



Designing and validation of a family-centered emotion regulation program and determining its effect Impulsivity and Family Quality of Life in adolescents with Oppositional Defiant Disorder

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ABSTRACT

Background and Aim: The concern in the area of adolescent mental health and its impact on psychological and behavioral development and functions simultaneously with the increase in the prevalence of mental disorders, particularly oppositional defiant disorder, has increased significantly in adolescents in recent years. The purpose of this study was to designing and validation of a family-centered emotion regulation program and determining its effect on impulsivity and family quality of life in adolescents with Oppositional Defiant Disorder. **Methods:** The quasi-experimental research design was pretest-posttest and follow-up with the control group. The statistical population of this study included all adolescents 14-18 years old with oppositional defiant disorder in Tehran in 2021-2022. The sample size consisted of 32 Subjects of adolescents (16 in the experimental group and 16 in the control group) from the statistical population were selected by the available sampling method and placed in two groups of control and experimental. For the experimental group, a designed family-centered emotion regulation program was implemented, while the control group did not receive any training. The research instruments included the Adolescent Behavioral Problems Scale (Achenbakh, 1991), Impulsivity Scale (Barrat et al, 2004), and Beach Center Family Quality of Life Scale. **Results:** The results showed that family-centered emotion regulation intervention had a significant effect on impulsivity and family quality of life in the post-test and follow-up stages ($P < 0.001$). **Conclusion:** Findings of this study provide useful information about family-centered emotion regulation program and counselors and psychologists can use this intervention to improve impulsivity and family quality of life in adolescents with oppositional defiant disorder.



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Introduction

One of the disorders that negatively impact adolescents' mental health is oppositional defiant disorder (Liu, Chang, and Lee, 2021). This disorder is characterized by anger/irritability, defiant/disobedient behavior, or vindictive behavior displayed during interactions with at least one person other than a sibling (Arias, Aguayo, & Navas, 2021). The prevalence of this disorder is reported to be 1.4-16% in the general population and 28-50% in clinical samples (Demmer, Hooley, Sheen, McGillivray, and Lum, 2017). It is believed that oppositional defiant disorder is a risk factor for conduct disorder (Gosh, Rai, & Basu, 2017). In addition, more than 14% of children with oppositional defiant disorder have anxiety, and more than 9% of them have depression (Jones, 2018). Moreover, about 50% of patients with oppositional defiant disorder are associated with suffering from attention deficit and hyperactivity disorder (Vetter, Beckhausen, Bossi, Rosner, and Smolka, 2020).

A review of studies conducted on oppositional defiant disorder shows that impulsivity is one of the main cores of this disorder (Milone & Sesso, 2022; Ray et al., 2009). Impulsive behaviors are also called as risky behaviors that include a wide range of actions on which little thought has been done, in an immature form with the immediate occurrence, without the ability to focus on a specific task. They occur without proper planning and have a high risk and vulnerability (Waxman, 2013). One of the most accepted theoretical approaches related to impulsivity is a multidimensional model that deals with five different domains: positive and negative urgency, lack of persistence, lack of forethought, and sensation seeking (Berg, Latzman, Belywise, & Lilienfeld, 2015). Positive urgency describes the tendency to act impulsively when experiencing positive emotions, while negative urgency indicates the tendency to act impulsively when experiencing negative emotions. Lack of perseverance refers to the desire not to continue in a boring activity, and lack of forethought indicates the tendency to act without considering the consequences of behavior, while sensation seeking indicates a person's tendency to seek new and exciting experiences (Meneguzzo, Todisco, Callentoni, Meregalli, Dal brun, Tenconi, & et al., 2021).

Research backgrounds have clearly shown that children with oppositional defiant disorder affect

parents' family atmosphere and marital relationships (Szentivanyi & Balazs, 2018). Therefore, this disorder affects not only the individual but also the integrated and broader family system and the quality of life of the family members (Szentivanyi & Balazs, 2018). The quality of life, in particular, shows mental and individual understanding and includes effective interpersonal relationships, the ability to perform positive and purposeful activities, and a sense of happiness in life (Perotti, Ecartot, Monaco, Dorigo, Monteleone, & Besch, 2019). According to the World Health Organization's definition, quality of life is the perception of people about their position in life according to the cultural context and value systems in which they live, taking into account their goals, expectations, standards, and concerns. (Borjali, Bagian Kole Merz, Yazdan-Panah, Rajabi, 2015).

Most studies, as well as other existing treatment plans, only target the child and the reduction of his behavioral problems and the extensive impact that oppositional defiant disorder has on the family's mental health. They have neglected the effect of family dysfunction on increasing the incidence of child behavioral problems and reducing treatment results, while this disorder has a multifaceted and comprehensive effect on the mental health of parents and other family members and destroys the balance in the family system. (Khodakarmi, Hossein Khanzadeh, & Taher, 2020). Therefore, since no family-based emotion regulation program has been developed for children with oppositional defiant disorder, this research aimed to design and implement a family-based emotion regulation program. Investigate its effectiveness on impulsivity and quality of life of families of children with oppositional defiant disorder.

Method

The research method was semi-experimental with a pre-test-post-test design and follow-up with a control group. The statistical population of this research is all adolescents aged 14-18 with oppositional defiant disorder who were studying in Tehran schools in the first half of 1400-1401. According to the corona situation prevailing in society, the sampling method was available sampling by referring to the schools of 5 regions. Tehran and among two boys' schools and one girls' school, teenagers who have already been diagnosed with oppositional defiant disorder by education consultants were selected. For the

experimental group, the educational program of family-oriented emotion regulation compiled in 8 sessions for two months was implemented for teenagers along with their parents. After the training period, the evaluations related to the experimental and control groups were again conducted in the post-test phase and the 1-month follow-up period. The criteria for entering the research include: having oppositional defiant disorder, being between the ages of 14 and 18, the consent of the student and parents to participate in the research, and not having other acute and chronic physical and psychological illnesses. Also, the criteria for exiting the research included: absence in two training sessions and non-cooperation and not completing the specified tasks in the training course. Data analysis was done using descriptive statistics methods and analysis of variance with repeated measurements in SPSS software version 26.

Tools

1. Achenbach Adolescent Behavioral Problems Scale (1991): This tool is a self-report questionnaire that can be used for ages 11 to 17 with a minimum education of the fifth grade and a duration of 15 minutes. It is one of the common screening tools for psychiatric disorders. He is in his teens. This scale measures the subscales of emotional, anxiety, physical problems, attention deficit-hyperactivity disorder, normative behavior, and oppositional disobedience. The items of this scale are graded as three options: completely, usually, and not at all, which received scores of two, one, and zero, respectively. The validity of this questionnaire has been investigated in various studies, and the obtained results show the appropriateness of this tool. The internal consistency of this tool has been calculated through the alpha coefficient, which was obtained for the subscales in the range of 0.59 to 0.86 (Dang, Nguyen, & Weiss, 2017).

2. Barrett impulsivity scale (2004): The 11th edition of this questionnaire (BIS-11) with 30 questions evaluates the three factors of cognitive impulsivity, motor impulsivity, and unplanned news. The questions are graded as four options from rarely (equal to one) to almost always (equal to four). The highest score obtained is 120; This questionnaire has a very good correlation with the Eysenck Impulsivity Questionnaire, and the structure of the questions collected from both questionnaires shows dimensions of hasty decision-making and lack of foresight. Its internal consistency for the three factors of cognitive impulsivity, motor impulsivity, and

unplannedness was obtained as 0.68, 0.80, and 0.73, respectively (Shahin et al., 2010).

3. Beach Center Family Quality of Life Scale: University of Kansas Beach Center Family Quality of Life Scale developed a specific family quality of life concept. This scale with 25 items evaluates five main areas of the family (family interaction, parenting, emotional well-being, physical/physical well-being, and disability-based support). The answers are graded based on a five-point Likert spectrum (from very dissatisfied = 1 to very satisfied = 5). The results in the five dimensions of this scale can determine the areas in which the family needs more support (Hoffman et al., 2006).

Results

The mean and standard deviation of age in the experimental group was 0.80 ± 15.89 , and the control group was 0.79 ± 16.10 . Chi-square test showed that there is no significant difference in age between the two research groups ($P > 0.05$). In the experimental group, 5 (31%) were girls and 11 (69%) were boys; in the control group there were 6 (37.5%) girls and 10 (62.5%) boys.

In order to analyze the data, the analysis of variance test with repeated measurements was used. Therefore, the underlying assumptions of this test were examined first. The Shapiro-Wilk test was used to check the normality of the distribution of scores. The results showed that the assumption of normal distribution in both groups was not rejected ($P > 0.05$). Levine's test was used to observe the assumptions of the covariance test, the results of which showed that the variance of the components of cognitive impulsivity ($P > 0.05$, $F = 2.017$) and motor impulsivity ($P > 0.05$, $F = 0.234$) were equal. Lack of planning ($P > 0.05$, $F = 0.506$), family interaction ($P > 0.05$, $F = 1.081$), parenting ($P > 0.05$, $F = 0.367$), emotional well-being ($P > 0.05$) $F = 0.195$), physical/social well-being ($F = 0.121$, $P > 0.05$) and support associated with disability ($F = 0.554$, $P > 0.05$) were not rejected in the groups. Also, Mochli's sphericity test showed that the significance level was less than 0.05, so the assumption of sphericity was rejected and the results related to the correction of the Greenhaus-Geisser test were used in the repeated measurement model. In this way, the necessary conditions for the covariance test are established. The results show that the F value of the interaction effect of stages and group for the variables of cognitive impulsivity (11.147), motor impulsivity (22.163), unplannedness (31.032), family interaction (24.282), parenting

(985) 71/71), emotional well-being (54/486), physical/social well-being (63/870) and support associated with disability (43/542) are significant ($P < 0.001$). According to the results obtained in the impulsivity components, the average of the experimental group in the post-test and follow-up is significantly lower than the pre-test stage ($P < 0.01$). In contrast, the difference between the post-test and the stage follow-up is not significant ($P > 0.01$). In the control group, there is no difference between pre-test, post-test and follow-up ($P > 0.01$). Moreover, according to the above table, in the components of the quality of life of the family, the average of the experimental group in the post-test and follow-up is significantly higher than the pre-test stage ($P < 0.01$), while the difference between the post-test and follow-up phase is not significant ($P > 0.01$). However, in the control group, there is no difference between pre-test, post-test and follow-up ($P > 0.01$). This finding means that family-oriented emotion regulation training has not only improved the impulsivity components and the quality of life of the adolescent family in the experimental group, but this effect has also been stable in the follow-up phase.

Conclusion

The present study aimed to design and develop a family-oriented emotion regulation program and investigate its effectiveness on impulsivity and quality of life of the family of children with oppositional defiant disorder. The results showed that the family-centered emotion regulation program is effective on the impulsivity of children with oppositional defiant disorder. This finding is in agreement with the results of Schoorl, Van Rijn, David, Van Goozen, and Swab (2016), Sediqi, and Naziri (2020), Mirahmadi and Hosni (2018), Asgari and Matini (2020) studies. In explaining this finding, it can be said that the family-oriented emotion regulation program makes people plan themselves to achieve their goals, have a positive view of themselves, gain confidence and trust in their individual abilities, skills to acquire dialogue, boldness, readiness to listen to others and respect the feelings and opinions of others, to observe order and stability and security in personal life, to feel empowered in facing problems and to deal with problems facing them in a problem-oriented manner; All these skills make people have higher emotion regulation, can bear distress and less impulsive behavior. In fact, when these people experience distress, they explain the situation better and are less impulsive

and hurried to seek relief and relief from distress (Asgari & Matini, 2020).

Another finding of this research indicated the effectiveness of the family-oriented emotion regulation program on the family's quality of life of children with oppositional defiant disorder. This finding is in line with some of the results of Ramzanlou et al. (2021), Bahadori, Amani, and Modi (2018), and Shokrollahi, Tavakoli, Esmaili, and Barekatein (1396). In explaining this finding, it can be said that emotional regulation treatments provide the basis for producing flexible responses to intense emotional experiences such as anxiety, anger, and sadness. Emotional regulation skills help people to challenge emotional situations instead of reactive responses and adopt an approach that uses these skills to moderate emotional symptoms; Also, in the cognitive regulation of emotion, people are encouraged to focus on improving past behavioral activities. This program encourages clients to determine their life's meaning and how anxiety and depression hold them back. As a result, clients are encouraged to actively develop the meaning and value of their lives and improve their quality of life (Renna, Quintero, Fresco, & Mennin, 2017). In general, it can be said that the family-centered emotion regulation program causes increasing the psychological well-being of family members and creating a sense of satisfaction, activeness and effectiveness of family members and consequently increases the quality of life. It occurs by using some behavioral skills such as activity planning, calm breathing, teaching problem-solving skills and anger control, which is considered a part of the treatment program.

Considering the sampling method available in this research, its findings should be generalized with caution. Random sample selection can control the intervening variables influencing the research to a greater extent. Also, considering the effectiveness of family-oriented emotion regulation, this program is suggested as an efficient, low-cost, and applicable model and as a shortcut by the government, relevant organizations, and centers to empower children with disabilities. Especially children with the oppositional defiant disorder should be considered.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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