control, Dreikurs training program, hyperactive children.

Introduction

Attention deficit-hyperactivity disorder is one of the most prevalent childhood disorders, attracting the attention of psychologists and psychiatrists (Boosing et al., 2010). Hyperactivity is the most prevalent behavioral disorder in childhood and adolescence and affecting about 3-5% of children before the age of seven. This disorder is more common in children in elementary school and many patients get better with age. This disorder has remained unsolvable for psychologists and psychiatrists, parents and teachers; its main features, including failure to control attention deficit behavior, learning disability, aggression, academic problems, motor restlessness and arousal, were unbearable for parents, teachers and peers (Brigman et al., 2010).

Untreated hyperactivity disorder is usually accompanied by academic failure and damage to relationships with family, teachers, and friends, and an increasing rate of injuries and accidents, and the

development of psychiatric symptoms such as disobedience, anxiety, depression and substance abuse. If parents do not learn how to face to these cases, such problems will be more and more widespread, and if parents are better acquainted, these relationships will be repaired. However, treatments for neuro-biochemical manipulation have been widely criticized. Studies have shown that treatments for this disorder include pharmacological therapies and psychological training interventions, which mainly involve parent-centered, child-centered, and combination-based psychological and training interventions (Abdulbari Bener et al., 2009).

Behavioral problems of children reflect the failure of parents to use an effective and appropriate parenting style to control their children's behavior. If we want to reduce these problems, we must repair the interactive styles of parents with each other and their children (Barkley, 2006).

Considering the impaired parenting styles in the families of children with attention deficit-hyperactivity disorder, affected children by family function, and the parent-child relationship, this study was conducted in line with the need to train parents to change their training attitudes and parenting style, which showed that proper family functioning is effective in helping to repair the disorder and reduce its subsequent consequences.

The most successful and common treatment for childhood disorders is parent-child interaction training, which most parents are satisfied with (Escritool and Sebrolobenco, 2010). Play therapy is a tool to diagnose the child's problems, in which the counselor observes the children's behavior while playing and addresses their concerns and tries to solve them. As well as, play is the most appropriate way for children to learn and encourages them to learn new skills (Dell Angello et al., 2009).

In a study conducted by Matieo and Best (2009) in the United States, which studied the impact of Adler parenting classes on parental self-report behavior, the results revealed that parents showed significant changes in behavior, setting boundaries, increasing emotions and positive bonds, and reducing violence and aggression towards their children, and these trainings have increased the level of self-control and reduced the level of pressure among parents.

On the other hand, this disorder damages the process of development of mental talents and socio-emotional skills of affected children, so that poor academic results with low self-esteem, delinquency, depression, personality disorders, alcoholism, substance abuse and psychosis and job problems were significantly higher in these people than the normal ones. The rate of conflict among parents with hyperactive children is higher than those with normal children, and the rate of depression, divorce, and misbehavior anxiety is higher in families with hyperactive children than those with normal children, so training behavioral and educational styles to parents will prevent these issues (Wolraich et al., 2001).

Perceived stress is an unpleasant and often ambiguous feeling resulting in low muscle tension, alertness and avoidant behaviors that are transmitted from one source to the individual as a substitute. In other words, the pressure on the individual was a substitute for the pressure on the object and is a reaction that the body shows to a change that requires adaptation or physical, mental and emotional response (Moradi, 2012).

According to Dreikurs, children with problems do not have the 4 essential characteristics that every child should have in order to cope with life's challenges successfully. These required characteristics are not rules, nor are those that children have to master and remember consciously. They are beliefs that parents can instill in their children. These beliefs will be used as a guide to unconscious behavior. They are the inner certainty of following cases: (1) Belonging to others, being part of the family and community; (2) Having the ability to take care of oneself; (3) Being valuable and valuing others for the person, knowing that the person is considered important; and (4) Being encouraged. These four essential protectors are called vital factors since these four fundamental factors in the Adler-Dreikurs literature are raising children who can cope with the challenges of life.

One of the most useful roles of Dreikurs in the field of family and parent-child relationships is to organize and develop encouragement techniques that Adler and others have taught. A child who lives in an encouraging environment at school can easily and correctly adapt to the environment and its circumstances. In contrast, a child living in a depressing environment is more likely to have less adaptability and poorer mental health. We must remember that an abnormal child is a frustrated child who

tries to find a place in society through inappropriate behaviors and according to his wrong logic, he thinks that he can be accepted by society (Alizadeh and Sajadi, 2010).

According to Adler's approach, the main cause of children's behavioral problems is dysfunctional parenting styles and inappropriate parent-child interaction. In this regard, studies have suggested that most parents of children with attention deficit-hyperactivity disorder use authoritarian parenting and excessive support styles in their interactions with their children, each of which causes a number of symptoms and problems in parent-child disorders. According to the presented research, the main topic of this research is: "whether does the Dreikurs training package have a significant effect on the perceived stress of mothers with hyperactive children in Najafabad?"

Research Methodology

This study performed as a quantitative and quasi-experimental research with two pre-test and post-test groups, and it is purposefully considered as a practical research due to its application in schools, counseling centers and children's learning centers. The study evaluated the effectiveness of the factors on two groups. This experiment was performed on the experimental group for 90-min eight sessions and then the experimental group was analyzed again based on the components.

The statistical population of this study consists of mothers whose children have been diagnosed with ADHD by psychologists and psychiatrists according to Connors test and were studying in the middle school of Najafabad.

Inclusion criteria included diagnosis of hyperactive disorder by a psychologist and psychiatrist, obtaining a score lower than the cut line in the perceived stress questionnaire, not having a comorbid disorder, and regular attendance at training sessions.

- **Data collection method**

The main tool for measuring data in this study was a questionnaire.

- **Data collection tools**

- ✓ *Connors hyperactivity questionnaire*

The Connors Multi-Rating Scales were developed by Kate Connors in 1960. These scales were first developed to evaluate the effect of stimulants on hyperactive children and to distinguish hyperactive children from normal children. Initially, questions on these scales were collected through informal collection from parents who referred their children to Johns Hopkins University Medical Center. The data obtained by Connors (1970) were analyzed by factors and 73 items were extracted. The present questionnaire has 43 items. Considering the prevalence of adult hyperactivity and its severe social complications, appropriate tools are required to measure the prevalence and screening of this disease in Persian language.

The procedure was as follows: First, the English version was translated into Persian and then the back translation was accomplished in English. After ensuring the accuracy of the translation, the validity of appearance and content was assessed by four child and adolescent psychiatrists. The questionnaire was then presented to 30 parents of hyperactive children referred to the children's psychiatric clinic and the test was repeated three weeks later. The reliability of the questionnaire was measured using Cronbach's alpha and intra-cluster correlation (ICC) and then 100 parents were selected by availability sampling method and interviewed clinically. Interview results were compared to diagnose adult hyperactivity with the results of Connors Adult test (Persian version of screening) and criteria validity was calculated. Sensitivity, specificity, positive predictive value and negative predictive value were calculated. Results showed that the mean age of the study population was 36 ± 5 years old, of which 67% were female. ICC and paired t-test were used to measure test-retest, and ICC values for all domains were higher than 0.7. Cronbach's alpha had higher values of 0.8 for all domains. According to Pearson matrix test, the correlation of domains had a good correlation ($p < 0.01$). As well as, the correlation matrix of questions had a good correlation with domains (Connors, 1960).

✓ **Perceived Stress Questionnaire**

This questionnaire was developed by Cohen et al. (1983) and contains a 14-item version that is used to measure perceived general stress in the past month and analyzed thoughts and feelings about stressful events, control, overcoming, coping with mental stress and experienced stressors. This scale also examines the risk factors for behavioral disorders and shows the process of stressful relationships. Doran et al. (2006) calculated Cronbach's alpha coefficient for this scale to be 0.74. Cohen et al. (1983) calculated the correlation coefficient with semiotic scales between 0.52 and 0.76 to calculate the validity of the criteria of this scale. In Behroozi et al. (2012) research, the reliability of this questionnaire was calculated using Cronbach's alpha and Split-half coefficients, which were 0.73 and 0.74, respectively. The structural validity coefficients of this questionnaire were calculated using a simple correlation calculation with a researcher-made criterion question of 0.63, which is significant at the level of 0.05.

The scoring method is considered as follows: Score 5 (Mostly), Score 4 (Often), Score 3 (Sometimes), Score 2 (Almost never), and Score 1 (Never).

The Perceived Stress Questionnaire was developed by Cohen et al. in 1983 and has three versions that are used to measure the general stress perceived in the past month. It measures thoughts and feelings about stressful events, control, overcoming, coping with stress and experienced stress. This scale also examines the risk factors in behavioral disorders and shows the process of stressful relationships. This questionnaire has many applications in different countries and has been therefore translated into various languages and has been used and standardized in many countries. In this collection, there is a 14-item version.

Method

In the present study, in order to provide a Dreikurs training program on perceived stress and self-control of mothers with hyperactive children in Najafabad, first by taking a letter of introduction from the university and presenting it to Najafabad education and choosing a simple random sampling method, 44 parents with hyperactive children were selected and divided into experimental (22) and control (22) groups based on completing the hyperactivity test and clinical interviews of students.

After eight 90-min training sessions for mothers with children with ADHD, the parents of these children and these children themselves were re-examined and the sample size was considered standard according to the population. It was noted that the mothers of these children do not have learning disorders or mental disabilities and children were selected from all primary schools and with respect to its dispersion and selection of people from all areas of Najafabad and the mothers of these children have been willing to cooperate in this study.

The research method and implementation is empirical using two groups of control and experimental with pre-test and post-test. In this method, mothers with hyperactive children were randomly divided into two groups: control and experimental groups. The control group did not change until the end of the study and no test was performed on them. The experimental group was examined before teaching the Dreikurs training program through Cohen Perceived Stress Questionnaire and Connors Hyperactivity Questionnaire. After teaching the Dreikurs training program to mothers, these three tests were taken again from the mothers and the results were presented in the article. If there is no change between the results before training and after training, these hypotheses were rejected and Dreikurs training has no effect on them and if these tests show a change, the test hypothesis is approved and this training has a significant effect on the above cases. In addition, other cases that may be involved in this test, such as various cases or pressures outside the program are controlled to provide the results to us correctly. After all of the tests, they were observed and we asked those around them about the impact on the behavior of some of them. In this method, the homogeneous group is tested before the effect of the independent variable (T1). They are then affected by the independent variable and then tested again (T2) and the results are compared with the results of the previous test.

- **Statistical analysis method**

Data analysis was performed at two descriptive and inferential levels. Statistical methods including mean, standard deviation, and multivariate and univariate analysis of covariance were used.

Results

- **Descriptive results**

Descriptive results such as mean and standard deviation of the studied variables are presented in following.

Table 1. Descriptive statistics of research variables in experimental and control groups in pre-test and post-test positions

Group	Index	Pre-test		Post-test	
	Variable	Mean	Standard deviation	Mean	Standard deviation
Experiment	Perceived stress	75.33	13.94	57.66	5.16
	Self-control	42.33	3.373	51.66	2.69
Control	Perceived stress	71.66	19.3	71.46	19.01
	Self-control	42.33	3.37	42.33	3.33

As shown in Table 1, the mean and standard deviation of pre-test and post-test scores of perceived stress variables in the training group were 75.33 (13.94) and 57.66 (5.16) and in the control group were 71.66. (19.30) and 71.46 (19.01), respectively, which show the improvement of perceived stress in the experimental group from the pre-test stage to the post-test stage. As well as, the mean and standard deviation of pre-test and post-test scores of self-control variable in the experimental group were 42.33 (3.373) and 51.66 (2.69) and in the control group were 42.33 (3.37) and 42.33 (3.33), respectively, which suggested the reduction of perceived stress and self-control in the experimental group from the pre-test stage to the post-test stage.

- **Inferential results**

- ✓ *Analysis of covariance assumptions*

- *Normality*

There are several methods to evaluate the normality that in the present study, Kolmogorov-Smirnov method was used.

Table 2. Kolmogorov-Smirnov normality test of the studied variables

Variable	Kolmogorov-Smirnov	Significance level
Perceived stress	$z = 0.191$	$p = 0.07$
Self-control	$z = 0.191$	$p = 0.011$

As seen in Table 2, the statistic values of the two Kolmogorov-Smirnov tests of perceived stress variables ($z = 0.191$, $p = 0.07$) and self-control ($z = 0.191$, $p = 0.011$) were obtained, indicating the significant values, so the training has changed the level of perceived stress and the category of self-control.

- **Linear relationship between dependent variable and covariate variable**

Covariance analysis assumes that there is a linear relationship between the dependent variables and each of the covariate variables. In this study, pre-test of perceived stress and self-control variables were considered as covariate variables and their post-test were considered as dependent variables. Correlation coefficients between pre-test and post-test of perceived stress variables were 0.998 ($p = 0.998$) and self-control ($p = 0.938$). These two findings show that the hypotheses of linearity of dependent variables have been met.

➤ **Homogeneity of variances**

Another hypothesis of covariance analysis is the homogeneity of variances. In this study, Levene's variance homogeneity test was used to evaluate the homogeneity of variance of the studied variables. Table 3 shows the ratio of F-test for Levene's variance homogeneity for perceived stress and self-control variables.

Table 3. Results of Levene's variance homogeneity test of research variables

Variable	F	df1	df2	P
Perceived stress	0.567	1	28	p = 0.0450
Self-control	0.639	2	28	p = 0.0225

As shown in Table 3, the results of Levene's variance homogeneity tests were obtained for the perceived stress (F = 0.567, P = 0.0450) and self-control (F = 0.639, P = 0.0225) variables, which are significant. These results allow the researcher to assume that the variances of the two groups are equal in the dependent variables.

➤ **Homogeneity of regression line slope**

Table 4. Results of the study of the homogeneity of regression slopes on the mean post-test scores of dependent variables with controlling pre-tests

Source	Dependent variables	Sum of squares	df	Mean squares	F	P
Interaction between groups and covariates	Perceived stress	667.423	1	667.423	1276.29	0.05
	Self-control	607.500	1	607.500	1665.8	0.05

As observed in Table 4, the interaction of covariates (pre-tests) and dependent variables (post-tests) is significant at the factor levels. Therefore, the assumption of homogeneity of regression line slopes is approved.

• **Hypothesis test**

Multivariate analysis of covariance (MANCOVA) was used to determine the effectiveness of Dreikurs treatment on perceived stress and self-control. The results of this analysis are presented in Table 5.

- Null Hypothesis (H0): Dreikurs treatment has no effect on perceived stress.
- Contrary Hypothesis (H1): Dreikurs treatment has a significant effect on perceived stress.

Table 5. Results of significant tests of covariance analysis for the perceived stress variable

Source	Sum of squares	df	Mean squares	F	Sig.	Eta squared
Correction pattern	9120.047	2	4560.024	8719.9	0.000	0.998
Cut	37.851	1	37.851	72.380	0.000	0.728
Perceived stress before intervention	7826.414	1	8726.414	14966	0.000	0.998
Group	667.423	1	667.423	1276.2	0.000	0.979
Error	14.119	45	0.523			
Total	192435	46				

According to the results in Table 5, the groups differ significantly in at least one of the dependent variables. Therefore, it can be stated that there is a significant difference between the experimental groups and the control group in at least one of the dependent variables. One-way analysis of covariance was used in MANCOVA context on dependent variables to determine the difference. The results of this analysis are presented in Table 6.

Table 6: Results of one-way analysis of covariance of groups in dependent variables with pre-test control on post-test scores

Variables	Sum of squares	df	Mean squares	F	P	Effect size
Perceived stress	667.423	1	667.423	1276.29	0.000	0.989
Self-control	607.500	1	607.500	1665.8	0.000	0.989

According to the results presented in Table 6, the F ratio of one-way analysis of covariance in the training group and the control group was measured in perceived stress variables ($F = 667.423$, $P \leq 0.000$) and self-control ($F = 1665.8$, $P \leq 0.000$), indicating a significant difference between the two groups in the above variables. As well as, the effect size index shows that 98% of the changes in perceived stress scores and self-control are due to the implementation of the training program (intervention).

Discussion and Conclusion

In the present study, the effectiveness of the Dreikurs training program on the perceived stress of mothers with hyperactive children in Najafabad was investigated. The results suggested that Dreikurs training approach affect the perceived stress in mothers with hyperactive children. According to the study of this issue in mothers with hyperactive children in the two groups of pre-test and post-test, the results showed that the amount of perceived stress has decreased after Dreikurs treatment. Therefore, this hypothesis has been confirmed. The results of this hypothesis were consistent with the findings of Amiri (2013) in terms of significant effects and obtaining a significant effect on the variables studied in the study. According to the results obtained by Adavi (2017) on mothers with mental health problems and physical trauma, it can be concluded that stress management training can be used as an intervention model to reduce perceived stress in the vision of women with high blood pressure. In the meantime, nurses, knowing the positive effect of stress management on blood pressure control, will provide a more meaningful and quality behavioral style and care to people with high blood pressure. According to the research of Abdollahpour and Seyed Hashemi (2017) on mothers with hyperactive children and Dreikurs and Barkley training, results of demographic characteristics are homogeneous in mothers after receiving training in both groups. The mean scores of competency in the group were 61.1 ± 12.1 before the intervention and were 76.7 ± 221.2 and 761.3 for control and experimental groups after the intervention, respectively; and there was no statistically significant difference. The results of research conducted in the United States on the impact of parenting on the development of executive functions in early childhood showed that changes in the quality of parenting have affected the executive function development. This change was due to the change in the quality of parental care and responsiveness in the home environment and showed that childhood functions in people and the training that these people receive are very closely related and effective. Parenting interventions in the Dreikurs training method train participants to have an empathetic, non-judgmental and more accepting approach to their child. Since family factors such as parental problems such as high anxiety, low self-efficacy of parents, especially mothers, play an important role in the development and maintenance of behavioral problems in children with ADHD. Therefore, one of the effective ways to prevent this disorder is interventions targeting parents, one of which is a parenting program based on Dreikurs training, with the aim of improving the effects of stress associated with parenting challenges, using mindfulness meditation practice, and ultimately promoting family health and wellbeing. Hence, this training program can be used in educational centers, including schools, universities, as well as other centers related to family education and community health. The results of this study can be used by psychologists, counselors, child psychiatrists, parents, and child and adolescent educators to improve children's behavioral problems. According to the results of the research, it is suggested that a group of mental health professionals for children and parents of children with special problems prepare several movies and make them available to the public in cooperation with educational media organizations or localize these movies in different areas. It is also suggested that this study is evaluated in children with learning disabilities. As well as, the level of children's adjustment as a result of reducing perceived stress and increasing mothers' self-control can further be investigated.

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