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Research Paper: The Effectiveness of Group-based Stress Immunization Training in Enhancing the Quality of Life of Mothers of Children with Autism Spectrum Disorder (ASD)

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Abstract

Objective: Parents often exhibit diverse reactions to the birth of their child, particularly when the child is born with a specific issue or disability, such as Autism Spectrum Disorder (ASD). The current study was designed to evaluate the effects of group-based Stress Immunization Training and its subsequent impact on the Quality of Life of mothers with children diagnosed with ASD.

Methods: This quasi-experimental study utilized a pre-test-post-test control group design. The participants were mothers of children with ASD who had sought services at a temporary care center for children with Autism Spectrum in Rasht in the year 2021. Initially, forty mothers were selected through purposive sampling and were randomly divided into experimental and control groups. Both groups completed the WHOQOL-BREF Quality of Life questionnaire. The experimental group then underwent 6 sessions of Stress Immunization Training (two hours per week), while the control group received nothing. Upon completion of the sessions, the Quality of Life questionnaire was administered again to both groups. The collected data were analyzed using covariance statistical analysis with a significance level set at 0.05.

Results: The findings indicated that group-based Stress Immunization Training significantly improved the Quality of Life in mothers of children with ASD.

Conclusion: Therefore, this treatment can be used by counselors and psychologists to increase the quality of life of the mothers of children with ASD.

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1. Introduction

Autism Spectrum Disorder (ASD), a Neurodevelopmental disorder, is recognized for its lifelong persistence and is one of the most prevalent childhood disorders (Nayar et al., 2021). It is characterized by enduring difficulties in social interaction and communication, coupled with restricted and repetitive behavioral patterns, with symptoms typically manifested in the initial stages of development post-birth (Anjomani & Taklavi, 2019). The advent of a child diagnosed with ASD within a family, particularly considering the specialized care demands, poses a considerable stressor for mothers who are primarily engaged in caregiving. This stress exerts a profound impact on their psychological well-being, adaptability, and overall quality of life, thereby undermining their adjustment capabilities and posing a threat to their physical and mental health (Shaham, 2021). Furthermore, the parenting stress associated with the unique needs of these children can lead to adverse long-term effects. Empirical evidence suggests that mothers of children with ASD frequently face challenges related to life satisfaction, self-esteem, and mental health (Hsiao, 2016), and are prone to experiencing elevated stress and depressive symptoms (Kim et al., 2016). Consequently, the quality of life of the mothers in this demographic warrants significant attention and intervention.

The quality of life for parents of children with autism is diminished due to a complex matrix of environmental, genetic, social, and economic variables as well as social support, parental characteristics, and coping strategies (Mugno et al., 2007). Additionally, research shows that the psychological and physical burden of raising most children with autism falls on the mother (Haglund et al., 2016). These issues cause mothers of children with autism to experience lower levels of quality of life compared to mothers of children with mental retardedness without autism, children with cerebral palsy, and typical children (Kheir et al., 2012).

Quality of life is defined as the feeling of well-being derived from satisfaction or dissatisfaction with various aspects of life that are important to an individual. This concept is a completely mental and personal understanding based on happiness with individual satisfaction from factors affecting welfare, physical, emotional, and social functioning, which aims to enhance or maintain an individual's ability for the best possible performance and condition (Rezayi, 2016). According to research findings, quality of life is the outcome of psychological pressures, life events, environmental and social factors on the one hand, and programs such as general health and individual resources like cognition, coping ability, sense of competence, sense of security, adaptive skills, a stable system of value beliefs, and support systems on the other (Moazedi, 2019). Quality of life encompasses a concept beyond physical health and must be independently assessed as one of the most important outcomes. Zablotsky et al. (2013) supported the relationship between the severity of autism symptoms and the lower quality of life of the mothers of children with ASD. Moreover, in the research by Zamani et

al. (2022), it was determined that middle-aged homemakers with children suffering from ASD had the lowest average quality of life score among all the mothers studied. Rezayi (2016) showed that the quality of life of mothers with children with ASD was lower compared to two groups of mothers with deaf and blind children, and the quality of life of mothers with blind children was better than both the deaf and autistic groups.

Stress Immunization Training emerges as a significant intervention for improving the quality of life of mothers with children with ASD. A cognitive-behavioral technique, widely recognized for its therapeutic and preventative benefits, has been refined by Meichenbaum (2003). This method functions analogously to a medical vaccine, fortifying individuals against potential psychological afflictions (Ghaderi et al., 2020). It equips individuals with the foresight and tools to manage future stressors effectively, thereby mitigating the impact of stress (Ghanimi et al., 2019).

Empirical studies have explored the efficacy of Stress Immunization Training across diverse populations. Ghanimi et al. (2019) discovered that such training, particularly in managing perceived social support and stress, significantly enhances the physical health aspect of mothers' quality of life. Hosseini et al. (2011) confirmed the positive effects of stress-coping skills training on the mental health and cognitive well-being of mothers with autistic children. Additionally, Sohrabi et al. (2011) concluded that Stress Immunization Training substantially reduces stress, anxiety, and depression among employed women.

A review of existing research on interventions designed to improve the quality of life for mothers of children with ASD revealed a modest number of studies focusing on the benefits of Stress Immunization Training. While these studies have not been extensive, they highlighted the significance of such training in enhancing maternal well-being. Ensuring a high quality of life for these mothers is crucial, as it directly influences their capacity to effectively care for and nurture their children with autism. This research delved into the effects of group-based Stress Immunization Training, offering insights and strategies for specialists and program developers to bolster the quality of life for these dedicated mothers.

2. Methods

This research was a quasi-experimental one employing a pretest-posttest control group design. The participants were mothers of children diagnosed with ASD who, in 2021, had sought services at a temporary care center for Autism Spectrum in Rasht and their children had enrolled there. Given that the minimum required sample size for experimental studies is 15 (Delavar, 2022), a purposive sampling method was used to select 40 mothers from this population. They were then randomly divided into experimental and control groups. Eligibility for the study required the absence of acute neurological and psychiatric disorders and a minimum educational level of middle school. Before the educational intervention, both groups filled out the WHOQOL-BREF Quality-of-Life Scale. The experimental group subsequently underwent six sessions of group-based Stress Immunization Training,

each lasting two hours per week, while the control group received no such training. Following the completion of these sessions, the Quality-of-Life Scale was re-administered to both groups. The collected data were analyzed using SPSS version 27, with a significance threshold set at 0.05.

2.1. Instruments

The World Health Organization Quality-of-Life Scale (WHOQOL-BREF): This is a 26-item questionnaire developed in 1996 by experts from the World Health Organization. It was derived by modifying items from the original 100-question version. The questionnaire provides an overall quality-of-life score and includes four sub-scales: physical health (questions 3, 4, 10, 15, 16, 17, 18), mental health (questions 5, 6, 7, 11, 19, 26), social relationships (questions 20, 21, 22), and environmental health (questions 8, 9, 12, 13, 14, 23, 24, 25). Each item is rated on a 5-point Likert scale, with scores ranging from 1 to 5. The first two questions, which are not part of any sub-scale, assess overall health and quality of life. Scores within each domain are calculated to range from 4 to 20, where 4 represents the poorest and 20 is the best possible condition for the respective domain. These scores can be transformed into a 0-100 scale. The questionnaire's validity was confirmed using the Kuder-Richardson formula, and its reliability was measured using Cronbach's alpha, with the original version achieving scores of 0.87 and 0.81, respectively (WHOQOL group, 1996). Nejat et al. (2006) reported the test-retest reliability for this questionnaire among 1167 individuals in Tehran to be 0.77 for physical health, 0.77 for mental health, 0.75 for social relationships, and 0.84 for environmental health. The questionnaire's validity was also determined to be above 0.8 for all components and the overall score.

2.2. Training Sessions

Six educational sessions, structured around Meichenbaum's Stress Immunization Training method (1985), are outlined in Table 1.

Table1

Schedule of Stress Immunization Training according to Meichenbaum's (1985) protocol

Session	Task
First	Taking a medical history and being acquainted with the patients, completing questionnaires, and participants filling out informed consent forms. Reconceptualizing the problem, describing stress, symptoms, and its impact on mothers' quality of life, explaining the role of Stress Immunization Training for better stress control, and assigning homework.
Second	Teaching muscle relaxation using an audio CD and without an audio CD, assigning homework, and practicing muscle relaxation at home.

Session	Task
Third	Familiarization with cognitive concepts and the role of thoughts in creating stress, the connection between thoughts, emotions, and behavior, identifying them, practicing muscle relaxation during the session, assigning homework, and practicing muscle relaxation at home.
Fourth	Challenging stress-inducing thoughts and testing negative thoughts, teaching self-talk, and identifying the role of negative self-talk in creating stress, practicing muscle relaxation during the session, assigning homework, and practicing muscle relaxation at home.
Fifth	Focusing thoughts and techniques for redirecting attention and getting distracted from unresolved stressful subjects; plus problem-solving training, practicing muscle relaxation during the session, assigning homework, and practicing muscle relaxation at home.
Sixth	Practicing skills learned in previous sessions and emphasizing the necessity of applying these skills when encountering stressful situations to improve the quality of life.

3. Results

The study sample consisted of 40 mothers with autistic children in the city of Rasht. The mean, standard deviation, and research variables are reported in Table 2:

Table 2
Mean and Standard Deviation of Pre-test and Post-test Quality of Life in Control and Experimental Groups

Index Criterion	Groups	Test	Mean	Standard Deviation
Quality of Life	Control	Pre-test	29.7	4.13
		Post-test	30.8	4.22
	Experimental	Pre-test	28.21	4.21
		Post-test	59.51	7.72

According to the results of Table 2, the mean of the quality of life in the control group was 29.7 in the pre-test and 30.8 in the post-test, and in the experimental group, it was 28.21 in the pre-test and 59.51 in the post-test. As observed, changes in the control group from pre-test to post-test were negligible, but the changes in the experimental group's quality of life from pre-test to post-test were significant.

For the covariance analysis, the Kolmogorov-Smirnov test yielded p-values above 0.05, confirming the normal distribution of the data (experimental group pre-test $p < 0.05$, $z = 0.401$; post-test $p < 0.05$, $z = 0.296$; control group pre-test $p < 0.05$, $z =$

0.288; post-test $p < 0.05$, $z = 0.309$). Furthermore, Levene's test for equality of variances returned a non-significant F-value ($p > 0.05$, $F = 0.353$), supporting the assumption of homogeneity of variances between the groups.

Table 3

Results of the Covariance Analysis on the Impact of Group Stress Immunization Training on Quality of Life

Index	Source	Total	Mean	df	F	Sig	Effect Size
Quality of Life	Pre-test	117.39	117.39	1	2.12	0.02	0.18
	Group	588.87	588.87	1	5.67	0.02	0.698
	Error	294.76	12.28	38			

As observed in Table 3, the results indicated that the F-value was 5.67, which was significant at an error level less than 0.05. Therefore, the Stress Immunization Training was effective in improving the quality of life for mothers with children diagnosed with Autism Spectrum Disorder. The effect size suggested that 69 percent of the variance in the quality of life can be explained through group differences.

4. Discussion

The research results demonstrated that group-based Stress Immunization Training was effective in improving the quality of life of mothers with children diagnosed with Autism Spectrum Disorder. These findings are consistent with the research conducted by Zablotsky et al. (2013), Zamani et al. (2022), and Rezayi et al. (2016). It can be explained that psychological Stress Immunization Training is a combination of cognitive restructuring, problem-solving, relaxation training, mental and behavioral visualization exercises, self-instruction, self-reinforcement, and efforts to change the environment. Utilizing Stress Immunization Training enhances positive motivation, behavioral, emotional, cognitive, and social skills, leading to reduced tension and unrest, increased coping with challenging events, and consequently, an improvement in quality of life (Ashori & Jalil Abkenar, 2019). The training program impacts emotional reactions, leading to changes in acceptance, positive refocusing, planning, thinking about the positive aspects of an event or personal growth, and thoughts related to the insignificance of the event or its relativity compared to other events (Kang et al., 2009). By increasing knowledge, skills, confidence, and self-efficacy, the psychological Stress Immunization program enhances individuals' ability to understand situations and challenges and creates practical

strategies for understanding the situation and appropriate response. The program teaches practical and effective strategies for emotional self-regulation, independence, and problem-solving skills. Acquiring these skills also leads to the development of successful peer relationships and prepares individuals for success in depressive situations and mental health, thereby improving quality of life. The goal of Stress Immunization is to assist individuals in developing and acquiring coping skills for current and future problems. Experts introduce the model of psychological Stress Immunization by linking components of psychological education, cognitive-behavioral therapy, rational-emotive therapy, problem-solving training, and social skills training. Therefore, as a cognitive strategy encompassing the mentioned components, the psychological Stress Immunization method can play an effective role in reducing the emotional negativity of mothers with children diagnosed with ASD. The program also focuses on practical strategies for emotional self-regulation, independence, and problem-solving skills. These skills contribute to successful interpersonal relationships and equip individuals to succeed in difficult situations, thereby enhancing mental health and overall quality of life. The ultimate goal of Stress Immunization is to help individuals develop a wider range of coping skills to effectively handle current and future challenges. By integrating elements of psychological education, cognitive-behavioral therapy, rational-emotive therapy, problem-solving training, and social skills training, professionals have developed the psychological Stress Immunization model. Thus, as a comprehensive cognitive strategy, psychological Stress Immunization can significantly reduce emotional distress in mothers of children with ASD. The program addresses emotional negativity by 1) increasing knowledge, skills, confidence, and self-efficacy; 2) providing practical solutions through problem-solving by modeling and cognitive understanding of events; 3) enhancing cognitive-behavioral capabilities and creating an environment with minimal conflict for an individual and 4) reinforcing positive motivation and reducing tension as well as unrest in parents (Purnamaningsih, 2017).

The present study also encountered certain constraints. Notably, the researcher faced limitations that affected her ability to monitor the ongoing implementation of the psychological Stress Immunization program. Consequently, future research designs are advised to incorporate extended follow-up periods for treatment. The findings of this study promote the creation of a psychological Stress Immunization Training program that integrates cultural and religious doctrines, assessing its impact on personality traits, mental health, and other cohorts of children with special needs. It is further suggested that such training programs be offered to psychologists, counselors, and educators of families and couples during different stages of life. Additionally, it is proposed that existing programs be revised and educational workshops be developed for professionals in education, teachers, coaches, family education lecturers, and students specializing in psychological Stress Immunization Training.

5. Conclusion

Based on the findings of the current research, group-based Stress Immunization Training led to a reduction in stress and a relative increase in the quality of life for mothers with children diagnosed with ASD. Therefore, group-based Stress Immunization Training can be used in clinical settings such as psychological clinics, temporary care centers for children with ASD, and special education schools to enhance the quality of life of these mothers.

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Conflict of Interest

The Author declares that there is no conflict of interest with any organization. Also, this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Reference

Anjomani, M., Taklavi, S. (2019). The Role of Attachment to God and Emotional Maturation in Prediction of Self Compassion of Deaf Children's Mothers. *Journal of Health and Care, 10;21(2),* 117-25. https://doi.org/10.29252/jhc.21.2.117

Ashori, M., Jalil Abkenar., S.S. (2019). The effectiveness of mental immunization program on social competency of individuals with cerebral palsy. *Journal of Exceptional Children;18(3).* 29-38. http://rehabilitationj.uswr.ac.ir/article-1-2014-en.html

Delavar, A. (2022). *Research in psychology educational sciences*. Roshd.

Ghaderi, S., Vatankhah, H., & Gholami Heydarabadi, Z. (2020). The Effectiveness of Psychological Immunization Program on Depression, Anxiety and Stress Reactions in Mothers of Children with Behavioral Disorder. *Family and Health, 9(4),* 138-149. https://journal.astara.ir/article_249436.html?lang=en

Ghanimi, F., Dadkhah, A., Danesh, E., & Taghiloo, S. (2019). Comparative study of the effectiveness of stress management and social support perception training based on the cognitive-behavioral manner on Quality of Life of Mothers of children with Autism spectrum disorder. *Psychology of Exceptional Individuals, 9(35),* 73-99. https://doi.org/10.22054/jpe.2020.47587.2062

Hosseini., S. M., Farahbakhsh., K., and Abedi., A. (2011). *Investigating the impact of stress coping skills training on the mental health and psychological well-being of mothers of autistic children in Isfahan*. The third national counseling conference.

Hsiao, Y. J. (2016). Pathways to mental health-related quality of life for parents of children with autism spectrum disorder: Roles of parental stress, children's performance, medical support, and neighbor support. *Research in Autism Spectrum Disorders, 23,* 122-130. http://dx.doi.org/10.1016/j.rasd.2015.10.008

Haglund, N., Dahlgren, S., Källén, K., Gustafsson, P., Råstam, M. (2016). The observation scale for autism (OSA): a new screening method to detect autism spectrum disorder before age three years. *Journal of Intellectual Disability-Diagnosis and Treatment; 3(4)*, 230 -237. http://www.lifescienceglobal.com/pms/index.php/jiddt/article/view/3530/2068

Kang, Y.S., Choi, S.Y., Ryu, E. (2009). The effectiveness of the Psychological Immunization Program on the stress, anxiety, and depression experienced by nursing students in Korea. *Nurse Education Today. 29*, 538-543. https://doi.org/10.1016/j.nedt.2008.12.003

Kheir, N. M., Ghoneim, O. M., Sandridge, A. L., Hayder, S. A., Al–Ismail, M. S., Al–Rawi, F. (2012). Concerns and considerations among caregivers of a child with autism in Qatar. *BMC Res Notes, 5*, 290 -299. https://doi.org/10.1186/1756-0500-5-290

Kim, I., Ekas, N. V., & Hock, R. (2016). Associations between child behavior problems, family management, and depressive symptoms for mothers of children with autism spectrum disorder. *Research in Autism Spectrum Disorders, 26*, 80-90. http://dx.doi.org/10.1016/j.rasd.2016.03.009

Meichenbaum, D. (1996). Stress inoculation training for coping with stress, *The clinical psychologist, 49;* 4-7.

Meichenbaum, D. (2003). *Treatment of individuals with anger-control problems and aggressive behaviors*. New York: Crown House Publishing.

Meichenbaum D. (1985). *Stress Inoculation Training.* New York: Pergamon;

Moazedi, K., Porzoor, P., Pirani, Z., Adl, H., Ahmadi, H. (2019). The effectiveness of Islamic teaching based religious -spiritual psychotherapy on quality of life, in infertile women. *Journal of Health, 9(5)*, 589 -598. https://healthjournal.arums.ac.ir/browse.php?a_id=1697&sid=1&slc_lang=en

Mugno, D., Ruta, L., D'Arrigo, VG., Mazzone, L. (2007). Impairment of quality of life in parents of children and adolescents with pervasive developmental disorder. *Health and Quality of Life Outcomes, 5(22)*, 1-9. https://doi.org/10.1186/1477-7525-5-22

Nayar, K., Sealock, JM., Maltman, N., Bush, L., Cook, E.H., Davis, L.K., Losh, M. (2021). Elevated polygenic burden for autism spectrum disorder is associated with the broad autism phenotype in mothers of individuals with autism spectrum disorder. *Biological psychiatry. 1, 89(5)*, 476-85. https://doi.org/10.1016/j.biopsych.2020.08.029

Nejat, S., Montazeri, A., Holakouie Naieni, K., Mohammad, K., Majdzadeh, S. (2006). The World Health Organization Quality of Life (WHOQOL-BREF) questionnaire: Translation and validation study of the Iranian version. *Journal of School of Public Health and Institute of Public Health Research, 4 (4)*, 1-12. http://sjsph.tums.ac.ir/article-1-187-en.html

Purnamaningsih, E.H. (2017). Inoculation training on Personality and emotion regulation strategies. *International Journal of Psychological Research, 10(1)*, 53-60 https://doi.org/10.21500/20112084.2040

Rezayi., S. (2016). A Comparative Study Of The Mothers' Life Quality Of Children With Visual Impairment, Hearing And Autism. *Woman Cultural Psychology*. *32*(8), 63-71. https://sanad.iau.ir/en/Journal/jwc/Article/919747

Shaham, N., Kazemian Moghadam, K., Haroon Rshidi, H. (2021). The Effectiveness of Schema Therapy on Parental Stress and Psychological Hardiness of Mothers of Children with Autism Spectrum Disorder. *Journal of Exceptional Education, 3*(163), 92-92. http://exceptionaleducation.ir/article-1-2227-en.html

Sohrabi, F., Dārini, M., & Dāvūdi, H. (2011). Effectiveness of Stress Inoculation Training on Reduction of Stress, Anxiety and Depression in Working Women. *Clinical Psychology Studies, 2(5),* 28-49 https://jcps.atu.ac.ir/article_2081.html

World Health Organization. (1996). *WHOQOL-BREF: introduction, administration, scoring, and generic version of the assessment: field trial version*. (No. WHOQOL-BREF). Geneva: World Health Organization.

Zablotsky, B., Anderson, C., & Law, P. (2013). The association between child autism symptomatology, maternal quality of life, and risk for depression. *Journal of Autism and Developmental Disorders, 43(8),* 1946-1955. https://doi.org/10.1007/s10803-012-1745-z

Zamani, P., Khoramshahi, H., Khosravi, N., Hesam, S. (2022). Comparison of quality of life, anxiety, and satisfaction with rehabilitation services among mothers of children with autism spectrum disorders and those without autistic children in Ahvaz-Iran. *Medical Journal of Tabriz Uni Medical Sciences, 44*(5), 438-448. https://mj.tbzmed.ac.ir/Article/mj-30955