

The Effect of Psychoeducation on the Anger Management of Adolescents Diagnosed with Conduct Disorder

Gulcin Uzunoglu¹ /
Leyla Baysan Arabaci²

¹Manisa Mental Health and Psychiatry Hospital,
Department of Child and Adolescent Psychiatry,
Manisa - Turkey

²Izmir Katip Celebi University, Faculty of Health Sciences,
Department of Nursing, Department of Mental Health and
Psychiatric Nursing, Izmir - Turkey

ABSTRACT

The effect of psychoeducation on the anger management of adolescents diagnosed with conduct disorder

Objective: This study was conducted to analyze the effect of psychoeducation given to adolescents diagnosed with conduct disorder who were receiving treatment at a regional mental hospital for their anger management.

Method: A "Quasi-experimental design with pre-test-post-test control group" model was used for this research. In the first phase of the study, the "State-Trait Anger Expression Inventory" was administered to 34 adolescents aged between 12-18 diagnosed with conduct disorder who were being treated as inpatients at a children and adolescent psychiatry department of a regional mental hospital. In the second phase, 16 adolescents diagnosed with anger management problems according to the same scale were divided into two equal groups: an intervention group and a control group. Eight adolescents from the intervention group who accepted to take part in the research were included in a 6-session Anger Management Education Program, which was prepared by a researcher and scheduled once a week. During this period, the 8 adolescents in the control group only received medical treatment; no other form of intervention was applied. After completing the psychoeducation program, the "State-Trait Anger Expression Inventory" was administered again as a post-test to individuals in both the intervention and the control group. Frequency-percentage distribution was used for the assessment of the research data and the t-test was used for paired comparison.

Results: Our study found that post-education test score means for all the scales (State-Trait Anger, Anger-In, Anger-Out, Anger control) were significantly different from pre-test score means in the intervention group. In the control group however, the State-Trait Anger scale score means were different from pre-test following education, but it was detected that anger sub scale score means were not different from pre-test.

Conclusion: It is thought that the application of an Anger Management Education Program to adolescents with conduct disorder has positive effects on the adolescents' state-trait anger. Positive changes in the anger scores of the adolescents in the control group are thought to be a result of the drug treatment applied.

Keywords: Adolescent, anger management, psycho-education, psychiatric nursing

ÖZET

Davranım bozukluğu tanılı ergenlere verilen psikoeğitimin öfke yönetimine etkisi

Amaç: Bu çalışma, bir bölge psikiyatri hastanesinde tedavi gören davranım bozukluğu tanılı ergenlere uygulanan psikoeğitimin öfke yönetimine etkisini incelemek amacıyla yapılmıştır.

Yöntem: Araştırma, "ön-test, son-test, kontrol gruplu, yarı deneysel desende" yapılmıştır. Araştırmanın ilk aşamasında bir bölge psikiyatri hastanesinin çocuk ve ergen psikiyatri yataklı birimlerinde yatışı yapılarak tedavi olan davranım bozukluğu tanılı 12-18 yaş arası 34 ergene "Sürekli Öfke - Öfke Taz Ölçeği" uygulanmıştır. İkinci aşamada ise, ölçeğe göre öfke kontrol problemi olan 16 ergenden (8 uygulama-8 kontrol grubu) uygulama grubundaki 8'ine, haftada bir kez olmak üzere araştırmacı tarafından hazırlanan 6 oturumluk psikoeğitim (Öfke Yönetimi Eğitim Programı) uygulanmıştır. Bu süreçte kontrol grubundaki 8 ergene ilaç tedavisi dışında herhangi bir müdahale yapılmamıştır. Eğitim programından sonra, uygulama ve kontrol grubundaki bireylere "Sürekli Öfke - Öfke Taz Ölçeği" son test olarak tekrar uygulanmıştır. Araştırma verilerinin değerlendirilmesinde sayı-yüzde dağılımı ve ikili karşılaştırmalar için t-testi kullanılmıştır.

Bulgular: Araştırma sonucunda; Öfke Yönetimi Eğitim Programı ile uygulama grubunda, eğitim sonrası tüm ölçek (Sürekli Öfke, Öfke İçte, Öfke Dışta, Kontrol Altına Alınmış Öfke) puan ortalamalarının öncesine göre anlamlı ölçüde değiştiği tespit edilmiştir. Kontrol grubunda ise, eğitim sonrası Sürekli Öfke ölçek puan ortalamaları öncesine göre farklılık gösterirken; Öfke Taz alt ölçek puan ortalamalarının eğitim öncesine göre değişmediği belirlenmiştir.

Sonuç: Davranım bozukluğu tanılı ergenlere uygulanan psikoeğitim (Öfke Yönetimi Eğitim Programı) ergenlerin Sürekli Öfke ve Öfke İfade Tazları üzerine olumlu yönde etkili olmuştur. Bunun yanı sıra, kontrol grubunda yer alan ergenlerin sadece Sürekli Öfke puanlarında görülen olumlu yöndeki değişimin, uygulanan ilaç tedavisinin bir sonucu olduğu düşünülmektedir.

Ahtar kelimeler: Ergen, öfke yönetimi, psikoeğitim, psikiyatri hemşiresi



How to cite this article: Uzunoglu G, Baysan-Arabaci L. The effect of psychoeducation on the anger management of adolescents diagnosed with conduct disorder. Dusunen Adam The Journal of Psychiatry and Neurological Sciences 2017;30:344-353. <https://doi.org/10.5350/DAJPN2017300409>

Address reprint requests to / Yazışma adresi:
Gulcin Uzunoglu,
Manisa Mental Health and Psychiatry Hospital,
Department of Child and Adolescent
Psychiatry, Sehitler Mh. 814 Sk. No: 28
Merkez/Manisa, Turkey

Phone / Telefon: +90-236-246-4524

Email address / Elektronik posta adresi:
gulcin.boluk_09@hotmail.com

Date of receipt / Geliş tarihi:
April 30, 2017 / 30 Nisan 2017

Date of the first revision letter /
İlk düzeltme öneri tarihi:
May 31, 2017 / 31 Mayıs 2017

Date of acceptance / Kabul tarihi:
August 7, 2017 / 7 Ağustos 2017

INTRODUCTION

Adolescence, being one of the most dynamic stages of the human life cycle, is a period of development when, alongside changes taking place in the physical and hormonal states during transition from childhood into adulthood, one sees a surge and intensification of negative feelings such as anger, guilt, and depression (1,2). Behavior such as a repeated and consistent attack on the basic rights of others and violation of social rules appropriate for the person's age, which is frequently witnessed in children and adolescents in many countries, is referred to as conduct disorder (3). There is a widespread belief that adolescents today are experiencing more emotional difficulties and problematic behavior (4). In a meta-analysis conducted on epidemiological studies, it was found that the prevalence of conduct problems among children aged 6-18 throughout the world is 3.2% (5).

The feeling of anger becomes prevalent particularly during puberty; it is a natural feeling experienced by almost all adolescents in the face of undesired or unexpected behavior (6,7). However, in adolescents who are diagnosed with conduct disorder, when the feeling of anger leads to aggressive and destructive form of behavior and these are not controlled by appropriate interventions, then feelings of depression, suicidal tendency, substance abuse, rage, aggression, violence, and criminal behavior may emerge. Anger is generally a controllable or manageable situation when treated with behavioral or other psychosocial interventions (8-9).

It is generally accepted that situations such as behavior disorders including anger and aggression as well as criminal behavior reach their peak during adolescence. Adolescents in Turkey in particular are under a greater risk due to issues such as financial problems, urbanization, migration, unequal income distribution, inability to take advantage of educational services, gender inequality, child labor, and the absence of comprehensive social policies and thus form a group that is in particular need of support (10). Consequently, it can be said that the period of adolescence is an optimal time for the

application of interventions aimed at minimizing anger and aggression (11).

Generally speaking, aggressive behaviors are susceptible to change through systematic interventions. In this sense, the idea that early stage modes of anger that occur in childhood and adolescence transform into identity features is not entirely true. When effective intervention is administered, there is evidence that adolescents at risk will not only learn alternative ways of dealing with anger other than aggression and violence, but they may also go on to lead productive lives (12). Psychiatry nurses play a very important role in providing this psychoeducational intervention. "Anger Control Assistance" is among the 40 interventions administered by expert psychiatric nurses according to the Nursing Intervention Criteria (NIC). Nurses hold a responsibility for dealing with the feeling of anger and the resulting problematic behavior. However, it has been noted in the modern nursing literature that nurses have insufficient information on the principles and elements of anger control (13). Based on this information, our study aims to examine adolescents diagnosed with conduct disorder who are being treated at a regional psychiatric hospital with the provision of psychoeducation and to research how this education is affecting their anger management. It is believed that the finding of this work will fill a gap in the relevant literature.

METHOD

This research is a quasi-experimental study with pre-test and post-test control, conducted for the purpose of examining the effects of an educational program for the anger management of adolescents diagnosed with conduct disorder. In this study, the effect of the psychoeducation program on the State Anger-Trait Anger Scale, anger in, anger out, and anger control subscale score means of adolescents was examined.

The population of the study consisted of 34 adolescents aged 12-18 who received treatment at a regional psychiatric hospital's children and adolescent psychiatry inpatient unit between January and

December 2015 for the treatment of conduct disorder. Following a clinical interview, the diagnosis of conduct disorder was given by the regional psychiatric hospital's child and adolescent psychiatrists with the diagnostic criteria for "Conduct disorder and not otherwise specified (NOS) disorder" according to DSM-IV-TR (APA 2000). Among the adolescents and children whose diagnoses were established by these clinical interviews, those who held suicidal or homicidal thoughts and children and youths with a history of running away from home, substance use, or non-compliance with medication were admitted as inpatients.

All of the adolescents were administered an introductory information form and the State-Trait Anger Scale as a pre-test in order to determine their levels of anger and their modes of anger expression. A total of 16 volunteer adolescents (8 intervention and 8 control) whose trait anger, anger in, and anger out were above average, while their anger control levels were below average, formed the sample of the study.

Adolescents in the sample group of the study were distributed so as to match the trait anger, anger in, anger out, anger control levels, as well as sociodemographic variables such as age, gender and location of residence between the control group and the intervention group. The pre-test score means of the scale and subscales for the intervention and control groups were as follows: Trait anger mean score 31.37 ± 4.51 in the intervention group and 30.12 ± 3.52 in the control group; Anger control mean score 19.75 ± 4.55 in the intervention group and 20.00 ± 7.92 in the control group; Anger out mean score 19.62 ± 3.11 in the intervention group and 20.12 ± 6.73 in the control group; Anger in mean score 20.25 ± 5.65 in the intervention group and 18.37 ± 3.50 in the control group.

Measures

Introductory Information Form: The form, prepared by the researcher upon examining related literature, includes 27 open and closed-ended questions which aim to determine the sociodemographic characteristics of the adolescents.

The State-Trait Anger Scale: The 34-item State-Trait Anger Scale, which was developed by Spielberger, et al. (14) consists of two sublevels: "Trait Anger" and "State Anger." The Trait Anger sublevel includes the first 10 items on the scale. The state anger sublevel comprises a total of 24 items, which are divided into three sections that contain eight items each. Anger in is represented in items 13, 15, 16, 20, 23, 26, 27 and 31, while anger out is covered in 12, 17, 19, 22, 24, 29, 32 and 33. Anger control, on the other hand, is assessed by items 11, 14, 18, 21, 25, 28, 30 and 34. High scores in the sublevel of anger out indicate a high level of anger; high scores in the sublevel of anger control indicate that anger can be controlled; high scores in anger out indicate that anger can easily be expressed, and a high score in anger in indicates that anger has been suppressed (14).

The validity and reliability of the scale have been confirmed by Ozer (15). The Cronbach Alpha values during the reliability validity assessment were found to be 0.79 for the anger trait level; 0.84 for anger control; 0.78 for anger out and 0.62 for anger in. The Cronbach Alpha values for this sample group were 0.59, 0.63, 0.24, and 0.70, respectively, in the intervention group and 0.58, 0.89, 0.83, and 0.28, respectively, in the control group.

Application

For the purposes of the first phase of this study, 34 adolescents aged 12-18 receiving treatment at a regional psychiatric hospital's children and adolescent psychiatry inpatient unit between January and December 2015 with a diagnosis of conduct disorder were administered the State-Trait Anger Type Scale as well as an introductory information form in order to determine their levels of anger as well as their anger expression types. According to the anger scale, 16 adolescents (8 intervention and 8 control) with a trait anger score of above 25.00 and who agreed to participate in the psychoeducational program were included in the study.

In the second stage, 16 adolescents who were selected based on the data obtained from the first stage were randomly divided between two groups, of

“intervention” and “control”. For the entire duration of the study, the adolescents in both groups continued to adhere to the medication suggested by the doctors. Atypical antipsychotics (aripiprazole), mood enhancers (valproic acid), and antidepressant drugs (sertraline) were administered as part of the treatment. Care was taken to ensure that these three drug groups were never used together in members of either the intervention or the the control group and that there was an equal number of patients using double agents and that there were no patients with additional diagnoses. Subsequently, only the eight adolescents who had been assigned to the intervention group participated in the six sessions. Anger Management Education Program which was prepared by the researcher. This intervention program, which comprised 60-minute sessions and took place once a week on average, was completed over the course of six weeks. During this time, there was no intervention administered to the eight adolescents in the control group who participated in the study. After completion of the program (after the six weeks), the State-Trait Anger Scale was again administered to both groups for the last time. For ethical reasons, after the completion of the study the adolescents in the control group, too, were administered the Anger Management Education Program.

The Anger Management Education Program

The content of the education program, which aims to develop the anger management skills of adolescents, was prepared by the author, modeled on sources dealing with feelings and anger, in particular theses and research on anger (16-19). The sessions of the psychoeducation program for the development of anger management were as follows:

1. session: The group rules were determined, the feeling of anger was defined, factors that lead to anger were determined, and using an ice-breaking activity, the basic feelings underlying anger were discovered.

2. session: Adolescents were made to notice the changes that occur in their bodies when they get angry, anger expression styles were defined and an introduction to anger management was given.

3. session: Following an activity on “you language” and “I language,” theoretical information was given followed by the reading of a story which featured empathy as a main theme. Then, the importance of using empathy in effective communication was highlighted.

4. session: The A-B-Cs of anger were explained using examples with feelings, thoughts, and reactions to events being evaluated, demonstrating that reactions could change when thoughts underwent change.

5. session: The “problem solving skills” in anger management were explained and applications in line with what was explained were put into effect.

6. session: The use of humor in anger management, breathing exercises and imagination methods in anger management were practiced and a test was administered at the end of the Anger Management Education Program following a feedback evaluation. Then the adolescent group was then dismissed.

Data Analysis

The data of the research was evaluated by a biostatistics expert using the SPSS for Windows 22.0 package. In line with the goals of the study, a t-test analysis was conducted for the comparison between two groups in order to determine the significance of the difference in results between the intervention group and the control group. The results were evaluated at a 95% confidence interval and a $p < 0.05$ significance level.

RESULTS

The mean age of the adolescents in the intervention group was 16.50 ± 0.53 , with half the group being male and the other half female. While 50% of the adolescents lived with their nuclear family, it was noted that 12.5% lived with their extended family, 37.5% in a foster home; 75% were not continuing with their education and half of the participants had received some form of disciplinary punishment. While 75% of the adolescents generally harbored anger towards members of their family, 87.5% had

experienced anger for some reason while they were receiving treatment at the clinic. Of the participants, 50% noted that the first reaction they have when dealing with their anger is that of hurting others.

The mean age of the participants in the control group was 15.50±1.19 with half being male and the other half female. While 37.5% of the adolescents lived with their nuclear family, 37.5% lived in a foster home, 25% in a broken family and that 75% were not continuing with their schooling and the half had received a form of disciplinary punishment; 75% of the adolescents generally held anger towards members of their family and all of the participants had experienced anger for some reason while they were receiving treatment at the clinic. Of the control group members, 37.5% noted that the first reaction they have when dealing with their anger is crying.

While the Trait Anger pre-test score of adolescents who took part in the Anger Management Education Program was 31.87±4.52, this value changed to 25.75±3.61 after they participated in the psychoeducation program for anger management. The adolescents in the control group had a Trait Anger pre-test score of 30.12±3.52 and 27.12±3.98 in their final test evaluations. According to this finding, there is a decrease in the trait anger scores in both the intervention group and the control group; however, the decrease in the intervention group is greater than that of the control group (Table 1).

The anger control pre-test score of the adolescents in the intervention group was 19.75±4.56, changing to

26.50±3.42 after participation in the psychoeducation program on anger control. As for the adolescents in the control group, their anger control pre-test mean score was 20.00±7.93 and 20.62±4.21 following the post-test evaluation. This finding demonstrates that there is a rise in the anger control score means of adolescents in the intervention group who participated in the study (Table 1).

While the anger out pre-test mean score of the intervention group was 19.62±3.11, this changed to 15.00±1.85 following the psychoeducation program for the treatment of anger management. The adolescents in the control group who did not participate in any psychoeducation program on anger management had an anger out pre-test score of 20.12±6.7 and at the post-test evaluation 19.00±3.85. According to this finding, there was a decrease in the mean anger out score of adolescents who took part in the psychoeducation program (Table 1).

Adolescents in the intervention group had an anger in mean score of 20.25±5.65 while this figure changed to 15.87±3.04 following participation in the psychoeducation program. The anger in mean score of adolescents in the control group was 18.37±3.50 pre-test and 18.25±2.91 post-test. In other words, the anger in score mean of adolescents who participate in the educational program underwent a decline (Table 1).

Table 1 examines whether there is a difference in the Trait anger -State Anger and subscale score means of the adolescents in the intervention and control

Table 1: Difference in the State-Trait Anger Scale (STAS) subscale scores means of adolescents in the intervention and control groups prior to and following education

	STAS subscales	n	Intervention Group		Control Group		t	p
			Mean	SD	Mean	SD		
Prior To Education (Pre-Test)	Trait Anger	8	31.87	4.52	30.12	3.52	0.864	0.402
	Anger In	8	20.25	5.65	18.37	3.50	0.798	0.438
	Anger Out	8	19.62	3.11	20.12	6.73	-0.191	0.853
	Anger Control	8	19.75	4.56	20.00	7.93	-0.077	0.939
Post Education (Post-Test)	Trait Anger	8	25.75	3.61	27.12	3.98	-0.723	0.481
	Anger In	8	15.87	3.04	18.25	2.91	-1.594	0.133
	Anger Out	8	15.00	1.85	19.00	3.85	-2.646	0.008**
	Anger Control	8	26.50	3.42	20.62	4.21	3.064	0.019*

*p<0.05, **p<0.01, STAS: The State-Trait Anger Scale, SD: Standard deviation

Table 2: Difference in the State-Trait Anger Scale (STAS) subscale scores means of adolescents in the intervention and control groups prior to and following education

STAS subscales	Pre-Education		Post-Education		t	p	
	Mean	SD	Mean	SD			
Intervention Group	Trait Anger	31.87	4.52	25.75	3.61	8.53	<0.001
	Anger In	20.25	5.65	15.87	3.04	4.16	0.004*
	Anger Out	19.62	3.11	15.00	1.85	7.40	<0.001
	Anger Control	19.75	4.56	26.50	3.42	-8.47	0.001
Control Group	Trait Anger	30.12	3.52	27.12	3.98	3.64	0.008*
	Anger In	18.37	3.50	18.25	2.91	0.26	0.802
	Anger Out	20.12	6.73	19.00	3.85	0.93	0.380
	Anger Control	20.00	7.93	20.62	4.21	-0.41	0.692

*p<0.01, STAS: The State-Trait Anger Scale, SD: Standard deviation

groups before and after participation in the educational program. According to the table, there was no difference found in the Trait anger -State Anger and subscale score means of the adolescents in the intervention and control groups before participation in the educational program ($t_{TA}=0.86$, $p>0.05$; $t_{AI}=0.798$, $p>0.05$; $t_{AO}=0.19$, $p>0.05$; $t_{CA}=0.07$, $p>0.05$). While there was no difference found between the intervention and control group in terms of the Trait Anger -State Anger and sub scale score means ($t_{TA}=0.72$, $p>0.05$; $t_{AI}=1.59$, $p>0.05$), there was a statistically significant difference found in the Anger out and anger control sub scale score means ($t_{AO}=2.64$, $p<0.05$; $t_{CA}=3.06$, $p<0.05$). According to this finding, the educational program held with the intervention group was effective on the mean scores of anger out and and anger control.

Table 2 examines whether there is a difference in the Trait anger -State Anger Scale and sub scale score means of the adolescents in the intervention and control groups before and after participation in the educational program. Despite $n<30$, the data showed a normal distribution and the t-test was applied. According to the table, there was a quite a statistically significant difference found between the Trait Anger -State Anger Scale and sub scale score means in the intervention group ($t_{TA}=8.53$, $p<0.01$; $t_{AI}=4.16$, $p<0.01$; $t_{AO}=7.40$, $p<0.01$; $t_{CA}=8.47$, $p<0.01$) while the control group only demonstrated a statistically significant difference in the Trait Anger score mean ($t_{TA}=3.64$, $p<0.01$) and no statistically significant difference was

found between the Anger State Scale subscale mean ($t_{AI}=0.26$, $p>0.05$; $t_{AO}=0.93$, $p>0.05$; $t_{CA}=0.41$, $p>0.05$). According to this finding, the Anger Management Education Program (psychoeducation) had a positive effect on the trait anger and state anger of adolescents, causing a decline in their trait anger, anger in, anger out scores, while increasing their anger control scores.

DISCUSSION

In this study, which was conducted in order to examine the effects of the Anger Management Education Program on adolescents diagnosed with conduct disorder, the mean scores (trait anger, anger in, anger out, anger control) of the intervention and control groups who were administered the "State-Trait Anger Anger Expression Inventory" as a pre-test and post-test and according to the findings from the results of the post-test administered at the end of the Anger Management Education Program, there was a significant difference in favor of the intervention group based on their trait anger score in their pre and post-tests ($p<0.05$). In this case, the Anger Management Education program administered to the intervention group was effective for trait anger in adolescents. Furthermore, the trait anger of adolescents in the intervention group saw a decline and it is believed that this is caused by continued medical treatment; the improvement seen following medical treatment is effective in a continuous decrease in the trait anger of the adolescents in the control group. At the end of the

Anger Management Education Program, when the pre-test and post-test scores of the intervention and control group were compared, there was a considerable decrease in the anger in and anger out subscale scores and a considerable increase in their anger control scale scores. Accordingly, it is thought that the Anger Management Education Program administered to adolescents diagnosed with conduct disorder is effective in equipping them with anger management skills.

In a meta-analysis conducted by Sukhodolsky et al. (20), which examines the effects of cognitive behavior therapy on anger management in children and adolescents, it was found that cognitive behavioral therapy is more effective for anger problems of children in an older age group (15-17 as compared to 7-10). In line with the findings from the literature, the adolescents who participated in our study were in the most suitable age range in terms of controlling their anger in the face of conflict and difficulties as well as learning and applying intervention. A large portion of the adolescents in the control and intervention group were still in school. Education and learning to play an important role in demonstrating behavior that is in line with the social expectations of individuals and undergoing desired behavioral changes as desired by societal order. Education, which is an important tool in the socialization of the individual, plays a key role in the formation of relationship and behavioral styles (21). According to the research data of this study, a majority of the adolescents in both the control and intervention groups who have been diagnosed with conduct disorder and who have anger management problems continue to be in school. It is held that not continuing school and thus not receiving adequate education lead to a lack of development of behavior that is suitable for social expectations. Most of the adolescents in both the control and intervention group were noted to have anger towards their family members and had difficulty in adapting to the service rules throughout the duration of their treatment at the clinic. Anger and anger-related problems are frequently reported in psychiatric departments. Anger

management behavior must be taught to adolescents in psychiatry units by nurses to ensure that adolescents are effectively managing their anger, and psychiatry nurses should evaluate teenage patients comprehensively, taking into consideration their school, family, and peer groups in light of their social, emotional, and physical behavior (22). In the light of this information, suggestions were taken from the intervention group regarding rules of the service they would like to see revised during the period of psychoeducation, then sharing these suggestions with the treatment team. Furthermore, all of the staff was informed about the necessity and importance of the application of the Anger Management Education Program on adolescents who had been diagnosed with conduct disorder and were in-patients at the child adolescent psychiatry clinic.

According to the results of this research, it can be said that the applied education program decreased the trait anger, anger in, and anger out behavior of adolescents while developing their anger control behaviors. Furthermore, it is noted in the literature that other psychoeducation programs which feature different methods utilized in anger management have, similar to the findings of our study, have been effective in developing anger management skills. For example: a study conducted by Deffenbacher et al. (23), including two treatment groups and one control group of grade 6 and grade 8 students, one of the treatment groups was administered the Cognitive Relaxation Program while the other was administered the Social Skills Program. The control group did not receive any kind of program treatment. At the end of the study it was determined that there was a decrease in the outward-negative anger symptoms in the treatment group, while there was an increase in anger control and the healthy expression of anger (23). In the study of Oz and Aysan (24), which examines the effects of anger management education on dealing with anger and communication skills in adolescents, there was a significant decrease seen in the trait anger, anger in and anger out following anger management education and a statistically meaningful increase in their anger control and their healthy expression of anger. In a

study conducted by Bulut et al. (19), it was aimed to determine the effect of an anger management program with a group on their anger management skills, it was determined that there was a statistically significant decrease in the trait anger, anger in, anger out and anger control levels in the treatment group, while there was a significant increase in their anger control levels. In a study conducted by Snyder and Kymissis (25), assessing the effectiveness of short group therapy on the anger management of adolescents, there was a significant increase noted in the anger coping skills of adolescents prior to and following treatment. In another study by Feindler et al. (26), which is conducted with middle school adolescents who had committed crimes, which aimed to assess the effects of group anger management, a positive change was noted in the problem-solving skills and control skills of adolescents. When all of this information is evaluated as whole, we see that the application of a psychoeducation program has a positive effect on anger management; in other words, adolescents in the intervention group gain the skills of better understanding the feeling of anger, expressing anger through suitable methods, which is reflected in the mean of the post-test scale scores. In light of this information, it can be said that the unsystematic and untidy environment in the mental health field in Turkey in general and in the study of anger management in particular needs to be eliminated and an increased emphasis needs to be placed on the notions of “anger” and “preventing violence” in the educational syllabi of nursing (27).

Between the months of January and December, during which the implementation of the study was envisaged, doctors resigned between July-September, 2015 and new doctors were not assigned to the clinic. Therefore, the regional psychiatry hospital for children and adolescents where the study took place remained closed. In the following three months, only one children and adolescent psychiatrist served at the clinic, which led to a reduction of the number of children and adolescent inpatients below the level envisaged for the study. Consequently, during the months of January and December, during which the

study was carried out, only 34 adolescents diagnosed with conduct disorder were admitted as inpatients to the clinic, and of these, only 16 (8 control and 8 intervention) met the criteria for inclusion in the study. Hence, the number of intervention and control group members that was initially envisaged (16 control and 16 intervention) was not met, which is a limitation of the study.

Because the study was conducted on a total of 16 adolescents (8 control and 8 intervention) in a “pre-test post-test control group quasi-experimental design,” the results can only be generalized for the group that was studied.

Consequently, in this study in which adolescents diagnosed with conduct disorder were treated with the Anger Management Education Program, adolescents were informed emphasizing the following in light of its findings: “What is important is not becoming angry or suppressing anger by not expressing it, but rather expressing the feeling of anger through methods that are appropriate, non-damaging, and free from violence and aggression.” The Anger Management Education Program, which was prepared in light of research and available literature on the topic, was effective in equipping adolescents diagnosed with conduct disorder with anger management skills, demonstrating that it is a program that is practicable. Adolescents who were in the intervention group participating in the psychoeducation program gained a better understanding of anger before gaining the skills to better express their anger through acceptable means.

In light of the findings of this study, it is believed that a consistent and organized application of this program and similar programs by experts and skilled specialized psychiatrists in schools, dormitories, foster homes, child and adolescent clinics offering inpatient treatment, will be effective in decreasing the conduct problems, as well as other problems linked to adolescence. Furthermore, in light of this study aimed to provide anger management skills, it can be suggested to organize psychoeducation programs for larger sample groups of adolescents diagnosed with conduct disorder pertaining to other feelings and

behaviors (anxiety, aggression, stress etc.) and to assess the efficiency of these programs.

Conflict of Interest: Authors declared no conflict of interest.

Financial Disclosure: Authors declared no financial support.

Contributions category	Authors name
Development of study idea	G.U., L.B.A.
Methodological design of the study	G.U., L.B.A.
Data acquisition and process	G.U.
Data analysis and interpretation	G.U., L.B.A.
Literature review	G.U.
Manuscript writing	G.U., L.B.A.
Manuscript review and revision	G.U., L.B.A.

REFERENCES

- Green M, Palfrey JS, eds. 2002. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents (2nd ed., rev.). Arlington, VA: National Center for Education in Maternal and Child Health. <https://www.brightfutures.org/bf2/pdf>. Accessed March 15, 2016.
- Boyacioglu EN, Kucuk L. How do irrational beliefs affect test anxiety during adolescence? *Journal of Psychiatric Nursing* 2011; 2:40-45. (Turkish)
- Ozden A, Erman O, Erman H, Canat S, Ortaer N, Ergun U, Devrimci H. A comparative study between conduct disorder patients from two centers in Turkey and the USA. *Turkish Journal of Child and Adolescent Mental Health* 1995; 2:125-130.
- Collishaw S, Maughan B, Goodman R, Pickles A. Time trends in adolescent mental health. *J Child Psychol Psychiatry* 2004; 45:1350-1362. [CrossRef]
- Frick PJ. Current research on conduct disorder in children and adolescents. *S Afr J Psychol* 2016; 46:160-174. [CrossRef]
- Siyez DM, Tuna DT. Effect of solution focused programme on adolescents' anger control and communication skills. *Turkish Psychological Counseling and Guidance Journal* 2014; 5:11-22.
- Tafate RC, Kassonov H, Dundin L. Anger episodes in high- and low-trait-anger community adults. *J Clin Psychol* 2002; 58:1573-1590. [CrossRef]
- Singh NN, Lancioni GE, Singh-Joy SD, Winton ASW, Sabaawi M, Wahler RG, Singh J. Adolescents with conduct disorder can be mindful of their aggressive behavior. *J Emot Behav Disord* 2007; 15:56-63. [CrossRef]
- Tasci-Eser D, Ustun B. Examining the mode of anger expression in adolescents with psychiatric disorders and their parents. *Journal of Psychiatric Nursing* 2011; 2:111-116.
- Bozkurt S, Cam O. Investigation of the relationship between anger components and mental symptoms in working adolescents. *Arch Neuropsychiatry* 2010; 47:105-110. (Turkish)
- Herrmann DS, McWhirter JJ. Anger and aggression management in young adolescents: an experimental validation of the scare program. *Educ Treat Children* 2003; 26:273-302.
- Nelson WM, Finch AJ, Ghee AC. Anger management with children and adolescents: In Kendal PC (editor). *Child and Adolescent Therapy Cognitive-Behavioral Procedures*, 2006, 114-159.
- Thomas SP. Teaching healthy anger management. *Perspect Psychiatr Care* 2001; 37:41-48. [CrossRef]
- Spielberger CD, Jacobs G, Russel FS, Crane RS. Assessment of anger: the state-trait anger scale. In: Butcher JN, Spielberger CD (ed.), *Advances in Personality Assessment*, vol. 2. Hillsdale, NJ/ABD: Lawrence Erlbaum and Associates; 1983: 159-160.
- Ozer AK. Anger and anger expression scales preliminary study. *Turkish Journal of Psychology* 1994; 9: 26-35.
- Dangel RF, Deschner JP, Rasp RR. Anger control training for adolescents in residential treatment. *Behav Modif* 1989; 13:447-458. [CrossRef]
- Gebes H. The effect of peer supported anger management training program on anger management skills of high school students. Unpublished master's thesis, Cukurova University Institute of Social Sciences, Adana, 2011. (Turkish)
- Canpolat M, Atici M. The Effect of Anger Control Program Secondary School Students' Anger Control. *Turkish Psychological Counseling and Guidance Journal* 2017; 7:87-98. (Turkish)
- Bulut-Serin N, Genc H. The effects of anger management education on the anger management skills of adolescents. *Education and Science* 2011; 36:236-254. (Turkish)

20. Sukhodolsky DG, Kassirer H, Gorman BS. Cognitive behavioural therapy for anger in children and adolescents: a meta-analysis. *Aggress Violent Behav* 2004; 9:247-269. **[CrossRef]**
21. Kizmaz Z. Educational level and crime: a sociological research on the relation between school and crime. *Firat University Journal of Social Science* 2004; 14:291-319. (Turkish)
22. Tasci-Eser D, Ustun B. Examining the Mode of Anger Expression in Adolescents with Psychiatric Disorders and their Parents. *Journal of Psychiatric Nursing* 2011; 2:111-116. (Turkish)
23. Deffenbacher JL, Lynch RS, Oetting ER, Kemper CC. Anger reduction in early adolescents. *J Couns Psychol* 1996; 43:149-157. **[CrossRef]**
24. Oz FS, Aysan F. The effect of anger management training on anger coping and communication skills of adolescents. *IOJES* 2011; 3:343-369.
25. Snyder KV, Kymissis P, Kessler K. Anger management for adolescents: efficacy of brief group therapy. *J Am Acad Child Adolesc Psychiatry* 1999; 38:1409-1416. **[CrossRef]**
26. Feindler EL, Marriott SA, Iwata MM. Group anger control training for junior high school delinquents. *Cognit Ther Res* 1984; 8:299-311. **[CrossRef]**
27. Adana F, Arslantas H. Anger in Adolescence, and School Nurse's Role in Management of Anger. *Meandros Medical and Dental Journal* 2011; 12:57-62.