

Effectiveness of Emotion Regulation Training on Reduction of Symptoms in Students with Oppositional Defiant Disorder

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Abstract: *The present study has been carried out to explore the effectiveness of Emotion Regulation Training on the oppositional defiant disorder (ODD) symptom reduction among the students of the eighth and ninth grade in the city Tehran. The methodology has been of a quasi-experimental nature with a pretest posttest design and a control group. The statistical population has been composed of the male students of the eighth and ninth grade of the city Tehran in the academic year 2014-2015 and sampling was carried out by the multistage cluster random one. After the Children Symptom Inventory-4 (CSI-4) had been filled in by the teachers, 50 students with the points higher than the cut-off point in CSI-4 were selected and randomly assigned to the experimental and control group. The former group received 10 Emotion Regulation Training in sessions each for 90 minutes after which a posttest was given to them. To analyze the statistical data, a covariance method was applied as a result of which a meaningful reduction ($p > 0.001$) was observed in the posttest intensity of ODD symptoms for the experimental group in comparison to the control one. Given the findings of the study, Emotion Regulation Training is believed to contribute to the reduction of ODD symptoms among the students, rendering it as an effective intervention method.*

Keywords: *Oppositional defiant disorder symptoms, Emotion regulation training, Intervention method*

INTRODUCTION

The oppositional defiant disorder is regarded as a sort of destructive behavioral disorder, because many children with oppositional defiant disorder show cognitive, social and behavioral disorders as they do other behavioral disorders. It is also one of the most common psychiatric disorders among clients resorting to the treatment centers (Whitman, 2006; Keenan, 2012). The Fifth Diagnostic and Statistical Manual of Mental Disorders defines the oppositional defiant disorder as a pattern of anger/irritability of temper or a kind of challenging - opposing or revenging behavior that is diagnosed on the criterion of occurring at least one time per week and last 6 months. These criteria are explained on the premise that the that people with this disorder often lose their temper; angry most of the times; struggle with the authorities; are actively disobedient and stubborn, often annoy others deliberately; chide the others for their own misbehaviors and mistakes and are biased and bitter. Also during this period their social performance should be disordered. Symptoms of the disorder often are a damaged

pattern of interaction with others. In addition, the children do not pay attention to their negative and aggressive behavior. In contrast, they justify their behaviors as their demands and illogical circumstances (America Psychological Association, 2013). The rate of prevalence of the disorder ranger from 1 to 11 percent, with an estimated average of approximately 3.3% (Costello, Mustillo & Erkanli, 2003; Moughan et al., 2004; America Psychological Association, 2013). It should be noted that the estimated prevalence rate depends on such factors as data collection sources (Parents, teachers or children) the type of the report (now or posteriori) as well as the criteria for conduct disorder.

However, the rate of oppositional defiant disorder may be dependent on the gender of children. Until adolescence, it is more common in boys than in girls (Rey, 2012). The symptoms of oppositional defiant disorder may be limited to one area and seen frequently at home. However, in most cases, the symptoms of the disorder are seen in several areas. Oppositional defiant disorder, is most prevalent in those families where parents or caregivers are not responsive or are negligent in taking care of their children (Academy of Child and Adolescent Psychiatry America, 2007). Deficient regulation of emotions is a pervasive

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and impairing component of many psychiatric disorders seen in childhood, presenting in unipolar and bipolar mood disorders, anxiety disorders, and behavior disorders including ADHD and Oppositional Defiant Disorder (ODD; Ambrosini, Bennett & Elia, 2013; Burke, Loeber, Lahey & Rathouz, 2005; Hinshaw, 2003; Leibenluft, Blair, Charney & Pine, 2003; Stringaris, Cohen, Pine & Leibenluft, 2009). There are indications that a shift in theoretical understanding is underway reflecting a greater emphasis on emotionality in childhood disruptive disorders. First is the addition of disruptive mood dysregulation disorder (DMDD) to Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-V; American Psychiatric Association APA, 2013), which is characterized by temper outbursts and persistent irritable mood between outbursts (APA, 2013). Second is the delineation of various dimensions (or subtypes) of ODD in the recent literature (Burke, 2012; Drabick & Gadow, 2012; Rowe et al., 2010; Stringaris & Goodman, 2009; Whelan, Stringaris, Maughan & Barker, 2013). Although the dimensions identified are not in perfect agreement, these can be classified broadly into affective (i.e., irritable, touchy, angry) and behavioral (i.e., defying adults, annoying, blaming) dimensions. We sought to examine whether these dimensions are truly distinct, with the objective of furthering our understanding of the role of regulating emotions in ODD. Recently, the recognition of emotion regulation as an important facet of ODD has been gaining empirical support from factor analytic studies. Burke, Hipwell, and Loeber (2010) identified behavioral and affective components of ODD and reported that the behavioral component predicted CD, while the negative affect component predicted depression. Boys having the irritable-ODD subtype were more likely to present with anxiety and depression in adolescence or adulthood (Burke, 2012). Emotion regulation is one aspect of the larger domain of self-regulation. It is exerting control over oneself in regard to emotion or emotional experience. As with other forms of self-regulation, one set of responses intervenes and overrides another; an impulse is denied and a contrary response is made (Koole, 2009). Researchers have found that some forms of emotional regulation are automatic (Koole, 2009; Mauss, Bunge & Gross, 2007), whereas others are effortful and involve the same psychological and neurobiological systems utilized in controlling action and attention (Koole, 2009; Tice & Bratslavsky, 2009). Neuroimaging studies have confirmed that there is a connection between emotional regulation and cognitive control processes (Koole et al., 2011).

Emotion regulation abilities have a large impact on many domains of life. Regulation of emotions has been found to affect mental health (Diamond & Aspinwall, 2003; Gross & Muñoz, 1995), physical health (Diamond & Aspinwall, 2003; Koole, 2009; Sapolsky, 2007), overall well-being (Gross, 2002; Lopes, Salovey, Côté & Beers, 2005), occupational performance (Diefendorff, Hall, Lord & Streat, 2000), and social and interpersonal functioning (Gross & Muñoz, 1995; Lopes, Salovey, Côté & Beers, 2005) including romantic relationships (Koole, 2009; Lopes, Salovey, Côté & Beers, 2005; Murray, 2005). Emotion regulation is essential to healthy adaptation in the social domain of life, as friendships involve reciprocal emotional experiences (Gross & Muñoz, 1995) and emotion regulation has been linked to the use of effective social strategies with peers (Lopes, Salovey, Côté & Beers, 2005).

It has been posited that emotion regulation may be the most important of emotional processes for social interaction because it directly impacts emotional expression and behavior (Lopes, Salovey, Côté & Beers, 2005). Research has found that the quality of children's and adolescents' social functioning is associated with their emotion regulation skills (Eisenberg, Fabes, Guthrie & Reiser, 2000; Lopes, Salovey, Côté & Beers, 2005). Compared to those with lesser abilities, those with better emotion regulation skills demonstrate higher social competence and peer status, more prosocial behavior, and better quality of relationships (McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011).

According to the findings of the various studies conducted in this area, the fundamental question of the present study is whether the emotion regulation training has impact on the symptoms of students' oppositional defiant disorder?

METHODOLOGY

This is a semi-experimental study with pretest and protest design with a control group.

Population, Sample and Sampling

The population of the study consist of all eighth and ninth-grade boy students in Tehran schools in the academic year of 2014-2015 who show the symptoms of oppositional defiant disorder. In this study, the multi-stage cluster sampling method was used. This means that among the fifteen educational areas of Tehran, one region was selected randomly and then from among the existing schools of the district, the school was chosen randomly. After that, children symptom questionnaire was chosen by teachers of the school was compiled. After scoring students' questionnaires, 55 students showed symptoms of, oppositional defiant disorder, among whom 50 students were chosen randomly and categorized in two groups (25 students in experiment group and 25 students in control group).

Child Symptoms Inventory

The child symptom inventory (CSI-4) is one of the common screening methods for psychiatric disorders that is compiled on the basis of diagnostic and statistical criteria of the manual of mental disorders. The first draft of the inventory was designed and titled as SLUG inventory by Sprafkin, Loney Unita and Gadow in 1984. On the basis of the categorization in the third edition of The Manual of Diagnostic and Statistical of the Mental Disorders in order to screen 18 behavioral and emotional disorders in children between 5 to 12 years old. Later, after revising the third edition of the book in 1987 the CSI_3 version of the inventory was created and finally in 1994, after the publication of the fourth print of The Manual of the Diagnostic and Statistical of the Mental Disorders, the CSI-4 was revised and changed slightly by Gadow and Sprafkin in comparison with the previous versions. The last edition of the CSI-4 has two forms of parent and teacher. In the present study, the author has used the teacher checklist. The teacher form has 41 questions that assesses the behavioral disorders. Each of the above-mentioned questions are answered in a 4-option scale: Never, sometimes, and often and most of the times. In the present study, questions 19 to 26 of the inventory assess oppositional defiant

disorder. Two methods of scoring has been designed for the child symptoms inventory. The cut of point method and a method based on the severity of symptoms. In most of the researches, due to the more effectiveness and reliability, the cut of point method is used. In this research the scoring method is used too. In this method the method of scoring is possible through adding up the number of the questions answered by the options of often and most of the times (Mohammadesmaail, 2001). The child symptom inventory has been examined in various studies and its validity, reliability and sensitivity has been calculated. In a research conducted by Grayson and Carlson (1991) on CSI-3R, its sensitivity was reported to be 93 percent for the oppositional defiant disorder. The other researchers reported the coefficient of the CSI-3R checklist to be 66 percent (Gadow & Sprafkin, 1994). In the research done by Kalantary et al., (2001) the validity of the inventory was calculated by splitting the inventory into two halves: the teacher was 91% and the parents was 85%. The content validity of the inventory of the CSI-4 was approved by 9 psychiatrists in the research conducted by Mohammad Esmail (2001).

The Summary of the Intervention Program

The First Session: Introducing the members and making communication among the members and psychologist.

The Second Session: Explaining the whyness and whatness of the behavior and introducing the constructive behaviors (appropriate) and annoying (harmful).

The Third Session: Introducing the symptoms of oppositional defiant disorder explicitly and how feelings, excitements and behavioral incompatibilities can be destructive.

The Fourth Session: Conceptualizing the impact of emotion regulation on relationships.

The Fifth Session: Suggests that there is an important association between the ability to regulate and appropriately express emotion and relationship outcomes.

The Sixth Session: Discussing and talking about the emotions that are demonstrated when facing a frustration, the way to choose and controlling the appropriate behavior.

The Seventh Session: Enduring pattern of maladaptive communication and management of emotion, which is believed to result in social isolation and a lack of social support.

The Eighth Session: Developing satisfying and sustainable relationships with effectively regulate emotional experience.

The Ninth Session: How they experience and express them.

The Tenth Session: Overviewing the previous sessions and evaluating their progress.

FINDINGS

The indexes of statistical descriptions related to the scores of the oppositional defiant disorder were calculated individually in each group. The descriptive data are available in Table 1.

According to Table 1 and its mean and standard deviation, the difference among the teachers' assessments of the oppositional

defiant disorder of the experiment and control groups is not significant. On the contrary, the mean of the scores of the oppositional defiant disorder of the experiment group in pretest (17.33) and posttest (10.00) shows significant difference. But in the control group there is a slight and intangible. According to the data obtained from the questionnaires and the table, the baseline data was not indifferent. Therefore, in order to have a more precise analysis, and to see whether the difference is statistically significant or not and to control the mean impact, we used the covariance analysis and its results are valuable in Table 2.

As indicated in the table, given the results and supposing the variable of the pretest in the means of the scores of the oppositional defiant disorder in two groups, there is a significant difference in the posttest stage ($P \leq 0.001$). It means that based on the teachers' assessments, the two groups of experiment and control are different in terms of the variable of oppositional defiant disorder symptoms in the posttest stage. Also, according to Table 1, the scores mean of the oppositional defiant disorder symptoms in the experiment group are 10.00 and 17.33 respectively in posttest and pretest stages. The impact measure in this case amounts to 0.61, meaning that 61 percent of the posttest scores changes are related to emotion regulation training.

DISCUSSION

In this quasi-experimental study, the efficacy of an emotional regulation training program on Reduction of Symptoms in Students with Oppositional Defiant Disorder. Although the present study was performed on a population of the students of a single district of Tehran and the small number of the groups limited the ability to detect the quantitative differences in the outcome, some encouraging trend in the data were observed. This study demonstrated that emotion regulation training are effective on Reduction of Symptoms in Students with Oppositional Defiant Disorder. Therefore, the findings achieved in this research are in line with those conducted by Drabick (2012), Whelan (2013), Stringaris (2009) and Cornett (2012). In the explaining the impact of the emotion regulation training on decreasing of the oppositional defiant disorder, first we must consider some of the features of the disorder. ODD is a unidimensional construct (i.e., sub-typing is not supported by our data), then ODD is better conceptualized as a disorder of emotion regulation, rather than as a behavior disorder. On the other hand, Emotional regulation skills are very important to learn, because as mentioned earlier, many student with ODD use irritable, touchy, angry behaviors for emotional dysregulation.

In analyzing the individual questions related to the oppositional defiant disorder in the posttest of the experiment and control groups in the inventory filled by the teachers the emotion regulation training has significant effect on decreasing the struggling, disobeying, annoying deliberately, anger, irritability, violence and bitterness.

Though the present research had the necessary control over, the present research faced with some limits, including time constraint, which led to the limitations in the number of the sessions. Another limit was the absence of the parents of the students during the training courses and also inconsistency between the author's interference and the teacher's. Therefore, it is a recommended that the teachers and parents be instructed about the necessary

Table 1.

The pretest and posttest statistical description of the scores of the "oppositional defiant disorders" in the two groups

Groups	Stages	Mean	Standard deviation
Experiment	pretest	17.33	6.30
	posttest	10.00	2.58
Control	pretest	17.00	4.50
	posttest	18.00	3.27

Table 2.

The results of covariance analysis of the scores of the oppositional defiant symptoms in two groups

The source of the changes	SS	DF	MS	F	P	The impact Measure
Pretest	23.05	1	23.05	2.52	0.001	0.104
Groups (Independent)	218.18	1	218.18	39.01	0.001	0.612
Error Variance	149.38	47	7.01			
Total	6908	50				

requirements and establishing the warm relation with students. It also necessary for the parents and teachers to participate in the training courses and interference. We also need to conduct more researches on this subject and increase the number of the samples. This research needs to be conducted on other types of behavioral disorders and in various ages.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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