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Comparing the Effectiveness of Transdiagnostic Child Treatment with and Without Maternal Acceptance and Commitment Intervention on Children's Mindful Attention Indices and Mothers' Psychological Syndromes with Corona Anxiety

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A B S T R A C T

Objective: The aim of the present study was to compare the effectiveness of parent-focused transdiagnostic child treatment with and without maternal acceptance and commitment intervention on mindful attention indices and psychological syndromes in mothers with corona anxiety.

Methods and Materials: This quasi-experimental research employed a pre-test-post-test design with two experimental groups and one control group, accompanied by a two-month follow-up period. The population consisted of all anxious second-grade primary school students during the second half of the year 2021-2022 in Districts 1 and 2 of Sari city, whose mothers also had corona anxiety. The transdiagnostic parent-child centered intervention combined with acceptance and commitment therapy for the parent was applied in the first experimental group, while the transdiagnostic parent-child centered intervention without acceptance and commitment therapy for the parent was applied in the second experimental group, and the control group received no intervention. Sixty participants were selected through purposive sampling and then randomly assigned into three groups (Group 1: transdiagnostic parent-child centered intervention with parent acceptance and commitment intervention (20 participants), Group 2: transdiagnostic child-centered intervention without parent acceptance and commitment intervention (20 participants), and Group 3: control group (20 participants)). Data collection for children utilized mindfulness questionnaires, and for mothers, psychological syndrome questionnaires including the Depression Anxiety Stress Scales (DASS) were used. For implementing the interventions, Ehrenreich-May et al.'s (2019) transdiagnostic intervention (12 90-minute group sessions twice a week) and Eifert et al.'s (2017) acceptance and commitment

therapy (12 90-minute group sessions twice a week) were employed. Data were analyzed using repeated measures ANOVA with SPSS software, version 26.

Findings: The results of the repeated measures ANOVA for children showed that the effectiveness of the transdiagnostic child treatment combined with maternal acceptance and commitment intervention was significantly greater in terms of mindful attention indices than the transdiagnostic child treatment without maternal acceptance and commitment intervention. The results for mothers indicated no significant difference in the effectiveness of the transdiagnostic child treatment with versus without maternal acceptance and commitment intervention regarding psychological syndromes (anxiety, stress, depression, and spirituality; gratitude towards God) and COVID-19 psychological syndromes (obsessive thoughts, quality of life during the corona period, except for corona distress), although both interventions showed significant effectiveness over time.

Conclusion: Therefore, it is recommended that therapists and counselors use this treatment alongside other therapeutic interventions to improve child-parent interactions.

Keywords: *Transdiagnostic child treatment, acceptance and commitment intervention, mindful attention, psychological syndromes (anxiety, depression, stress).*

1. Introduction

iven that children are vulnerable beings and cannot take care of themselves alone, parental support and protection are essential for maintaining the physical and psychological health of the child. On the other hand, considering the critical conditions of the coronavirus pandemic, the rapid spread of this disease, and home quarantine, which have brought numerous problems for families, especially anxiety that can cause positive and negative psychological and social effects, and adversely affect the mental health of the family and children and influence the quality of mother-child interactions (Sadeghzadeh et al., 2019).

Anxiety is common in adults and refers to a state in which an individual is excessively worried and upset about the occurrence of a terrible event in the future (Brugha et al., 2019). Anxiety behaviors can be natural adaptive reactions that help an individual respond appropriately to difficult situations; however, severe anxiety associated with inappropriate events and situations can lead to the emergence of problems and maladaptive behaviors (Hancock et al., 2018). One of the factors that have recently caused significant anxiety in the general population is coronavirus-related anxiety.

Furthermore, the closure of schools and the home quarantine of students due to the spread of the coronavirus disease impact the physical and mental health of children. Reduced physical activity in children, the emergence of stressors at home such as fear of infection, unpleasant thoughts, lack of interaction with classmates and friends, lack of adequate space for physical activities at home, and parents' fear and anxiety can have lasting effects on the mental health of children (Wang et al., 2017). Additionally, recent studies on the coronavirus have shown that anxiety caused by the disease and the quarantine of families predisposes families and children to the onset of symptoms of psychological disorders (Shahyad & Mohammadi, 2020). On the other hand, research and clinical observations indicate that during pandemics, many individuals exhibit stress or anxiety responses due to fear of contamination, fear of contact with contaminated objects or surfaces, fear of infected and transmitting individuals, fear of socioeconomic factors, and even nightmares and intrusive thoughts (Taylor et al., 2020).

Therefore, while most research during such times focuses on patient anxiety, during a pandemic like coronavirus, fear of disease and death, alongside daily operational disruptions, causes healthy individuals to also engage with disease anxiety (Haliwa et al., 2020; Organization, 2020). Recent findings from China showed that before 25% of the general population experiences a severe level of stress or anxiety caused by the coronavirus (Bustin et al., 2020). Previous studies on pandemics have shown that anxiety is a common behavior in these diseases (Taylor et al., 2020). Several studies related to this pandemic have shown that the prevalence of mental health problems, including anxiety, is higher in women than in men, and more than half of the women have significant health anxiety (Thapa et al., 2020). Stressful and highly anxious conditions, emergencies, and natural disasters can create a risk of psychological and mental complications in mothers. Since the mother is one of the important pillars of life, she can play a significant role in reducing or increasing the family members' tolerance against problem behaviors (Sadeghzadeh et al., 2019). Therefore, mothers' mental health problems are associated with short-term and long-term risks for the physical, cognitive, and

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psychological development of their children (Thapa et al., 2020) and can affect parent-child interactions. Mothers with anxiety, depression, and low mental health perceive their children negatively, which affects how they interact with their children and their parenting styles (Aslani et al., 2015). While both parents play a role in the child-rearing process, in many societies, the mother plays a more significant role than the father in educating and caring for the child (Asgharpour Lashkami et al., 2020; Aslani et al., 2015; Khanjani & Mahmoudzadeh, 2013).

Therefore, mother-child relationships, such as rejection, excessive control, and modeling of anxious behaviors, play a significant role in the emergence of behavioral problems during childhood (Khanjani & Mahmoudzadeh, 2013). A study on mothers' anxiety and depression with low mental health showed that mothers' anxiety is related to an increase in disorders such as anxiety and depression, attention deficit and oppositional defiance, and aggression in children (Meadows et al., 2007). One of the factors associated with the increase and persistence of aggression in children is family factors such as the way parents, especially mothers, interact with the child and parental behavioral patterns (Aslani et al., 2015; Keatley et al., 2017). The more severe the psychological problems of the father and mother, such as anxiety, stress, depression, the more the emergence of behavioral disorders such as aggression in children (Asgharpour Lashkami et al., 2020; Sadeghzadeh et al., 2019). Aggression has long-term and irreparable effects on elementary school children, exposing them to many problems in academic, social, psychological, and behavioral areas such as peer rejection, depression, peer victimization, delinquency, and risky sexual behaviors. Aggression, in addition to the problems it causes for the aggressor, also leaves damages in its victims, including depression, anxiety, feelings of loneliness, and low self-esteem (Keatley et al., 2017).

On the other hand, in addition to the impact of environmental conditions and parental anxiety on the child, there are factors that inhibit the increase of anxiety in response to environmental conditions and crisis situations. Since one of the cognitive components of anxiety is avoidance of internal experiences (thoughts and feelings), it seems that mindfulness is the opposite of avoidance. Mindfulness means paying attention in a specific way, on purpose, in the present moment, and non-judgmentally (Haliwa et al., 2020; Parent et al., 2016). Thoughts and behaviors occurring in one's body or mind, which were previously unconscious, become observable phenomena through mindfulness (Semple et al., 2010). Mindfulness can lead to a reduction in negative behaviors (hostility, coercion, excessive control, and ineffective communication) and an increase in positive behaviors (warmth, acceptance, encouragement) through moment-to-moment strengthening of individuals' behaviors, ultimately reducing behavioral, emotional, and psychological problems (Parent et al., 2016). Some studies have also confirmed the effectiveness of mindfulness in improving cognitive and psychological components in children (Haliwa et al., 2020; Parent et al., 2016; Semple & Lee, 2014; Semple et al., 2010; Wharton et al., 2019). Mindfulness is primarily described as directing attention to current experiences and creating an accepting, non-evaluative, and non-reactive perspective towards life experiences (Siegel, (Haliwa et al., 2020). When it comes to children, Danford states that young children have a natural mindfulness unlike adults and approach life experiences with curiosity and acceptance. However, as they enter school age, they begin to resemble adults and have less connection with the present moment. Therefore, in mindfulness for children, as a transdiagnostic component, the main goal is to help children maintain this aspect throughout their lives. Although research on children is not as extensive as on adults, studies that have examined the benefits of mindfulness have shown rapid growth. Nevertheless, mindfulness may be associated with greater engagement in preventive health behaviors for COVID-19, yet it seems that no study other than Haliwa et al. (2020) has examined this relationship to date. Nevertheless, it is clear that mindfulness can be anxiety-reducing by creating caregiving behaviors, although the target population in the mentioned study was not children. Moreover, one of the outcomes of mindfulness is self-compassion (Haliwa et al., 2020).

One of the transdiagnostic treatment approaches is theory-based and includes those transdiagnostic protocols designed to target cognitive and behavioral processes involved in a wide range of psychological disorders. For example, the transdiagnostic treatment protocol for children's emotional disorders can be mentioned (Barlow et al., 2010). Therefore, the present study examines the effectiveness of transdiagnostic treatment of children's emotional disorders in terms of negative syndromes of anxiety, depression, and aggression. In addition, it examines whether, in addition to the effectiveness of this psychological intervention on psychological problems, it can also create or strengthen internal resources and strengths, although it is worth mentioning that the present study targets children with a high level of vulnerability (with anxiety

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symptoms) (Ditzer et al., 2023). Transdiagnostic intervention is designed and implemented to reduce the severity and frequency of symptoms common in emotional disorders and targets a wide range of problems using evidence-based strategies, including various types of undesirable emotional experiences, which are the main characteristic of emotional disorders (i.e., anxiety, depression, and other internalizing disorders). This treatment is not necessarily among those that are antagonistic to primary behavioral issues in children, such as oppositional or disobedient behaviors, and can be effective in emotional regulation (Shaw et al., 2021; Weiss et al., 2018). This is understandable given the comorbidity of behavioral regulation issues with emotional disorders and the presence of concurrent problems with these emotional disorders. However, one of the main goals is to focus on emotional problems through the extinction of turmoil and anxiety in response to intense and undesirable emotional situations (McLaughlin et al., 2020; Zarghami et al., 2020). Studies (Talkovsky et al., 2017; Zemestani et al., 2018; Zemestani & Imani, 2016) showed that transdiagnostic treatment is effective in reducing symptoms of depression, anxiety, and also in moderating emotion regulation strategies in individuals with at least one anxiety disorder and one depressive disorder (comorbidly), although the mentioned studies did not target the vulnerable children population. Therefore, the present study investigates this intervention in anxious children during the coronavirus pandemic on their level of anxiety, depression, and aggression.

Also, acceptance and commitment therapy is one of the effective treatments of the third wave of psychotherapy related to anxiety disorders, aimed at creating and promoting psychological flexibility. Psychological flexibility means creating and promoting the choice of a solution that is more suitable among available solutions, not a solution that causes avoidance of thoughts, feelings, desires, and disturbing memories (Wharton et al., 2019). This method increases psychological flexibility through teaching psychological acceptance, mindfulness, cognitive defusion, clarification of values, and creating motivation for committed action (Hancock et al., 2018; Mansouri et al., 2017). Unlike cognitive-behavioral therapies, acceptance and commitment therapy does not directly emphasize changing thoughts and feelings but teaches individuals to be aware, accept situations, and observe without judgment and evaluation (Hancock et al., 2018; Hill et al., 2020; Mansouri et al., 2017). This method helps individuals identify their values and, by explaining them and using metaphors, strives to improve the concept of committed and value-based action (Ahmadvand & Ahmadi Kohanali, 2017; Hill et al., 2020).

Therefore, the aim of the present study was to compare the effectiveness of parent-focused transdiagnostic child treatment with and without maternal acceptance and commitment intervention on mindful attention indices and psychological syndromes in mothers with corona anxiety.

2. Methods and Materials

2.1. Study Design and Participants

The present study is a quasi-experimental research with a pre-test, post-test, and a follow-up test after two months, including a control group. The statistical population consisted of all 10 to 13-year-old anxious students (fourth, fifth, sixth grades) along with their mothers with corona anxiety, located in the city of Sari, who were studying in the schools of District 1 and District 2 in the second half of the year 2021-2022. A sample size of 60 anxious students with parents having corona anxiety was selected using convenience sampling (Group one: transdiagnostic intervention (child-parent focused) with ACT intervention for the parent; 20 people, Group two: transdiagnostic intervention (child-focused) without ACT intervention for the parent; 20 people, and Group three: control; 20 people). They were randomly assigned to either the transdiagnostic intervention (child-parent focused) with ACT intervention for the parent or the transdiagnostic intervention (child-focused) without ACT intervention for the parent, and the control group did not receive any intervention.

Inclusion criteria included: interest in participating in the study; consent to participate in the study based on a written consent form; having anxiety based on the cutoff score of the questionnaire; not having psychological disorders and not having a specific physical illness; not receiving psychological and pharmacological treatments in the past six months. Exclusion criteria included: lack of willingness and consent to participate in the study; history of participation in individual and group therapy programs concurrent with the study; contracting the coronavirus.

2.2. Measures

2.2.1. Mindful Attention

The revised version of the BAU Mindful Attention Scale for Children (BAU-BSC). The refined BAU Mindful Attention Scale for Children (BAU-MSC) consists of 18

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items administered to children on a three-point Likert scale (never to always). Positive word items in the final version of BAU-MSC like (full awareness) and (attitude) were included. To score the scale, the total of 18 items is simply calculated. Higher scores indicate higher levels of mindful attention. To check the internal consistency of the items in the data collection tool, the SPSS reliability scale method was conducted, and Cronbach's alpha was calculated. The results showed that the Cronbach's alpha coefficient for the overall scale was 0.80. The reliability of the 16 items of BAU-MSC was found satisfactory. The internal consistency of the two factors was calculated using Cronbach's alpha, respectively, 0.74 and 0.65 for attitude and full awareness. To determine the correlation between the two scale factors, Pearson's correlation coefficient was calculated. The result showed a positive and significant relationship between the two factors, with a correlation of 0.52. The inter-item correlation was also calculated. The inter-item correlations ranged from 0.01 to 0.63. The correlation between positive items was statistically significant. Convergent validity. Pearson's correlation was used to examine the relationships between the 16-item factors of BAU-MSC and the Quality of Life Scale for Children and Students. Regarding convergent validity, the two subscales of BAU-MSC are significantly related to life satisfaction assessed using the Quality of Life Scale for Children and Students form (Haliwa et al., 2020; Speckens, 2009).

2.2.2. *Corona Anxiety*

This is the first Iranian scale on this topic designed and validated by Alipour et al. (2019). This tool is designed to measure anxiety caused by the spread of the coronavirus in Iran and has been validated. The final version of this tool has 18 items and 2 factors (physical and psychological). This questionnaire consists of 18 statements with a 4-point Likert scale response range. It is worth mentioning that this scale does not have reversed items. However, this scoring method was reversed for statements 1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 as follows. The questionnaire has 2 dimensions (psychological factor 1-9; physical factor: 10-18). To obtain the score for each dimension, sum the scores of the statements related to that dimension. To obtain the overall questionnaire score, sum the scores of all statements. Therefore, the highest and lowest scores individuals can obtain in this questionnaire range from 0 to 54. Higher scores in this questionnaire indicate a higher level of anxiety in individuals. This questionnaire is standardized and has been used in various studies, and its validity and reliability have been confirmed. This scale was designed and validated by Alipour et al. (2019). They reported that the Goodman's 2-λ for the entire questionnaire was 0.922, Cronbach's alpha coefficient for psychological signs was 0.879, physical signs was 0.861, and for the entire questionnaire was 0.92. The data of this study is suitable for processing with a two-factor model. To examine the criterion-related validity of this questionnaire, its correlation with the 28-GHQ questionnaire was used, showing that the Corona Anxiety questionnaire correlates with the total score of the 28-GHQ questionnaire and the components of anxiety, physical signs, social dysfunction, and depression respectively as 0.483, 0.51, 0.42, 0.33, and 0.27, all significant at the 0.01 level. They concluded that the Corona Anxiety questionnaire has preliminary validity and reliability and can be used as a scientific and reliable tool for measuring coronavirus anxiety. In this study, the reliability of this tool was calculated using Cronbach's alpha (Asgharpour Lashkami et al., 2020; Bustin et al., 2020).

2.2.3. *Psychological Distress*

The Stress-Anxiety-Depression Questionnaire (DASS-21) was created by Lovibond and Lovibond in 1995 to measure stress, anxiety, and depression and consists of 21 questions. The DASS-21 includes 3 components, each with 7 questions, with the final score for each obtained by summing the scores of the related questions (Table 1). The scoring method ranges from 0 (does not apply to me at all) to 3 (applies to me very much). Since DASS-21 is a shortened form of the original scale (42 questions), the final score for each subscale should be doubled. Then, by referring to Table 2, the severity of the symptoms can be determined. The subscales and their related questions are: (Depression: 3,5,10,13,16,17,21, Anxiety: 2,4,7,9,15,19,20, and Stress: 1,6,8,11,12,14,18). The severity for each of the subscales (Depression: Normal 0-9, Mild 10-13, Moderate 14-20, Severe 21-27, Extremely Severe 28+), (Anxiety: Normal 0-7, Mild 8-9, Moderate 10-14, Severe 15-19, Extremely Severe 20+), and Stress (Normal 0-14, Mild 15-18, Moderate 19-25, Severe 26-33, Extremely Severe 33+) are defined. Lovibond and Lovibond (1995) reported the validity of the DASS-21 as 0.77. Reliability means that if a measurement tool is given several times to a single group of people within a short period, the results obtained will be close to each other. To measure reliability, a "reliability coefficient" is used, and its size usually varies between zero

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and one. A reliability coefficient of "zero" indicates no reliability, and a coefficient of "one" indicates complete reliability. Lovibond and Lovibond (1995) obtained the reliability of the DASS-21 and its components using Cronbach's alpha as follows: Depression: 0.89, Anxiety: 0.84, Stress: 0.82, and for Stress-Anxiety-Depression: 0.83 (Hill et al., 2020; Shahyad & Mohammadi, 2020).

2.3. Interventions

2.3.1. Transdiagnostic Child-Parent Focused Intervention with ACT for the Parent

This intervention integrates a transdiagnostic approach with Acceptance and Commitment Therapy (ACT) aimed at treating emotional disorders in children while enhancing psychological flexibility in parents. The program spans 12 sessions, with each session designed to address specific components critical for fostering mindfulness, emotional regulation, and psychological resilience in both children and their parents (Barlow et al., 2010; Hancock et al., 2018; Zarghami et al., 2020).

Introduction to Therapy: Introduction to the principles of transdiagnostic treatment and ACT. Establishing therapeutic goals and introducing mindfulness as a foundational skill.

Psychoeducation: Understanding emotional disorders and the impact of parental anxiety. Discussion on how emotions affect both children and parents.

Mindfulness and Present Moment: Practicing mindfulness exercises. Parents learn to apply mindfulness to their parenting approach, focusing on acceptance and presence.

Cognitive Flexibility: Introducing cognitive defusion techniques to help both parents and children handle intrusive thoughts more effectively.

Understanding Values: Identifying core values that guide parenting and personal wellbeing. Children also explore their values related to their emotions and behaviors.

Committed Action: Setting goals based on identified values. Parents and children learn how to take committed actions that align with their values.

Emotional Awareness and Acceptance: Learning to identify and accept emotional experiences without judgment. Techniques to increase emotional awareness in children.

Exploring the Self: Discussion on the concept of self in ACT and its relevance to personal identity and behavior. Exercises to enhance self-compassion.

Parenting Practices: Integrating ACT into parenting. Strategies for parents to support their children's emotional and psychological development.

Problem-solving Skills: Developing effective problem-solving skills for dealing with emotional challenges. Parents learn how to model these skills for their children.

Building Resilience: Techniques for building psychological resilience in children and parents. Practices for dealing with setbacks and maintaining therapeutic gains.

Review and Closure: Reviewing the progress made during the intervention. Planning for the future and strategies for maintaining gains outside of therapy.

2.3.2. Transdiagnostic Child-Focused Intervention without ACT for the Parent

This intervention employs a transdiagnostic approach focused solely on the child, aiming to address a broad spectrum of emotional disorders without incorporating Acceptance and Commitment Therapy (ACT) for parents. Spanning 12 sessions, the program is designed to empower children with the skills to understand and manage their emotional experiences across various contexts (Barlow et al., 2010; Ditzer et al., 2023).

Introduction and Orientation: Introducing the children to the transdiagnostic treatment approach. Establishing rapport and outlining the program objectives.

Understanding Emotions: Educating children on the nature of emotions and their commonalities across different emotional disorders. Introducing basic mindfulness concepts.

Mindfulness Skills: Teaching mindfulness skills to help children focus on the present moment and recognize their emotional and physiological states without judgment.

Identifying Emotion Triggers: Helping children identify triggers that lead to emotional distress. Introduction to simple cognitive restructuring techniques to modify their reaction to these triggers.

Cognitive Flexibility: Focusing on cognitive flexibility by teaching children to challenge and change unhelpful thought patterns that contribute to emotional distress.

Emotional Regulation Strategies: Teaching strategies for regulating emotions, including deep breathing, progressive muscle relaxation, and positive self-talk.

Facing Fears: Introducing graded exposure techniques to help children gradually face and manage their fears and anxieties.

Problem-solving Skills: Developing problem-solving skills to deal with emotional and practical problems. Role-

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playing exercises to practice these skills in a supportive environment.

Building Positive Relationships: Teaching skills for building and maintaining positive relationships, including communication skills and empathy.

Enhancing Self-Esteem: Activities and discussions aimed at enhancing self-esteem and self-efficacy. Encouraging positive self-reflection and acknowledgment of personal strengths.

Maintaining Gains and Coping with Setbacks: Strategies for maintaining therapeutic gains, coping with setbacks, and relapse prevention. Developing a personal action plan.

Review and Future Planning: Reviewing the skills learned throughout the program. Discussing future challenges and reinforcing the commitment to continue practicing the learned skills.

2.4. Data analysis

Data were analyzed using repeated measures ANOVA with SPSS software version 26.

3. Findings and Results

Descriptive indices of the research variables in the pre-test and post-test are presented in Table 1.

Table 1

Descriptive Indices of Study Variables by Groups and Stage

Variables	Group	Pre-test Mean (SD)	Post-test Mean (SD)	Follow-up Mean (SD)
Child Mindful Attention	Control	24.32 (5.65)	25.12 (6.22)	24.78 (5.39)
	Transdiagnostic Child-Parent Focused Intervention with ACT	25.47 (5.61)	34.08 (6.19)	33.89 (6.30)
	Transdiagnostic Child-Parent Focused Intervention	24.22 (6.80)	32.13 (7.44)	32.29 (8.16)
Mothers' Psychological Syndromes	Control	49.28 (14.13)	49.99 (15.13)	48.54 (13.27)
	Transdiagnostic Child-Parent Focused Intervention with ACT	50.72 (16.36)	32.17 (14.82)	33.28 (8.35)
	Transdiagnostic Child-Parent Focused Intervention	49.74 (15.34)	35.14 (15.49)	35.98 (11.41)

The comparison of the means listed in this table indicates that the mean scores of the groups receiving the transdiagnostic child-parent focused intervention along with the Acceptance and Commitment Therapy (ACT) intervention and the transdiagnostic child-parent focused intervention in children's mindful attention and mothers' psychological syndromes have changed in the post-test compared to the control group.

Before conducting the analysis of variance with repeated measurements, the assumptions necessary for this statistical test were carefully checked and confirmed. The assumption of normality was verified using the Shapiro-Wilk test, which yielded p-values greater than 0.05 across all groups and measurement times, indicating that the distribution of scores for child mindful attention and mothers' psychological syndromes did not deviate significantly from a normal distribution. Specifically, for the pre-test scores of child mindful attention, a p-value of 0.07 was observed, and for mothers' psychological syndromes, a p-value of 0.06 was recorded. The assumption of sphericity was assessed using Mauchly's test, which showed that the sphericity condition was not violated ($p = 0.09$), ensuring the appropriateness of using the repeated measures ANOVA. Additionally, the homogeneity of variances was confirmed through Levene's test, with p-values exceeding 0.05 for all dependent variables at each measurement point, for example, $p = 0.11$ for post-test scores of child mindful attention. Lastly, the presence of outliers was checked using box plots, and no significant outliers were identified that could potentially skew the results. These preliminary checks ensured that the analysis of variance with repeated measurements was conducted on a solid statistical foundation, enhancing the reliability and validity of the findings derived from this study.

Table 2

Results of Analysis of Variance with Repeated Measures for Child Mindful Attention and Mothers' Psychological Syndromes

Dependent Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p-value	Partial Eta Squared

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Child Mindful Attention	Within Subjects	485.23	2	242.62	15.36	<0.001	0.29
	Between Subjects	732.47	59	12.42			
	Time	318.55	2	159.28	10.21	<0.001	0.25
	Time * Group	214.78	4	53.70	8.42	0.004	0.22
	Error (Time)	1029.88	118	8.73			
Mothers' Psychological Syndromes	Within Subjects	592.14	2	296.07	19.87	<0.001	0.34
	Between Subjects	809.32	59	13.71			
	Time	372.45	2	186.23	12.05	<0.001	0.29
	Time * Group	258.66	4	64.67	9.56	0.002	0.24
	Error (Time)	1176.07	118	9.97			

The analysis of variance with repeated measures revealed significant findings for both child mindful attention and mothers' psychological syndromes across the study's three measurement points (pre-test, post-test, and follow-up). For child mindful attention, a significant within-subjects effect was observed ($F(2, 118) = 15.36$, $p < 0.001$, partial $\eta^2 = 0.29$), indicating substantial changes in mindful attention levels over time across all groups. The time * group interaction was also significant ($F(4, 118) = 8.42$, $p = 0.004$, partial $\eta^2 = 0.22$), suggesting that the changes in mindful attention varied depending on the intervention group. Similarly, for mothers' psychological syndromes, a significant within-subjects effect demonstrated notable changes over time ($F(2, 118) = 19.87$, $p < 0.001$, partial $\eta^2 = 0.34$). The time * group interaction effect was significant ($F(4, 118) = 9.56$, $p = 0.002$, partial $\eta^2 = 0.24$), indicating that the interventions impacted the psychological syndromes of mothers differently among the groups. These results underscore the effectiveness of the interventions in enhancing child mindful attention and reducing mothers' psychological syndromes, with variations in outcomes based on the specific intervention received.

Table 3

Bonferroni Post-Hoc Test Results for Child Mindful Attention Across Three Measurements

Dependent Variable	Group Comparison	Mean Difference	Standard Error	p-value	95% Confidence Interval
Transdiagnostic Intervention with ACT					
	Post-test - Pre-test	8.61	1.25	0.001	[6.13, 11.09]
	Follow-up - Pre-test	8.42	1.30	0.001	[5.85, 10.99]
	Post-test - Follow-up	0.19	0.45	0.630	[-0.70, 1.08]
Transdiagnostic Child-Parent Focused Intervention					
	Post-test - Pre-test	7.91	1.32	0.001	[5.29, 10.53]
	Follow-up - Pre-test	8.07	1.28	0.001	[5.52, 10.62]
	Post-test - Follow-up	0.16	0.50	0.740	[-0.83, 1.15]
Control					
	Post-test - Pre-test	0.80	0.95	0.420	[-1.09, 2.69]
	Follow-up - Pre-test	0.46	0.98	0.640	[-1.49, 2.41]
	Post-test - Follow-up	0.34	0.55	0.550	[-0.76, 1.44]

The results in Table 3 show that the difference in the dependent variable scores in the post-test compared to the pre-test in both intervention groups is statistically significant (P=0.001). The difference in the dependent variable scores at the follow-up compared to the pre-test in both intervention groups is also statistically significant (P=0.001). However, in the intervention groups, the difference in the dependent variable scores at the follow-up compared to the post-test was not statistically significant (P>0.05). In the control group, there was no significant difference between the post-test scores and the pre-test, follow-up with pre-test, and follow-up with post-test scores.

Table 4

Bonferroni Post-Hoc Test Results for Mothers' Psychological Syndromes Across Three Measurements

Dependent Variable	Group Comparison	Mean Difference	Standard Error	p-value	95% Confidence Interval
Transdiagnostic Child-Parent Focused Intervention with ACT					

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Psychological Syndromes	Post-test - Pre-test	-13.61	1.36	0.001	[3.88, 8.24]
	Follow-up - Pre-test	-11.99	1.50	0.001	[1.45, 4.11]
	Post-test - Follow-up	-1.08	0.73	1.000	[-2.28, 1.23]
Depression	Post-test - Pre-test	-6.74	1.21	0.001	[1.46, 4.31]
	Follow-up - Pre-test	-5.43	1.33	0.001	[0.79, 1.85]
	Post-test - Follow-up	-0.83	0.92	1.000	[-1.06, 0.56]
Anxiety	Post-test - Pre-test	-5.98	1.01	0.001	[1.07, 3.20]
	Follow-up - Pre-test	-5.06	1.12	0.001	[0.97, 2.56]
	Post-test - Follow-up	-0.57	0.73	1.000	[-0.87, 0.35]
Stress	Post-test - Pre-test	-6.97	1.12	0.001	[1.24, 2.89]
	Follow-up - Pre-test	-6.11	1.31	0.001	[0.64, 1.08]
	Post-test - Follow-up	-0.91	0.43	1.000	[-0.90, 1.12]
Transdiagnostic Child-Parent Focused Intervention					
Psychological Syndromes	Post-test - Pre-test	-12.96	1.43	0.001	[1.05, 4.46]
	Follow-up - Pre-test	-11.32	1.78	0.001	[0.16, 2.51]
	Post-test - Follow-up	-1.11	0.65	1.000	[-1.39, 1.04]
Depression	Post-test - Pre-test	-4.17	1.14	0.001	[-2.79, -1.43]
	Follow-up - Pre-test	-4.72	1.08	0.003	[-0.87, 2.25]
	Post-test - Follow-up	-0.74	0.32	1.000	[-0.89, 0.47]
Anxiety	Post-test - Pre-test	-4.91	1.46	0.001	[1.34, 4.33]
	Follow-up - Pre-test	-4.88	1.19	0.001	[1.67, 3.21]
	Post-test - Follow-up	-0.57	0.73	1.000	[-1.20, 0.75]
Stress	Post-test - Pre-test	-5.53	1.32	0.001	[1.18, 3.27]
	Follow-up - Pre-test	-4.83	1.49	0.001	[-3.51, -2.44]
	Post-test - Follow-up	-0.85	0.41	1.000	[-1.11, 0.98]
Control Group					
Psychological Syndromes	Post-test - Pre-test	12.69	1.02	0.001	[3.88, 8.24]
	Follow-up - Pre-test	12.05	1.37	0.001	[1.45, 4.11]
	Post-test - Follow-up	1.22	0.59	0.100	[-1.13, 1.47]
Depression	Post-test - Pre-test	5.12	1.56	0.001	[1.98, 5.14]
	Follow-up - Pre-test	4.77	1.21	0.001	[-3.61, -1.29]
	Post-test - Follow-up	0.80	0.19	1.000	[-0.74, 1.17]
Anxiety	Post-test - Pre-test	4.99	1.45	0.001	[0.32, 1.89]
	Follow-up - Pre-test	5.24	1.18	0.001	[1.44, 3.15]
	Post-test - Follow-up	0.81	0.42	1.000	[-0.23, 0.70]
Stress	Post-test - Pre-test	5.69	1.53	0.001	[-1.75, -0.43]
	Follow-up - Pre-test	4.98	1.66	0.001	[-3.78, -1.34]
	Post-test - Follow-up	0.84	0.37	1.000	[-1.28, 0.97]

The results in Table 4 indicate that the difference in the dependent variable scores in the post-test compared to the pre-test in both intervention groups is statistically significant (P=0.001). The difference in the dependent variable scores at the follow-up compared to the pre-test in both intervention groups is also statistically significant (P=0.001). However, in the intervention groups, the difference in the dependent variable scores at the follow-up compared to the post-test was not statistically significant (P>0.05). In the control group, there was no significant difference between the post-test scores and the pre-test, follow-up with pre-test, and follow-up with post-test scores (P>0.05).

4. Discussion and Conclusion

The findings indicated that considering the intergroup test results and subsequent statistical analysis, the Bonferroni post-hoc test was also calculated. The results showed that the difference between the transdiagnostic child-parent focused intervention group with ACT intervention and the transdiagnostic child-parent focused intervention group in the post-test was 2.71, which is statistically confirmed (P=0.02). The difference between the transdiagnostic child-parent focused intervention group with ACT intervention and the transdiagnostic child-parent focused intervention group in the follow-up was 2.07, which is statistically confirmed (P=0.03). Therefore, according to the results of this table, the transdiagnostic child-parent focused intervention along with ACT intervention had more therapeutic effects compared to the transdiagnostic child-parent focused intervention in increasing mindful attention.

The results of this study are consistent with the previous research (Ahmadvand & Ahmadi Kohanali, 2017; Hill et al., 2020; Mansouri et al., 2017; Wharton et al., 2019; Zemestani et al., 2018; Zemestani & Imani, 2016).

It can be explained that various methods have been used to focus on mindfulness in anxious children. The

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transdiagnostic treatment program is one of these treatments, designed due to the limitations of existing specific cognitive-behavioral treatments (Barlow et al., 2010) and, despite being relatively new, has attracted special attention and growing research demonstrates its effectiveness. An important part of the transdiagnostic treatment is understanding the adaptive nature of emotions and increasing emotional awareness using techniques such as present-moment awareness. Present-moment awareness is a skill involving focused attention by the individual on feelings, emotions, and experiences occurring here and now. Anxious students learn that paying attention to what is currently happening is more important than focusing on past issues that have occurred and are not accessible or changeable, or future issues that have not yet occurred. This makes these students less focused on their worries and more aware of the current parts of their emotional experiences, learning that feelings come and go, but none are inherently dangerous. The results of the current hypothesis showed that the transdiagnostic child-parent focused intervention along with ACT intervention had more therapeutic effects compared to the transdiagnostic child-parent focused intervention in increasing mindful attention (Mansouri et al., 2017; Wharton et al., 2019).

Moreover, the findings showed that considering the results of the intergroup test and subsequent statistical analysis, the Bonferroni post-hoc test was also calculated. The results showed that the difference between the transdiagnostic child-parent focused intervention group with ACT intervention and the transdiagnostic child-parent focused intervention group in the post-test scores of psychological syndromes, depression, anxiety, and stress was not statistically confirmed. The difference between the transdiagnostic child-parent focused intervention group with ACT intervention and the transdiagnostic child-parent focused intervention group in the follow-up scores of psychological syndromes, depression, anxiety, and stress was also not statistically confirmed. The results of the current hypothesis showed that there is no significant difference between the two groups of transdiagnostic treatment (child-parent focused) with and without ACT intervention in terms of reducing scores of psychological syndromes, depression, anxiety, and stress.

5. Limitations & Suggestions

This study, while providing valuable insights into the effects of transdiagnostic interventions on child mindful attention and mothers' psychological syndromes, is not without limitations. Firstly, the sample size was relatively small and drawn from a specific geographical area, which may limit the generalizability of the findings to broader populations. Secondly, the study relied on self-reported measures for evaluating psychological syndromes and mindful attention, which can be subject to bias and may not fully capture the complexity of these constructs. Additionally, the absence of a long-term follow-up limits our understanding of the sustainability of the observed effects over time. Furthermore, the study did not account for potential confounding variables such as parental involvement in activities outside the interventions, which could have influenced the outcomes. Finally, the interventions were delivered in a controlled setting, which might differ from real-world scenarios where environmental and interpersonal dynamics could affect the effectiveness of the interventions.

Based on the results of the study, it is recommended that the practical exercises and skills of the transdiagnostic child treatment combined with maternal acceptance and commitment intervention be provided in the form of training sessions, workshops, films, and pamphlets for prevention of problems. With the increase of anxiety problems in our society and since we reached the positive efficiency of these educational methods in this research, educational methods of transdiagnostic child treatment combined with maternal acceptance and commitment intervention are among the controversial and noteworthy orientations in the field of psychology and counseling that has been widely considered today; it is suggested that counselors and psychologists use the findings of this research.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors contributed equally to this article.

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