IJBS
10.30491/IJBS.2024.450674.2104
International Journal of Behavioral Sciences
Original Paper

Evaluating an Emotion Regulation Program's Impact on Mood Symptoms and Coping Strategies in Depressed Adolescents during the COVID-19 Pandemic

Zahra Naghsh[1] (PhD), Sogand Ghasemzadeh[1] (PhD)

1. Department of Psychology, Faculty of Psychology and Education, University of Tehran, Tehran, Iran

Corresponding Author:
Sogand Ghasemzadeh,
Department of Psychology,
Faculty of Psychology and Education,
University of Tehran,
Tehran,
Iran
E-mail: s.ghasemzadeh@ut.ac.ir

Submitted: 26 September 2024
Accepted: 18 October 2024

Int J Behav Sci. 2024; 18(3): 133-140

Abstract

Introduction: Recent studies have demonstrated the psychological impact of the COVID-19 pandemic on mental health. This study aimed to evaluate the effectiveness of an emotion regulation training program based on an integrated transdiagnostic treatment approach on mood symptoms and strategies for coping with negative emotions in depressed adolescents during the COVID-19 quarantine period.

Method: This experimental trial study was conducted on 20 depressed adolescents in Tehran, Iran, in 2020. Patients were randomly assigned to two groups (experiment and a control group, each consisting of 10 individuals). The Emotion Regulation Checklist (ERC) and the Coping with Children's Negative Emotions Scale (CCNES) were used for this purpose. The experimental group received 19 online sessions, consisting of 16 sessions for adolescents and three sessions for parents. The emotion regulation training program, based on an integrated transdiagnostic treatment approach, was delivered in the form of 75-minute weekly sessions. Data analysis was performed using ANCOVA (R version 2.4), with a significance level of $P<0.05$.

Results: The two groups were similar in terms of demographic and baseline variables. After the intervention, significant changes were observed in problem-focused (1.55 vs. -0.02, $P<0.001$), emotion-focused (1.06 vs. -0.01, $P<0.001$), expressive encouragement (1.55 vs. -0.07, $P<0.001$), punitive (-1.56 vs. 0.00, $P<0.001$), minimization (-1.64 vs. -0.01, $P<0.001$), distress (-1.95 vs. 0.00, $P<0.001$), emotion regulation (0.62 vs. -0.01, $P<0.001$), and emotion negativity (-0.58 vs. -0.07, $P<0.001$) between the two groups.

Conclusion: The results of the current study indicate that an emotion regulation training program based on an integrated transdiagnostic treatment approach is an effective technique for reducing negative emotions and mood symptoms in depressed adolescents during the COVID-19 quarantine period.

Keywords: Emotion Regulation, Depression, COVID-19, Adolescence

Introduction

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, spread rapidly worldwide, infecting millions of people and causing widespread fear, anxiety, and uncertainty [1]. The rapid spread of the virus led to a global health crisis, with the World Health Organization (WHO) declaring it a pandemic in March 2020 [2].

This global health crisis created numerous problems, including widespread illness, death, economic disruption, and social distancing measures that disrupted daily life. The pandemic had a profound impact on mental health, particularly among adolescents [3, 4].

Recent studies have shown the effects of the psychological effects of COVID-19 pandemic

on psychological health such as anxiety, stress, depressive symptoms and even the symptoms of Post-Traumatic Stress Disorder (PTSD) [5, 6].

A study found that adolescents who experienced quarantine during the pandemic reported higher levels of stress, anxiety, and depression compared to those who did not experience quarantine. The impact of quarantine on adolescents' mental health has been further exacerbated by the lack of social support and connection. Adolescents who are isolated from their peers and family members may feel like they are missing out on important social experiences and milestones, leading to feelings of frustration, anger, and sadness. Furthermore, the uncertainty and unpredictability of the pandemic have created a sense of hopelessness and helplessness among adolescents, who may feel like they are powerless to control their circumstances [7, 8].

Several studies have employed cognitive-behavioral therapy to address mood symptoms and coping strategies in depressed adolescents during the pandemic. A study found that a Cognitive-Behavioral Therapy (CBT) and mindfulness-based interventions significantly reduced symptoms of depression and anxiety in adolescents with COVID-19-related stress [9].

Another study used a CBT-based program to improve emotional regulation and coping skills in adolescents with depression during the pandemic [10]. Another study used a mindfulness-based intervention to improve emotional regulation and coping skills in adolescents with depression during the pandemic [11].

There are two problem-solving and emotion-oriented coping strategies. In the problem-oriented strategy, the person tries to solve the problem and overcome the problem because one feels that the situation is controllable [12]. In contrast, in the emotion-oriented strategy, one tries to reduce or tries to control the emotional tension created by the situation [13].

Studies have shown that the use of effective coping strategies is one of the methods to control and treat depression [14]. Depressed people use emotion-oriented strategy more than problem-oriented strategy [15]. Transdiagnostic treatment is one of the new therapies that have been developed in recent years [16]. According to this therapeutic approach, people face their inappropriate emotional experiences and respond to their emotions in a more adaptive way.

This method tries to reduce the severity and occurrence of emotional habits by regulating them and reduce the amount of damage and increase function. In this approach, thoughts, behaviors, and emotions interact dynamically, and each has an impact on the emotional experience. Emotional regulation in this approach refers to the strategies that people use to occur, intensify and express a wide range of emotions [17, 18].

According to this approach, people with mood disorders often use maladaptive adjustment strategies that contribute to the persistence of their symptoms [19]. transdiagnostic therapy, based on emotion regulation, seeks to help adolescents with depressive disorder manage their maladaptive emotions and use problem-based strategy to regulate emotions.

Existing interventions for depressed adolescents often focus on reducing symptoms rather than addressing underlying emotional regulation difficulties. There is a need for innovative interventions that target emotion regulation skills, especially during the COVID-19 pandemic. Moreover, most studies have focused on adult populations, leaving a significant knowledge gap regarding the specific needs and challenges of depressed adolescents during this crisis. This study aims to fill this gap by evaluating a novel emotion regulation program that incorporates innovative strategies to improve mood symptoms and coping strategies in depressed adolescents. The goal is to develop an evidence-based program that can be used to support the mental health and well-being of adolescents during the pandemic and beyond.

Therefore, this study aimed to evaluate the effectiveness of emotion regulation training program based on integrated Transdiagnostic treatment approach on mood symptoms and strategies for coping with negative emotions in depressed adolescents during the COVID-19.

Method

An experimental study was carried out on depressed adolescents with one of their parents in Iran in 2020. The study consisted of three phases: pre-intervention, post-intervention, and follow-up, and was conducted on two groups: an experimental group and a control group.

The required sample size was estimated as 20 students (10 person in each group) based on Talebi et al.'s study (20), based on the formula ($n = \left(Z_{\frac{\alpha}{2}} + Z_{\beta}\right)^2 / (\text{effect size})^2$), where effect size=1.0 , with α=5%, 1-β=80%, n=17. Considering the dropout rate 20%, three samples were added to this number and finally this study was performed on 10 samples in each group.

The inclusion criteria for this study included: (i) diagnosed depressive disorder using Persian version of self-report Achenbach Youth Self-Report Scale (YSR)[21], (ii)-13≤Age ≤16, (iii) living with both parents, (iv) literacy and ability to work with the Internet , (v) willing to participate, (vi) not receiving psychological medication or treatment for at least one year before starting the study (vii) not having psychotic disorder and physical illness and (vii) having access to internet connection. Participant unwilling to participate, having more than two absences in intervention sessions and failure to complete the questionnaires by the participants were considered as the exclusion criteria. In general, 20 participants were firstly registered in this research and according to research criteria and limitations, the research was carried out with 20 patients (Figure 1)

In the present study, the following tools have been applied:

Emotion Regulation Checklist (ERC): The ERC was utilized for the assessment of emotional regulation ability. The ERC Scale has 24 questions (1 = rarely or never, 2 = Sometimes , 3 = Often, 4 = Almost Always). It contains two subscales: Emotion Regulation and Emotion

Lability/negativity, which provides evidence about different aspects (e.g., lability, flexibility, valence, intensity and management) of emotion regulation in children [22, 23] and has been used to examine the offspring at risk for mood disorders [24]. High scores indicate more emotional incondite. Validity and reliability of this test have been confirmed in previous studies in Iran [25].

The Coping with Children's Negative Emotions Scale (CCNES): The CCNES was utilized for the assessment of negative emotion. It has 12 questions (1 = very unlikely, 7 = very likely). The CCNES contains six subscales which include emotion focused, problem-focused, minimization, punitive, expressive encouragement, and distress responses. In this scale, parents are asked to identify how they would respond to each scenario [26, 27]. The validity and reliability of this test have been confirmed in previous studies in Iran [28].

In this study, patients were randomly assigned to two groups (experiment and control). The random assignments were prepared outside the study center and by statistician and using software Random Allocation Software. The patients were randomized in two experimental and control groups. The experimental group received 19 online sessions (16 sessions for adolescent and three sessions for parents). The emotion regulation training program was based on integrated transdiagnostic treatment session's therapy in the form of 75-minute weekly sessions. The control group received no treatment. After the end of the treatments, both groups were evaluated at the end of the treatment and one month after treatment. The description of the session's group has been presented in Table1.

The statistical analysis was carried out using R software version 2.4. Qualitative and quantitative variables were reported by frequency (percent) and mean (±SD), respectively. The distribution normality of quantitative variables was checked by the Kolmogorov Smirnov test. The between variable significance value by Mann–Whitney U test or T-test and for qualitative variable the Chi-square test were used. In this study for between P-value, The Analysis of Covariance (ANCOVA) was used. In addition, the within P-value was calculated by paired sample t-test or Wilcoxon test. The P-value less than 0.05 was considered as statistical significance.

Table1. Description of Sessions of Group Training

Title of session	Number of Sessions	Content of Session
Create and maintain motivation	1	Get to know the group of therapists and learn about the rules of online and offline meeting management and how to do group activities. Discuss key problems and set goals. Identify what has changed their motivation.
Familiarity with emotions and behaviors	3	Learning about their different emotions, the characteristics of troublesome and pleasurable emotions, and how the behavior cycle - the concept of negative mood.
Introducing emotion-based behavioral experiments	2	Learning about conflicting actions and emotion-focused behavioral experiments. How to monitor mood levels and their activities. The effect of small behavioral changes on mood and the need for behavioral activation.
Awareness of bodily emotions	1	Learning about the connection between physical feelings and intense emotions.
Having flexible thinking	3	Familiarity with the concept of flexible thinking, intellectual traps and its relationship with different types of effective and ineffective coping
Awareness of emotional experiences	2	Non-judgmental awareness of the moment regarding the experience of emotions and how to change and deal with difficult situations.
Facing exciting situations	2	Perform and practice more behavioral experiments using problem-solving techniques and emotional behaviors.
Browse achievements and look forward	2	Reviewing new skills acquired and progress towards therapeutic goals, designing specific protocols to prevent negative recurrence.
Parenting emotional teens	3	Awareness of parents about their responses to their child's confusion.

Results

This study was performed on 20 adolescents (13 (65%) boys) with one of their parents (12 (60%) mothers) with an age mean (±SD) of 14.55±0.99. In this study, the demographical distribution like gender (80% vs. 50%, P-value=0.350), parent (50% vs. 70%, P-value=0.650) and age (14.50±0.85 vs. 14.6±1.17, P-value=0.830), base line variables like problem-focused (3.64±0.77 vs. 3.43±1.10, P-value=0.627), emotion focused (3.58±0.78 vs. 3.58±0.80, P-value=0.993), expressive encouragement (3.81±0.82 vs. 3.79±0.84 , P-value=0.950), punitive (5.29±0.73 vs. 5.28±0.71, P-value=0.983), minimization (5.29±0.82 vs. 5.27±0.82 , P-value=0.983), distress (5.71±0.77 vs. 5.71±0.77 , P-value=0.999), emotion regulation (3.23±0.63 vs. 3.25±0.67, P-value=0.930), and emotion negativity (3.65±0.60 vs. 3.76±0.50, P-value=0.666) were the same according to the two groups. The mean and standard deviation of study variables

during time according to the two groups has been presented in Table 1. In addition, the difference between response during times and within and between P-value has been presented in Table 2. The result of this table showed that, children's negative emotions (emotion focused, problem-focused, minimization, punitive, expressive encouragement, and distress responses) and emotion regulation (emotion regulation and emotion negativity) significantly changed after treatment rather than baseline in treatment group compared to the control group. However, the difference between the follow up compared to the post time was not significant (Figure 2).

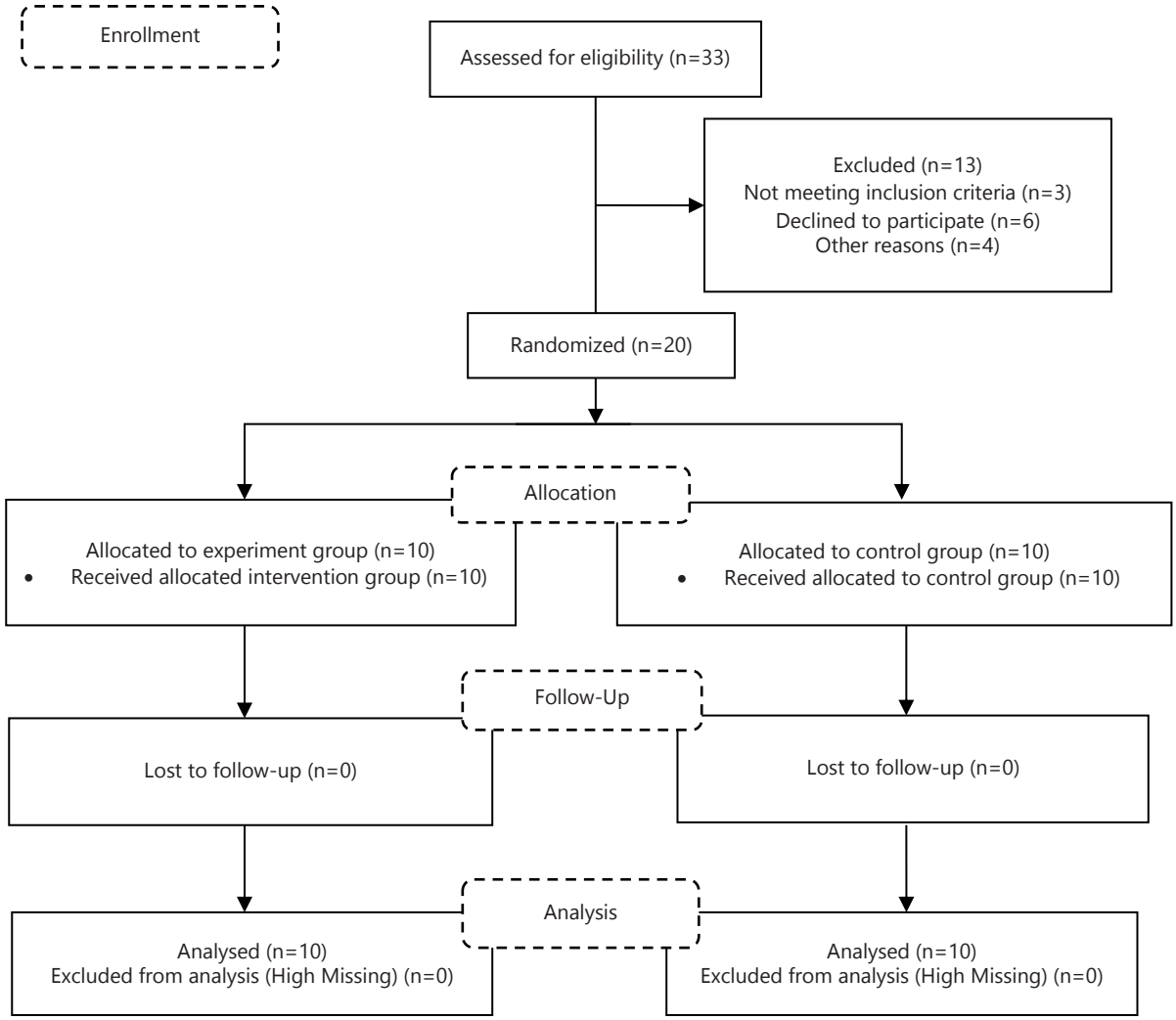

Figure 1. Consort follow diagram.

Table 2. The Mean±SD of Study Variables during Time According to Both Groups

Variables	Groups	Before Treatment		After Treatment		Follow-up	
		Mean	SD	Mean	SD	Mean	SD
Problem-Focused	Experiment	3.64	0.77	5.19	0.96	5.18	0.98
	Control	3.43	1.10	3.41	1.03	3.31	1.10
Emotion Focused	Experiment	3.58	0.78	4.64	1.07	4.62	1.06
	Control	3.58	0.80	3.57	0.81	3.57	0.80
Expressive Encouragement	Experiment	3.81	0.82	5.36	1.10	5.36	1.09
	Control	3.79	0.80	3.72	0.71	3.72	0.71
Punitive	Experiment	5.29	0.73	3.73	0.68	3.72	0.66
	Control	5.28	0.71	5.28	0.71	5.28	0.71
Minimization	Experiment	5.29	0.82	3.65	0.93	3.63	0.95
	Control	5.27	0.82	5.26	0.82	5.26	0.82
Distress	Experiment	5.71	0.77	3.76	0.87	3.76	0.86
	Control	5.71	0.77	5.71	0.77	5.71	0.76
Emotion Regulation	Experiment	3.23	0.63	3.85	0.48	3.86	0.49
	Control	3.25	0.67	3.24	0.65	3.23	0.65
Emotion Negativity	Experiment	3.65	0.60	3.07	0.59	2.99	0.61
	Control	3.76	0.50	3.69	0.50	3.77	0.51

SD: Standard Deviation

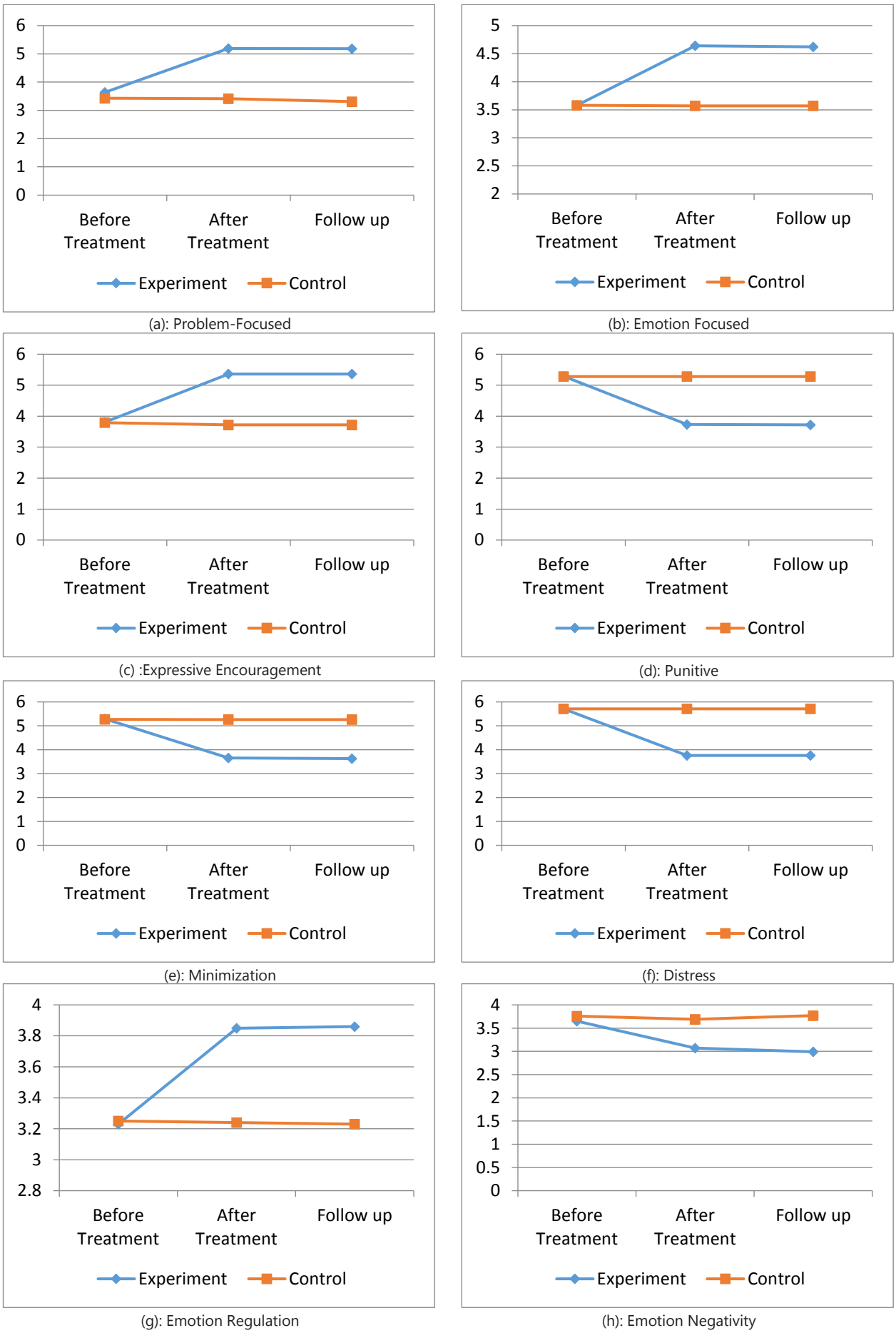

Figure 2. The trend of study response during times according to both groups.

Table 3. The Difference between Response during Times and within and between P-value

Variables	Groups	T1-T0			T2-T0			T2-T1		
		Diff	P		Diff	P		Diff	P	
			&	&&		&	&&		&	&&
Problem-Focused	Experiment	1.55	<0.001	<0.001	1.54	<0.001	<0.001	-0.01	0.546	0.734
	Control	-0.02	0.519		-0.12	0.261		-0.10	0.334	
Emotion Focused	Experiment	1.06	<0.001	<0.001	1.04	<0.001	<0.001	-0.02	0.190	0.493
	Control	-0.01	0.288		-0.01	0.302		0.001	0.798	
Expressive Encouragement	Experiment	1.55	<0.001	<0.001	1.55	<0.001	<0.001	0.001	0.576	0.766
	Control	-0.07	0.321		-0.07	0.329		0.001	0.343	
Punitive	Experiment	-1.56	<0.001	<0.001	-1.57	<0.001	<0.001	-0.01	0.427	0.05
	Control	0.00	0.907		0.00	0.610		0.001	0.223	
Minimization	Experiment	-1.64	<0.001	<0.001	-1.66	<0.001	<0.001	-0.02	0.116	0.998
	Control	-0.01	0.440		-0.01	0.656		0.001	0.619	
Distress	Experiment	-1.95	<0.001	<0.001	-1.95	<0.001	<0.001	0.001	0.950	0.455
	Control	0.00	0.876		0.00	0.999		0.001	0.726	
Emotion Regulation	Experiment	0.62	<0.001	<0.001	0.63	<0.001	<0.001	0.01	0.513	0.991
	Control	-0.01	0.641		-0.02	0.601		-0.01	0.937	
Emotion Negativity	Experiment	-0.58	<0.001	<0.001	-0.66	<0.001	<0.001	-0.08	0.006	0.083
	Control	-0.07	0.002		0.01	0.853		0.08	0.328	

T0: Before Treatment, T1: After Treatment, T2: Follow up time

&: Within P-value, &&: Between P-value based on ANCOVA model

Discussion

Integrated treatment protocol for people with emotional disorders, especially people with mood and anxiety disorders have been developed and are a cognitive-behavioral therapy focused on emotion [29], beside adolescents are a vulnerable population profoundly affected by mental health disorders such as anxiety and depression. This has been exacerbated by the COVID-19 pandemic, as they face new challenges with social isolation, abuse and decreased access to care [30, 31]. For this reason, this study aimed to evaluate the effectiveness of emotion regulation training program based on integrated trans-diagnostic treatment approach on mood symptoms and strategies for coping with negative emotions in depressed adolescents during the COVID-19 quarantine period.

The results of this study indicate that the treatment program had a significant impact on reducing negative emotions and improving emotion regulation in the treatment group compared to the control group.

At baseline, there were no significant differences between the two groups in terms of demographic variables, baseline variables, and study variables. However, after treatment, the results showed significant changes in the treatment group compared to the control group. Specifically, the treatment group showed significant reductions in negative emotions, including emotion-focused, problem-focused, minimization, punitive, expressive encouragement, and distress responses. Additionally, the treatment group demonstrated improved emotion regulation, including emotion regulation and emotion negativity.

These findings suggest that the treatment program was effective in reducing negative emotions and improving emotion regulation in adolescents with depressed parents. The results are consistent with previous studies that have shown the effectiveness of cognitive-behavioral therapy and mindfulness-based interventions in reducing symptoms of depression and anxiety in adolescents [9-11].

The lack of significant differences between the follow-up and post-treatment times suggests that the treatment effects were maintained over time. This is an important finding, as it suggests that the treatment program had a lasting impact on the emotional regulation and coping strategies of the adolescents.

The result of this study showed that, adolescents' negative emotions (emotion focused, problem-focused, minimization, punitive, expressive encouragement, and distress responses) and emotion regulation (emotion regulation and emotion negativity) significantly changed after treatment rather than baseline in the treatment group compared with the control group. However, the difference between the follow up and the post time was not significant. This identifies two points. The first is that the intervention has been effective and the second is that the intervention has sufficient durability, because the mean of response variables during follow-up did not show a significant change compared to the end of the study.

In this respect, the findings of this study were consistent with previous studies [32-35].

The results of this study can be explained by the fact that the integrated treatment protocol considers emotion regulation to be effective in creating and perpetuating emotional disorders such as anxiety and depression. Therefore, emotion regulation as a meta-diagnostic factor is involved in various types of emotional disorders such as depression and anxiety [36].

The previous study demonstrated that regardless of the intervention or disorder, both maladaptive emotion regulation strategy use and overall emotion dysregulation were found to significantly decrease after trans-diagnostic treatment. Such decreases were also found in symptoms of anxiety, depression, substance use, eating pathology and borderline personality disorder [37].

This study had several limitations, including a small sample size and limited geographic scope. Additionally, the study lacked control for extraneous variables, which may have influenced the results. Future studies should aim to address these limitations by increasing sample sizes, using more diverse and representative samples, and exploring the long-term effects of emotion regulation training programs. Furthermore, incorporating objective measures of emotion regulation and mental health outcomes, as well as investigating the effectiveness of such programs in different contexts and populations, would provide a more comprehensive understanding of the impact of emotion regulation training on mood symptoms and coping strategies in depressed adolescents.

Conclusion

In conclusion, this study demonstrates the effectiveness of an emotion regulation training program based on an integrated trans-diagnostic treatment approach in reducing negative emotions and improving mood symptoms in depressed adolescents during the COVID-19 quarantine period. The results suggest that this intervention can be a valuable tool in promoting emotional well-being and resilience in this vulnerable population. The findings of this study have implications for the development of targeted interventions that can be implemented in similar contexts, and highlight the importance of addressing the emotional needs of adolescents during times of crisis.

Conflict of Interest

The authors declare that they have no conflicts of interest or financial benefits from this study.

Ethical Approval

The research procedure was entirely in line with the School of Public Health, Shahid Sadoughi University of Medical Sciences and implemented with an ethical code of IR.SSU.SPH.REC.1400.057 (Date 2021-07-03).

Acknowledgment

The authors would like to thank all the participants for their cooperation in the implementation of this research.

References

1. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A novel coronavirus from patients with pneumonia in China, 2019. New England journal of medicine. 2020. doi: 10.1056/NEJMoa2001017
2. Shen K, Yang Y, Wang T, Zhao D, Jiang Y, Jin R, et al. Diagnosis, treatment, and prevention of 2019 novel coronavirus infection in children: experts' consensus statement. World journal of pediatrics. 2020;16(3):223-31. doi: 10.1007/s12519-020-00343-4
3. Octavius GS, Silviani FR, Lesmandjaja A, Juliansen A. Impact of COVID-19 on adolescents' mental health: a systematic review. Middle East current psychiatry. 2020;27(1):1-8. doi: 10.4103/MECP.MECP_14_20
4. Zhai Y, Du X. Mental health care for international Chinese students affected by the COVID-19 outbreak. The Lancet Psychiatry. 2020;7(4):e22. doi: 10.1016/S2215-0366(20)30074-4
5. Dalton L, Rapa E, Stein A. Protecting the psychological health of children through effective communication about COVID-19. The Lancet Child & Adolescent Health. 2020;4(5):346-7. doi: 10.1016/S2352-4642(20)30145-5
6. Nearchou F, Flinn C, Niland R, Subramaniam SS, Hennessy E. Exploring the impact of COVID-19 on mental health outcomes in children and adolescents: a systematic review. International journal of environmental research and public health. 2020;17(22):8479. doi: 10.3390/ijerph17228479
7. Loades ME, Chatburn E, Higson-Sweeney N, Reynolds S, Shafran R, Brigden A, et al. Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. Journal of the American Academy of Child and Adolescent Psychiatry. 2020;59(11):1218-39.e3. doi: 10.1016/j.jaac.2020.06.011
8. Jones EAK, Mitra AK, Bhuiyan AR. Impact of COVID-19 on Mental Health in Adolescents: A Systematic Review. Int J Environ Res Public Health. 2021;18(5). doi: 10.3390/ijerph18052311
9. Song J, Jiang R, Chen N, Qu W, Liu D, Zhang M, et al. Self-help cognitive behavioral therapy application for COVID-19-related mental health problems: A longitudinal trial. Asian journal of psychiatry. 2021;60:102656. doi: 10.1016/j.ajp.2021.102656
10. Delvecchio E, Orgilés M, Morales A, Espada JP, Francisco R, Pedro M, et al. COVID-19: Psychological symptoms and coping strategies in preschoolers, schoolchildren, and adolescents. Journal of applied developmental psychology. 2022;79:101390. doi: 10.1016/j.appdev.2022.101390
11. Hutchison M, Russell BS, Starkweather AR, Gans KM. Outcomes From an Online Pilot Mindfulness Based Intervention with Adolescents: A Comparison by Categories of Risk. Journal of child and family studies. 2023;32(2):438-50. doi: 10.1007/s10826-022-02323-4
12. Goretti B, Portaccio E, Zipoli V, Hakiki B, Siracusa G, Sorbi S, et al. Impact of cognitive impairment on coping strategies in multiple sclerosis. Clinical neurology and neurosurgery. 2010;112(2):127-30. doi: 10.1016/j.clineuro.2009.11.012
13. Matud MP. Gender differences in stress and coping styles. Personality and individual differences. 2004;37(7):1401-15. doi: 10.1016/j.paid.2004.03.004
14. Human M, Green S, Groenewald C, Goldstein RD, Kinney HC, Odendaal HJ. Psychosocial implications of stillbirth for the mother and her family: A crisis-support approach. Social Work. 2014;50(4):563-80. doi: 10.1093/sw/swu024
15. Nagase Y, Uchiyama M, Kaneita Y, Li L, Kaji T, Takahashi S, et al. Coping strategies and their correlates with depression in the Japanese general population. Psychiatry research. 2009;168(1):57-66. doi: 10.1016/j.psychres.2008.06.011
16. Moses EB, Barlow DH. A new unified treatment approach for emotional disorders based on emotion science. Current directions in psychological science. 2006;15(3):146-50. doi: 10.1111/j.0963-7214.2006.00405.x
17. Gross J, Thompson R. Emotion regulation: Conceptual foundations. Handbook of Emotion Regulation. JJ Gross. New York. Guilford Press S Gupta et L Cummings (1984)" Perceived speed of time and task affect" Percept Mot Skills. 2007;63:971-80.
18. Kring AM, Sloan DM. Emotion regulation and psychopathology: A transdiagnostic approach to etiology and treatment: Guilford Press; 2009. https://doi.org/10.1016/j.cpr.2017.09.002
19. Garnefski N, Kraaij V. Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. Personality and Individual differences. 2006;40(8):1659-69. https://doi.org/10.1002/per.458
20. Talebi N, Naeini Davarani M, Nourouzi Koohdasht R, Yaghoubi L. Effectiveness of transdiagnostic integrated treatment in cognitive emotion regulation strategies and social adjustment among infertile women. Journal of Fundamentals of Mental Health. 2017;19(special issue):160-6. 10.22038/JFMH.2017.8988
21. Fadaie Z, Najafi M, Habibi Asgarabad M, Besharat MA. Confirmatory factorial structure, reliability and validity of the Achenbach Youth Self-Report Scale (YSR): Monozygotic and dizygotic twins. Journal of clinical psychology. 2009;1(1):1-18. 10.22075/JCP.2017.1993
22. Shields A, Cicchetti D. Emotion regulation among school-age children: the development and validation of a new criterion Q-

sort scale. Developmental psychology. 1997;33(6):906-16. doi: 10.1037//0012-1649.33.6.906
23. Shields A, Cicchetti D. Reactive aggression among maltreated children: the contributions of attention and emotion dysregulation. Journal of clinical child psychology. 1998;27(4):381-95. doi: 10.1207/s15374424jccp2704_2
24. Chai XJ, Hirshfeld-Becker D, Biederman J, Uchida M, Doehrmann O, Leonard JA, et al. Functional and structural brain correlates of risk for major depression in children with familial depression. NeuroImage Clinical. 2015;8:398-407. doi: 10.1016/j.nicl.2015.05.004
25. Shafietabar M, Akbari Chermahini S, Molaei Yasavoli M. Factorial Structure and Psychometric Properties of the Emotion Regulation Checklist – Parent Form. Quarterly Journal of Child Mental Health. 2020;7(3):80-95. 10.52547/jcmh.7.3.8
26. Fabes R, Eisenberg N, Bernzweig J. The coping with children's negative emotions scale: Description and scoring. Unpublished scale, Department of Family Resources and Human Development, Arizona State University. 1990.
27. Fabes RA, Poulin RE, Eisenberg N, Madden-Derdich DA. The Coping with Children's Negative Emotions Scale (CCNES): Psychometric properties and relations with children's emotional competence. Marriage & Family Review. 2002. 10.1300/J002v34n03_05
28. Sheikh mohammadi A, Afrooz GA, Arjmandnia AA, Davari Ashtiani R, Gobari Bonab B. The relationship of ADHD symptoms and social skills: Moderating role of mothers' coping strategies with Children's negative emotions. Psychology of Exceptional Individuals. 2020;10(40):23-47. doi.org/10.22054/jpe.2021.55835.2250
29. Farchione TJ, Fairholme CP, Ellard KK, Boisseau CL, Thompson-Hollands J, Carl JR, et al. Unified protocol for transdiagnostic treatment of emotional disorders: a randomized controlled trial. Behav Ther. 2012;43(3):666-78. doi: 10.1016/j.beth.2012.01.001
30. Breaux R, Dvorsky MR, Marsh NP, Green CD, Cash AR, Shroff DM, et al. Prospective impact of COVID-19 on mental health functioning in adolescents with and without ADHD: protective role of emotion regulation abilities. Journal of child psychology and psychiatry, and allied disciplines. 2021;62(9):1132-9. doi: 10.1111/jcpp.13382
31. Samji H, Wu J, Ladak A, Vossen C, Stewart E, Dove N, et al. Review: Mental health impacts of the COVID-19 pandemic on children and youth - a systematic review. Child and adolescent mental health. 2021. doi: 10.1111/camh.12501
32. Lotfi M, Bakhtiyari M, Asgharnezhad Farid AA, Amini M. The Effectiveness of Transdiagnostic Therapy on Emotion Regulation Strategies of Patients with Emotional Disorders: A Randomized Clinical Trial. Practice in Clinical Psychology. 2013;1(4):227-32. JR_JPCP-1-4_005
33. Jelvegar A, Rezaei A, Talepasand S. Effectivenessof emotional regulation training based on developmental, individual differences, relationship based model (DIR) on social skills of preschool,s children. Journal of Nursing Education. 2020;8(2):66-75.
34. Sandín B, Espinosa V, Valiente RM, García-Escalera J, Schmitt JC, Arnáez S, et al. Effects of Coronavirus Fears on Anxiety and Depressive Disorder Symptoms in Clinical and Subclinical Adolescents: The Role of Negative Affect, Intolerance of Uncertainty, and Emotion Regulation Strategies. Frontiers in Psychology. 2021;12(3294). doi: 10.3389/fpsyg.2021.716528
35. Allen LB, Tsao JC, Seidman LC, Ehrenreich-May J, Zeltzer LK. A unified, transdiagnostic treatment for adolescents with chronic pain and comorbid anxiety and depression. Cognitive and Behavioral Practice. 2012;19(1):56-67. doi: 10.1016/j.cbpra.2011.04.007
36. Aldao A, Nolen-Hoeksema S, Schweizer S. Emotion-regulation strategies across psychopathology: A meta-analytic review. Clinical psychology review. 2010;30(2):217-37. doi: 10.1016/j.cpr.2009.11.004
37. Malhi GS, Byrow Y, Outhred T, Das P, Fritz K. Irritability and internalizing symptoms: Modeling the mediating role of emotion regulation. Journal of affective disorders. 2017;211:144-9. doi: 10.1016/j.jad.2016.12.021