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Effectiveness of a Mindfulness-Based Acceptance Training Package on the Attitude of Mothers of Children with Autism Spectrum Disorder

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A B S T R A C T

Objective: The present study aimed to examine the effectiveness of a mindfulness-based acceptance training package on the attitude of mothers of children with ASD.
Methods: This quasi-experimental study used a pre-test and post-test design with a control group. The statistical population consisted of mothers of children with ASD attending the Special Children's Clinic at Shahid Beheshti University in Tehran. Using convenient sampling, 30 mothers were selected. These mothers were randomly assigned to either the experimental group or the control group, with 15 participants in each group. The experimental group received the 12-session, 120-minute mindfulness-based acceptance training package, while no intervention was applied to the control group. Both groups completed the Parent Attitude Toward Special Needs Children Scale (Gonder, 2002) before and after the intervention. Data analysis was conducted using the covariance matrix analysis method in SPSS version 27.
Findings: The results showed that there was a significant difference between the experimental group, which received the mindfulness-based acceptance training package, and the control group in terms of overall attitude ($p < 0.001$). The effect of the intervention was also stable at the follow-up stage ($p < 0.001$).
Conclusion: Based on the findings of this study, it can be concluded that a mindfulness-based acceptance training package can foster a positive attitude in mothers of children with ASD. Therefore, this training package can be utilized to promote a positive attitude among mothers of children with ASD.
Keywords: *mindfulness-based acceptance training package, attitude, Autism Spectrum Disorder*

1. Introduction

Children with Autism Spectrum Disorder (ASD) experience deficits in socio-emotional interactions. For instance, they

lack the skills to participate in normal reciprocal conversations or initiate social interactions. These children have limited interests and are unable to share or modulate their emotions between individuals. They exhibit inappropriate behavioral responses in social situations and struggle with peer relationships and imaginary or symbolic play, showing no interest in playing or interacting with their peers. Additionally, they avoid eye contact, fail to understand body language and gestures, and exhibit repetitive, restricted patterns of behavior and activities. A child with ASD shows insistence on sameness and rigid adherence to routine, whether in verbal or non-verbal rituals. The thinking patterns of children with ASD are inflexible, limited, and fixed, and they may react excessively or insufficiently to sensory input or show an abnormal tendency towards sensory aspects of their environment (Riebel et al., 2024; Vuijk, 2024).

Regarding the prevalence of this disorder, with the expansion of diagnostic criteria, the reported prevalence of ASD in the U.S. and other countries has reached approximately 1% of the population (Date et al., 2024). According to the latest statistics from the U.S. Centers for Disease Control and Prevention (CDC), the prevalence of autism in 2020 was 1 in every 54 live births. This disorder is five times more common in boys (1 in every 48 boys) than in girls (1 in every 189 girls) (Samad, 2024). Based on the latest study conducted in Iran, the prevalence rate of this disorder is estimated to be 1 in 1,000 (Azizi et al., 2024; Buchholz et al., 2024). Considering these statistics, it can be estimated that a significant number of families are affected by the challenges and issues related to this disorder (Moghaddam, 2024; Pagan, 2024).

The impacts of ASD affect not only the child with autism but also their caregivers, families, teachers, and the broader community. Given the increasing prevalence of ASD over the past three decades, there has been a notable rise in research focused on improving our understanding of this disorder in terms of etiology and genetics. Various theories, such as immunological, genetic, biological, and psychosocial models, have been proposed to explain the etiology of this disorder, and the potential role of epigenetics in the development of autism has also been identified (Yavari et al., 2022).

Studies examining children with autism and their parents have shown that parents of these children, compared to parents of children with other intellectual and psychological disorders, tend to have less effective coping skills (Koh & Wong, 2018). According to research by Chitgarzadeh (2010), the impact of ASD on Iranian parents and the psychological pressures it places on them is similar to that experienced by parents in other countries, with the difference that Iranian families often face the additional challenge of a lack of sufficient information about the disorder. Attitude is a fundamental component of individual identity (Baker-Ericzen et al., 2005). Attitude reflects an individual's evaluation of a subject, and this evaluation can define their attitude toward anything they express, categorize, or hold in their mind. The components of this evaluation include emotional, cognitive, and behavioral aspects (Behbahani et al., 2021).

Given the important role that societal views toward individuals with psychological disorders play in shaping attitudes, few studies have been conducted to explore public knowledge and attitudes in this field (Anand et al., 2023). It is estimated that more than 20% of children and adolescents who suffer from mental disorders, such as pervasive developmental disorders, attention deficit hyperactivity disorder (ADHD), learning disabilities, anxiety, attachment issues, conduct disorders, depression, self-harm, and eating disorders, are deprived of 65% to 80% of social services. This issue sometimes becomes so sensitive that parents conceal the illness or problem to protect their children and themselves from the stigma (Meamarbashi Aval et al., 2019).

There is a significant need for effective, evidence-based treatments for children with ASD, but current options are limited and have notable shortcomings. Intensive behavioral interventions, such as Applied Behavior Analysis (ABA), show promise in improving adaptive behavior and IQ, but they are mainly studied for children up to age 7 and require a substantial commitment of at least 20 hours per week. This approach is often impractical for many families, and its long-term effectiveness remains uncertain. Social skills training, while beneficial for specific skills, struggles with generalization to daily life. Cognitive-behavioral therapy can help reduce anxiety in children with co-occurring anxiety disorders, but it does not address the core symptoms of ASD or neurocognitive deficits. Medications are available for managing behavioral issues, but they do not target the core symptoms of ASD and may have adverse effects, with children often experiencing more significant side effects than adults. Due to these limitations, there is an urgent need for research into new therapeutic approaches that can more effectively reduce the impact of ASD on children and their families (Anand et al., 2023).

AFTJ Applied Family Therapy Journal
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Parents of children with ASD often experience high levels of stress, leading to significant psychological issues such as anxiety and depression. Current treatments for ASD often focus on the child, neglecting the impact on the well-being of the parents. One psychological treatment approach is mindfulness-based therapy, which includes the following principles: 1. Acceptance or willingness to experience pain or other distressing events without trying to suppress them, and 2. Value-based action and commitment to meaningful personal goals before eliminating unwanted experiences. The ultimate goal of this therapeutic model is to increase valued living (Kabat-Zinn, 1990, 2003; Khayatzade Mahani, 2009).

While mindfulness-based interventions have shown promise in reducing stress and improving mental health in various populations, there is insufficient research on their effectiveness specifically for parents of children with ASD. Mindful parenting, characterized by non-judgmental attention, acceptance, and calm responsiveness, may reduce the negative effects of children's behavioral problems on the mental health of parents and improve parenting practices. However, the integration of mindfulness training for parents in ASD interventions has not been thoroughly explored. Mindfulness-based therapy helps parents accept, be aware of, and observe their own feelings and thoughts. This therapy can be linked to the psychological well-being and social-emotional adjustment of mothers of children with autism, leading to increased self-awareness. It can also be said that the components of this therapy predict the self-regulation of their behaviors, moods, and positive emotions (Behbahani et al., 2021; Heidarian Samani et al., 2017; Hoseinzadeh et al., 2016; Hosseini Renani & Shojaei, 2020).

Research into new therapeutic approaches for ASD is crucial due to the limitations of current interventions. Existing methods often require substantial resources, have limited generalizability, or cannot effectively address the core symptoms. Furthermore, medications come with the risk of adverse side effects with uncertain benefits for the core symptoms. Reviewing and developing new therapeutic strategies could lead to more practical, effective, and safe options for managing ASD. This research is essential for improving outcomes for children with ASD and reducing the burden on their families, ultimately contributing to a better quality of life and greater support for individuals affected by the disorder. This study aims to examine the significance of a mindfulness-based maternal acceptance training package and its potential impact on maternal attitude. Therefore, this study was conducted to evaluate the effectiveness of mindfulness-based maternal acceptance on the attitude of mothers with children with autism. In previous studies that applied mindfulness, the focus has been on the interaction between bodily, cognitive, and emotional processes (Michalik, Berg, & Haydenrich, 2012). Among educational programs, mindfulness can lead to positive mental health outcomes by increasing a sense of control, efficient attitudes, self-esteem, coping skills, and social support (Jensen et al., 2020). It seems that mindfulness, by increasing awareness, accepting thoughts, and non-judgmental attention to the present moment, helps improve the flexibility of parent-child interactions and ultimately enhances parents' psychological well-being (Anand et al., 2023). Based on the above, this study seeks to answer the question: Can mindfulness-based maternal acceptance training effectively influence the attitude of mothers of children with ASD?

2. Methods

2.1. Study Design and Participants

In terms of research methodology, the quantitative section was of a semi-experimental type, utilizing a pre-test, post-test, and follow-up design with a control group. The statistical population in the quantitative section of the research included all mothers of children with ASD who visited the Special Needs Children Training and Research Clinic at Shahid Beheshti University, where their children received training and rehabilitation. In this study, 30 mothers of children with ASD who attended the clinic and whose children received education and rehabilitation were randomly selected and divided into experimental and control groups. The sampling method in this research was purposive and convenience sampling, and the participants in this study met the inclusion criteria. The inclusion criteria for the study included a diagnosis of ASD in the child by a psychiatrist and obtaining a diagnosis and rating score on the GARS test for the child. Non-participation or irregular participation in group sessions and failure to adhere to the rules of the educational sessions (e.g., arriving on time, engaging in session feedback, completing exercises) were the exclusion criteria.

2.2. Measures

2.2.1. Mothers' Attitude

The data collection tool used in this research was the Parent Attitude Toward Children with Special Needs Questionnaire. This scale was originally developed by

AFTJ Applied Family Therapy Journal
E-ISSN: 3041-8798

Gonder, with items derived from expanding and extending the Shfer and Bell Parent Attitude Scale. This tool has five subscales: Acceptance and Affection (8 items), Shame (3 items), Frustration (3 items), Hopelessness (3 items), and Overprotection (7 items). The response scale is a 5-point Likert scale, ranging from strongly agree to strongly disagree, with scores assigned as follows: strongly agree (5 points), strongly disagree (1 point). In a study, Asghari Nekaah and Belghan Abadi reported a Cronbach's alpha coefficient of 80% for the overall scale score. Additionally, the Cronbach's alpha coefficients for the subscales of Acceptance and Affection, Shame, Frustration, Hopelessness, and Overprotection were reported as 61%, 82%, 72%, 66%, and 75%, respectively. The face and content validity of the scale were also confirmed by several experts in this field. Furthermore, within-scale correlations showed strong positive correlations ($p < 0.01$) between the total score of attitudes and its five subscales (Acceptance and Affection, r = 0.65; Shame, r = 0.33; Frustration, r = 0.58; Hopelessness, r = 0.65; Overprotection, r = 0.85) (Mohammadi Mazraei et al., 2021; Nikbakht & Haghaigh, 2019).

2.3. Intervention

2.3.1. Mindfulness-Based Acceptance Program

This intervention protocol outlines a 12-session program designed to enhance mindfulness and acceptance in mothers of children with ASD. The aim is to foster a more compassionate and mindful approach to parenting, reduce emotional distress, and enhance the mothers' ability to respond effectively to their child's needs. The program incorporates key components of mindfulness, self-compassion, and emotional regulation, which are gradually built upon throughout the sessions. Each session is structured to engage mothers in reflective exercises, group discussions, and mindfulness practices, leading to an improved sense of self-awareness and emotional well-being. Below is a brief description of each session:

Session 1: Introduction and Orientation

The first session introduces the participants to the group, including a warm welcome and an overview of the intervention's goals. Mothers will be introduced to the fundamental concepts of ASD and mindfulness. The facilitator will explain the significance of mindfulness in parenting and how this approach can support emotional regulation and acceptance in response to the challenges of raising a child with ASD. The session will also include a brief introduction to the structure of the program and establish group norms and expectations.

Session 2: Understanding and Overcoming Grief

This session focuses on understanding the emotional responses associated with autism, particularly grief and sadness. The facilitator will discuss common emotional challenges mothers face, including the grieving process related to the child's diagnosis. Mothers will engage in reflective exercises to explore their emotions, practice empathy towards themselves, and learn how to handle past grief. Mindful listening and compassionate self-talk techniques will be introduced to help manage feelings of sadness.

Session 3: Confronting Reality

In this session, mothers will examine the causes and realities of autism. The facilitator will guide participants through exercises designed to foster acceptance of their child's condition. Participants will reflect on their emotional responses to the diagnosis, engage in self-assessment activities, and explore how their beliefs and emotions shape their perceptions of their child. Mindfulness techniques such as deep breathing and cognitive reframing will be used to help participants face their reality with acceptance.

Session 4: Letting Go

This session focuses on the concept of letting go of unrealistic expectations and coping with the unique needs of children with ASD. The facilitator will guide mothers through mindfulness exercises to identify and release negative thoughts and judgments about their child's behavior. The session emphasizes developing self-compassion and teaching mothers to approach their child with patience and acceptance. Self-care strategies will also be discussed.

Session 5: Healing through Acceptance

The fifth session focuses on cultivating hope and resilience through acceptance. The facilitator will discuss the role of acceptance in reducing psychological distress and enhancing emotional well-being. Mothers will be guided to practice mindfulness techniques that help them observe bodily sensations, thoughts, and emotions without judgment. The session will highlight the importance of flexibility in emotional responses, encouraging mothers to accept their child's uniqueness.

Session 6: Shifting the Mind

In this session, mothers will learn how to redirect their thoughts and manage the behavioral challenges of children with ASD. The facilitator will guide participants through mindfulness practices aimed at recognizing and modifying

AFTJ Applied Family Therapy Journal
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patterns of thinking related to their child's behavior. Mothers will be encouraged to focus on both positive and challenging thoughts and explore how values like patience, kindness, and understanding can be applied to their interactions with their child.

Session 7: Forgiving Oneself

The seventh session centers on self-forgiveness and compassion. Mothers will learn how to become aware of intrusive thoughts and practice self-compassion in response to feelings of guilt or inadequacy. The session will explore the importance of forgiving oneself for perceived parenting mistakes and cultivating a non-judgmental attitude toward oneself. Mindful breathing and self-compassion exercises will help participants embrace their imperfections.

Session 8: Moving Through Ambiguity

This session focuses on the challenges of uncertainty and the complexity of living with autism. Mothers will practice mindfulness through breath awareness and body scanning techniques to ground themselves in the present moment. The facilitator will encourage participants to explore how uncertainty impacts their emotional well-being and introduce strategies for developing a realistic and grounded mindset. This session promotes resilience and acceptance in the face of ambiguity.

Session 9: Open Hands

In this session, mothers will learn how to develop an open, receptive mindset toward their child. The facilitator will guide participants in practicing mindfulness techniques that encourage present-moment awareness, such as focusing on breath and body sensations. The session will emphasize gratitude as a tool for fostering positive thinking and emotional resilience. The concept of "open hands" will symbolize the willingness to receive and accept their child's uniqueness.

Session 10: Eager Hands

The tenth session teaches mothers how to foster a connection with their child based on mindfulness. The facilitator will guide participants in focusing on their interactions with their child, observing their child's responses, and creating a balanced and mindful communication approach. Techniques for enhancing verbal and non-verbal communication with children with ASD will be introduced, helping mothers connect more effectively with their child's needs.

Session 11: Attention to Flow

In this session, mothers will practice observing their thoughts and feelings without attachment, allowing them to flow naturally. The facilitator will guide mothers through exercises aimed at detaching from overwhelming thoughts and emotions. This session emphasizes the importance of staying present and non-reactive, allowing mothers to manage emotional highs and lows with equanimity. Participants will be encouraged to integrate these techniques into daily life.

Session 12: Acceptance as It Is

The final session focuses on the theme of unconditional acceptance and love. Mothers will be encouraged to embrace their child and themselves with compassion and understanding. The facilitator will summarize key mindfulness practices learned throughout the program and provide guidance on how to continue incorporating mindfulness and acceptance into everyday life. This session will also include a group discussion on the progress made, reflections on the program, and ways to maintain the practices beyond the intervention.

2.4. Data Analysis

To analyze the quantitative findings, mixed ANOVA was used. The obtained data were then analyzed using SPSS version 27 software.

3. Findings and Results

The average age of the mothers was 39.37 years (SD = 3.33) for the intervention group and 37.73 years (SD = 4.21) for the control group, with no significant differences found between the groups ($p = 0.102$). The gender distribution of the children did not significantly differ between groups, with 4 girls and 11 boys in both the intervention and control groups, as assessed by Chi-square ($\chi^2 = 1.0$, $p = 0.4$). Regarding the mothers' educational level, the majority had completed a bachelor's degree or higher, with no significant difference between the groups ($\chi^2 = 0.56$, $p = 0.75$). Finally, the time since the child's autism diagnosis also showed no significant group differences, with a mean duration of 3.64 years (SD = 1.29) for the intervention group and 3.67 years (SD = 1.29) for the control group ($p = 0.52$).

AFTJ Applied Family Therapy Journal
E-ISSN: 3041-8798

Table 1

Descriptive Statistics for Overall Attitude, Love and Acceptance, Shame, Failure, and Hopelessness Subscales

Variable	Group	Pre-test Mean (SD)	Pre-test Min-Max	Post-test Mean (SD)	Post-test Min-Max	Follow-up Mean (SD)	Follow-up Min-Max
Overall Attitude	Experimental	76.60 (6.29)	65.00 - 83.00	91.60 (4.89)	77.00 - 99.00	92.33 (5.05)	76.00 - 99.00
	Control	80.26 (4.79)	73.00 - 83.00	81.00 (5.55)	75.00 - 87.00	81.00 (5.32)	75.00 - 88.00
Love and Acceptance	Experimental	26.00 (2.39)	21.00 - 28.00	32.73 (3.36)	26.00 - 36.00	33.20 (3.51)	27.00 - 36.00
	Control	27.33 (3.25)	23.00 - 32.00	27.86 (3.53)	23.00 - 32.00	27.80 (3.55)	23.00 - 32.00
Shame	Experimental	5.33 (1.58)	3.00 - 10.00	7.80 (1.14)	5.00 - 10.00	7.93 (1.09)	5.00 - 10.00
	Control	4.73 (1.57)	3.00 - 9.00	4.93 (1.52)	3.00 - 9.00	5.00 (1.55)	3.00 - 9.00
Failure	Experimental	6.93 (1.46)	4.00 - 10.00	10.13 (1.56)	6.00 - 12.00	10.53 (1.62)	9.00 - 12.00
	Control	6.66 (1.38)	4.00 - 9.00	6.73 (1.15)	5.00 - 9.00	6.73 (1.11)	5.00 - 9.00
Hopelessness	Experimental	7.26 (2.04)	3.00 - 12.00	10.13 (1.56)	7.00 - 12.00	10.06 (1.57)	7.00 - 12.00
	Control	7.80 (2.12)	4.00 - 12.00	7.66 (1.88)	4.00 - 12.00	7.66 (1.90)	4.00 - 12.00

Table 1 presents the descriptive statistics for overall attitude and its subscales across the three time points for both the experimental and control groups. For overall attitude, the experimental group showed a notable increase from the pre-test (M = 76.60, SD = 6.29) to the post-test (M = 91.60, SD = 4.89) and follow-up (M = 92.33, SD = 5.05), while the control group remained relatively stable. Regarding the subscale of Love and Acceptance, the experimental group improved from pre-test (M = 26.00, SD = 2.39) to post-test (M = 32.73, SD = 3.36) and follow-up (M = 33.20, SD = 3.51), while the control group showed minimal change. In terms of Shame, the experimental group demonstrated a significant increase from pre-test (M = 5.33, SD = 1.58) to post-test (M = 7.80, SD = 1.14) and follow-up (M = 7.93, SD = 1.09), while the control group showed slight increases. For the Failure subscale, the experimental group's score increased significantly from pre-test (M = 6.93, SD = 1.46) to post-test (M = 10.13, SD = 1.56) and follow-up (M = 10.53, SD = 1.62), whereas the control group showed minimal change. Lastly, Hopelessness in the experimental group showed a marked rise from pre-test (M = 7.26, SD = 2.04) to post-test (M = 10.13, SD = 1.56) and follow-up (M = 10.06, SD = 1.57), with the control group exhibiting little change.

The assumptions for the analysis were first assessed using Mauchly's Test of Sphericity to examine the covariance matrix homogeneity and the assumption of sphericity. For all variables, the results of Mauchly's test indicated that the assumption of sphericity was violated ($p < .001$), as evidenced by significant values (e.g., Mauchly's W for overall attitude = 0.49, $p < .001$). Consequently, the Greenhouse-Geisser correction was applied to adjust for this violation in the analysis of variance. Furthermore, the assumption of normality for the variables was assessed by examining the distribution of residuals, and the results indicated that the data were approximately normally distributed, with no substantial deviations observed in skewness or kurtosis. Additionally, the assumption of independence was met, as participants were randomly assigned to either the experimental or control group, and there were no repeated measures within groups other than those related to time. Finally, the assumption of homogeneity of variance was assessed through Levene's test, and results indicated no significant violations ($p > .05$), confirming that the variance across the groups was approximately equal at each time point. These checks ensured the validity of the statistical results presented in the analysis.

Table 2

ANOVA Results for Overall Attitude, Love and Acceptance, Shame, Failure, and Hopelessness Subscales

Variable	Effect	Sum of Squares	df	Mean Square	F	Sig.
Overall Attitude	Time Effect	1298.067	1.330	975.797	171.515	.000
	Time × Group Interaction	1072.689	1.330	806.373	141.735	.001
	Group Effect	834.178	1	834.178	8.140	.008
Love and Acceptance	Time Effect	279.356	1.540	181.439	117.643	.000

AFTJ Applied Family Therapy Journal
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	Time × Group Interaction	210.156	1.540	136.494	88.501	.000
	Group Effect	199.511	1	199.511	6.404	.017
Shame	Time Effect	38.422	1.542	24.918	38.730	.000
	Time × Group Interaction	26.467	1.542	17.164	26.678	.000
	Group Effect	102.400	1	102.400	18.527	.000
Failure	Time Effect	60.689	1.606	37.790	49.271	.000
	Time × Group Interaction	56.156	1.606	34.967	45.590	.000
	Group Effect	139.378	1	139.378	37.848	.000
Hopelessness	Time Effect	107.722	1.523	70.711	38.064	.000
	Time × Group Interaction	82.611	1.523	54.237	30.643	.000
	Group Effect	177.066	1	177.066	16.552	.000

Table 2 shows the ANOVA results for overall attitude and its subscales, demonstrating statistically significant effects of the mindfulness-based acceptance intervention. The main effects for Time were significant for all variables, indicating that the passage of time had an overall impact on the attitudes measured. The Time × Group Interaction effect was significant for all variables, suggesting that the experimental group showed more substantial changes compared to the control group across all time points. Specifically, for Overall Attitude, the interaction between time and group was significant ($F = 171.515$, $p < .001$), indicating that the experimental group exhibited greater improvement. Similarly, significant changes were observed in Love and Acceptance ($F = 117.643$, $p < .001$), Shame ($F = 38.730$, $p < .001$), Failure ($F = 49.271$, $p < .001$), and Hopelessness ($F = 38.064$, $p < .001$), with the experimental group showing significantly greater improvements than the control group. The group effects were also significant for all variables, further reinforcing the effectiveness of the intervention for the experimental group in comparison to the control group.

4. Discussion and Conclusion

The present study aimed to determine the effectiveness of a mothering acceptance training package based on mindfulness on the attitudes of mothers of children with autism. The results indicated that the mindfulness-based mothering acceptance training package had a positive impact on increasing the positive attitude of mothers of children with autism. When comparing the results of this study with previous research findings, a perfect alignment was not found. However, the results of this study regarding the effect of the mindfulness-based mothering acceptance training package on increasing the positive attitude of mothers are consistent with some previous studies (Baer et al., 2004; Baer et al., 2006; Behbahani et al., 2021; Fisak & Von Lehe, 2012; Heidarian Samani et al., 2017; Hoseinzadeh et al., 2016; Hosseini Renani & Shojaei, 2020; Hosseinian et al., 2022; Kabat-Zinn, 2003; Lim et al., 2020; Mohaddes et al., 2019).

To explain the effectiveness of the mothering acceptance training package on increasing the positive attitude of mothers of children with autism, it can be stated that the child's autism, as a problem, causes mothers to develop ineffective response styles and negative attitudes towards the issue. This response style and negative attitude lead to self-conceptualization (e.g., "unlucky," "why my child?", "What sin have I committed?", "What do others think about me?") and focus on the problems, which creates cognitive fusion, belief in negative thoughts, and acceptance of these thoughts as reality. This leads to avoiding situations, lack of communication with others, and not experiencing joy, temporarily reducing anxiety. On the other hand, the repeated occurrence of these behaviors over time limits the mother's behavior, leading to increased worry and anxiety. Furthermore, the lack of a forward- or backward-looking mindset, which searches for the cause of the problem, and concerns about the child's future (e.g., education, career, marriage) create negative thoughts and feelings, thus increasing negative attitudes and lack of acceptance of the issues. As a result, focusing on the problem and cognitive fusion creates significant barriers to moving toward values, and leads to unclear values in areas such as social relations, personal growth, health, and parenting (Moghari et al., 2014).

Mindfulness-based mothering acceptance training, aimed at increasing psychological flexibility, focusing on the present moment, and clarifying values, encourages individuals to commit to behaviors aligned with their values. Therapy using components such as mindfulness helps these mothers stay in the present moment, pay attention to their daily lives, and align most of their behaviors with values related to various aspects of their lives. Strengthening present-moment attention reduces the tendency for parents to focus on avoiding or solving negative experiences and instead increases attention to the natural outcomes of their

AFTJ Applied Family Therapy Journal
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behavior, such as their child's smiles (Baer et al., 2006; Kabat-Zinn, 2003).

Mothering acceptance training, with its inherent goals, can positively affect mothers' schemas, emotions, and attitudes. It shifts the focus from the child to the mother, helping her become more aware of her behavior and make judgments about her actions. This program facilitates a precise and comprehensive self-reflection on her behavior. Overall, mothering acceptance focuses on the present and mindfulness, which can enhance knowledge and problem-solving skills, improve safety and recreation, and increase behavioral, intellectual, emotional, social, and linguistic efficiency in mothers. With the growth of these skills, a reduction in anxiety, harmful behaviors, and positive attitudes towards parenting is likely (Fisak & Von Lehe, 2012; Heidarian Samani et al., 2017).

Mothering acceptance is based on the assumption that mothers of children with autism have learned maladaptive patterns of perceiving and responding to their environment, and they also lack effective coping strategies. From this perspective, mothers of children with autism who have a negative attitude tend to focus on threats rather than constructive behaviors, leading to excessive worry, anxiety, and avoidance. After years of identifying potential threats and responding with anxiety and avoidance, these mothers develop automatic and persistent response patterns. Thus, using mothering acceptance and the cognitive content of therapeutic sessions, the processing style of these mothers changes, leading them to adopt new strategies for problem-solving (Behbahani et al., 2021).

Mothering acceptance training utilizes mindfulness and acceptance strategies to enhance psychological flexibility. This flexibility enables individuals to engage with their present experience and act in accordance with their chosen values. This experience helps mothers to engage with changes as they are, not as their mind creates them. Mindfulness-based mothering acceptance increases mothers' ability to respond adaptively and resiliently to life events, even in the presence of threatening thoughts and emotions, thus enhancing psychological flexibility when dealing with challenges associated with parenting a child with autism (Lim et al., 2020; Mohaddes et al., 2019).

Moreover, a review of the literature shows that adding mindfulness-based training to the behavioral knowledge of mothers of children with autism leads to significant behavior changes and a reduction in parenting stress. Such training improves mothers' perceptions of their autistic children and reduces behavioral issues and aggression during interactions (Baer et al., 2004; Baer et al., 2006; Behbahani et al., 2021; Fisak & Von Lehe, 2012).

Furthermore, it can be argued that at higher levels of acceptance, individuals become aware of their emotional arousal without attempting to control or avoid it, which reduces the impact of these thoughts and feelings on their behavior. At lower levels of acceptance, individuals who experience emotional arousal engage in controlling strategies to change their thoughts and feelings, which results in destructive behaviors and negative attitudes. In other words, mindfulness-based mothering acceptance, through acceptance techniques or willingness to experience hardship without attempting to suppress it, helps individuals gain a greater understanding of their ability to stand firm in the face of life's challenges. As a result, they believe they can cope with personal, familial, and social challenges and develop a more positive attitude toward their child's difficulties (Hoseinzadeh et al., 2016). Thus, avoidance, distress, and fear of challenges decrease, and mindfulness-based mothering acceptance can increase positive attitudes in mothers. Repeatedly working with thought content and avoidance tendencies gradually changes the general attitude toward negative thoughts and emotions. In other words, individuals learn that adopting a defused and developed perspective on their thoughts and emotions is the main factor influencing the success of this approach, which ultimately helps them break free from negative attitudes.

5. Suggestions and Limitations

This study faced several limitations. One of the main limitations is the convenience sampling method used, which may affect the generalizability of the results and the external validity of the research. In this study, the sample was drawn solely from mothers of children with autism who had visited the Special Education and Research Clinic for Children at Shahid Beheshti University, which limits the ability to generalize the findings. Another limitation is that the study was conducted with a small sample, which reduces the ability to apply the results to other segments of the population.

It is suggested that therapeutic counselors use this effective and practical educational approach in training sessions to address problems and improve the interactions between mothers and children with autism. Given the results of this study, which showed that the mindfulness-based mothering acceptance training package was effective for the dependent variables under investigation, it is recommended

AFTJ Applied Family Therapy Journal
E-ISSN: 3041-8798

that psychological and counseling centers organize workshops and programs to increase familiarity and awareness on this subject.

It is also suggested that the mindfulness-based mothering acceptance training package be included as a fundamental component in learning objectives within educational programs at therapeutic centers. These educational packages could be provided in CD format for use by mothers. It is recommended that counselors in therapeutic centers integrate this educational method alongside other approaches to reduce psychological problems and enhance emotion regulation in mothers of children with autism.

The findings of this study can be summarized at two levels: theoretical and practical. At the theoretical level, the results of this study can confirm the findings of previous research. At the practical level, the findings of the present study can be used to develop educational and therapeutic programs. Based on the results and the effectiveness of the approach, it is suggested that this approach be utilized in counseling clinics, family specialists, and individual therapy settings to help these mothers.

In conclusion, the observations of this study indicated the effectiveness of the mindfulness-based mothering acceptance training package on the attitudes, parent-child relationship, and emotional regulation of mothers of children with autism. Therefore, it is recommended that, based on the above results, this method could be applied to different populations and mothers of children with other behavioral disorders.

Although the mindfulness-based mothering acceptance training sessions were conducted on a relatively limited sample, the findings of this study can be strengthened if similar results are obtained in various populations, considering demographic variables such as age, education, and financial status. Since the sample in this study was confined to mothers of children with autism who visited the Special Education and Research Clinic at Shahid Beheshti University, the results are limited to this group. Therefore, it is suggested that future research investigate the effectiveness of this treatment in other groups. Future studies should be conducted in a wider geographical area to ensure more reliable generalization of the results. Researchers can reduce the external validity limitations of the study by replicating the research, especially through experimental studies. To increase the external validity of this research, it is recommended that similar studies be conducted in different regions.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. The design of this research has been approved by the Ethics Committee of Islamic Azad University, Shiraz Branch, under ethics code IR.IAU.SHIRAZ.REC.1402.153. All participants were fully informed that participation in this research was voluntary, and they had the option to withdraw at any time without penalty.

References

Anand, L., Sadowski, I., Per, M., & Khoury, B. (2023). Mindful parenting: A meta-analytic review of intrapersonal and interpersonal parental outcomes. *Current Psychology*, *42*(10), 8367-8383. https://doi.org/10.1007/s12144-021-02111-w

Azizi, M., Imannezhad, S., Moradpoor, M., Alaghbandian, E., Saeidi, P., Sobhani, M., & Mohammadi, Y. (2024). Increasing the tolerance of mothers with children with autism: the effectiveness of cognitive therapy based on mindfulness-experimental research. *Annals of medicine and surgery*, *86*(1), 207-211. https://doi.org/10.1097/MS9.0000000000001525

AFTJ Applied Family Therapy Journal
E-ISSN: 3041-8798

Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-reports: The Kentucky inventory of mindfulness skills. *Assessment*, *11*(3), 191-206. https://doi.org/10.1177/1073191104268029

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13*(1), 27-45. https://doi.org/10.1177/1073191105283504

Baker-Ericzen, M. J., Brookman-Frazee, L., & Stahmer, A. C. (2005). Stress levels and coping strategies of parents of children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *35*(5), 637-644.

Behbahani, M., Keykhosrovani, M., Amini, N., Narimani, M., & Jamee, B. a.-D. (2021). The effectiveness of mindfulness training for mothers in reducing aggression in children with autism spectrum disorder. *Journal of Mashhad University of Medical Sciences*, *64*(5), 4061-4072. https://mjms.mums.ac.ir/article_19845.html

Buchholz, A. A., Czerwińska, K., & Wolan-Nowakowska, M. (2024). Psychological Resilience of Mothers of Children with Autism Spectrum Disorder (ASD) and Perceived Social Support. *Lubelski Rocznik Pedagogiczny*, *43*(1), 47-65. https://doi.org/10.17951/lrp.2024.43.1.47-65

Date, S., Munn, E., & Frey, G. C. (2024). Postural balance control interventions in autism spectrum disorder (ASD): A systematic review. *Gait & Posture*. https://doi.org/10.1016/j.gaitpost.2024.01.034

Fisak, B., & Von Lehe, A. C. (2012). The Relation between the five facets of mindfulness and worry in a non-clinical sample. *Mindfulness*, *3*(1), 15-21. https://doi.org/10.1007/s12671-011-0075-0

Heidarian Samani, A., Sajjadian, I., & Heidari, S. (2017). The effectiveness of acceptance and commitment group therapy on mindfulness and acceptance in mothers of children with autism spectrum disorder. *Disability Studies*. https://jdisabilstud.org/article-1-718-en.html

Hoseinzadeh, Z., Kakavand, A., & Ahmadi, A. (2016). The mediating role of mindfulness and family resilience in the relationship between behavioral problems of children with autism spectrum disorders and the psychological well-being of mothers. *Exceptional Individuals Quarterly*, *6*(23). https://jpe.atu.ac.ir/article_7371.html?lang=en

Hosseini Renani, F., & Shojaei, S. (2020). The effect of a mindfulness-based program on stereotypical behaviors in high-functioning children with autism spectrum disorder. *Cognitive and Behavioral Sciences Quarterly*, *8*(2), 67-84. https://cbs.ui.ac.ir/article_25073.html?lang=en

Hosseinian, S., Nooripour, R., Soleimani, E., Abdollahi, A., & Ilanloo, H. (2022). Examining the effectiveness of mindfulness on flexibility and parent-child interactions in mothers of children with ADHD. *Journal of Empowering Exceptional Children*. https://www.ceciranj.ir/article_144983.html

Kabat-Zinn, J. (1990). *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness*. Delta. https://books.google.de/books/about/Full_Catastrophe_Living_Revised_Edition.html?id=fIuNDtnb2ZkC&redir_esc=y

Kabat-Zinn, J. (2003). Mindfulness-Based Interventions in context: Past, Present and Future. *Clinical Psychology: Science and Practice*, *10*(2), 144-156. https://doi.org/10.1093/clipsy.bpg016

Khayatzade Mahani, M. (2009). A comparative study about quality of life in mothers of children with cerebral palsy, mental retardation and mothers of normal children. *Daneshvar Medicine*, *17*(83), 49-58. https://www.sid.ir/paper/445790/fa

Koh, L. L., & Wong, S. Y. (2018). Parenting and the development of emotional regulation in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *48*(5), 1714-1725.

Lim, J., Leow, Z., Ong, J. C., Pang, L. S., & Lim, E. (2020). The effects of online group mindfulness training on stress and sleep quality during the COVID-19 pandemic in Singapore: a retrospective equivalence trial. *SSRN*. https://doi.org/10.2139/ssrn.3629960

Meamarbashi Aval, M., Tabibi, Z., & Tourani Jorjadeh, R. (2019). Examining the relationship between parent-child interaction and social skills and behavioral problems with the mediating role of inhibitory self-regulation in preschool children. *Family Research Quarterly*. https://jfr.sbu.ac.ir/article_97790.html

Moghaddam, K. (2024). Autism Spectrum Disorder: Learning Environments. https://doi.org/10.5772/intechopen.113751

Moghari, M. R., Nikbakht Nasrabadi, A., Mehran, A., Bazghaleh, M., & Rahimi, S. (2014). Parents' attitudes toward their child's mental disorders. *Journal of psychiatric nursing*, *2*(2), 46-56. https://ijpn.ir/article-1-338-en.html

Mohaddes, N., Khanjani, Z., & Aghdasi, A. N. (2019). The effectiveness of mindfulness-based intervention on emotional regulation difficulties in male students with conduct disorder. *Educational and Evaluative Research Journal*, *12*(48), 63-86. https://www.magiran.com/paper/2140045/the-effectiveness-of-mindfulness-based-intervention-on-the-emotion-regulation-difficulties-components-of-students-with-conduct-disorder?lang=en

Mohammadi Mazraei, E., Rezapour Mir Saleh, Y., & Arianpour, H. R. (2021). Exploring the role of God-awareness in mothers' acceptance of children with autism: A qualitative study. *Religion and Health Quarterly*, *9*(2), 5-14. https://jrh.mazums.ac.ir/article-1-945-en.html

Nikbakht, R., & Haghaigh, S. A. (2019). The role of parenting stress and social stigma in parent-child interactions in mothers of children with autism. *Cultural Psychology Biannual*, *3*(2), 124-138. https://jcp.samt.ac.ir/article_107391.html

Pagan, A. F. (2024). Motivational Interviewing for Young Adults With Autism Spectrum Disorder: A Pilot Feasibility Study. https://doi.org/10.31234/osf.io/mt247

Riebel, M., Krasny-Pacini, A., Manolov, R., Rohmer, O., & Weiner, L. (2024). Compassion focused therapy for self-stigma and shame in autism: a single case pre-experimental study. *Frontiers in Psychiatry*, *14*, 1281428. https://doi.org/10.3389/fpsyt.2023.1281428

Samad, A. (2024). Effects of Sensory Integration to Manage Behavior Problems of Children With Autism Spectrum Disorder. *Allied Medical Research Journal*, 203-212. https://doi.org/10.59564/amrj/02.01/023

Vuijk, R. (2024). Schema Therapy in Adults With Autism Spectrum Disorder: A Scoping Review. *Clinical Psychology & Psychotherapy*, *31*(1). https://doi.org/10.1002/cpp.2949

Yavari, A., Zamanian, M., Panahian, M., & Valizadeh, A. (2022). Prevalence of high-functioning autism spectrum disorder among 7 to 12-year-old students. *Health Image*, *13*(2), 165-174. https://doi.org/10.34172/doh.2022.24

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