

The Effectiveness of Logo therapy-Based Intervention on meaning of life and resilience among mothers of children with autistic spectrum disorder

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Abstract: Background: autistic spectrum disorder have significant negative impact on both children and parents. So, **the purpose of the study** was to evaluate effectiveness of logo therapy-based intervention on meaning of life and resilience among mothers of children with autistic spectrum disorder **Design:** A quasi-experimental design was employed, with two groups-the study group and the control group. **A purposive sample** of eighty mothers of children were divided into two equal groups: one that received an intervention (N = 40) and another that only received routine care and served as a control (N = 40). **The study was conducted** at the psychiatric outpatient clinic of Menoufia University Hospital at Shebin El-kom. **Three instruments** were utilized: (1) Structured interview assessment form ;(2) Meaning in Life Questionnaire; and (3) The Modified Connor-Davidson Resilience Scale. **Results:** After logo therapy-based intervention and follow up, the total score of meaning in life and resilience level in the intervention group significantly improved compared to the control group **Conclusion:** The logo therapy-based intervention was an effective intervention on improving resilience and sense of purpose in life among mothers of children who have autism spectrum disorder. **Recommendations:** Psychiatric nurses must undergo comprehensive training in logo therapy to effectively support mothers while caring for their children.

Key Words: *Autistic spectrum disorder Logo therapy-Based Intervention meaning of life, resilience*

Introduction

Autism spectrum disorder (ASD) is a chronic developmental disability characterized by a triad of core symptoms: are repetitive and restricting behaviors, difficulties interacting with

others, and impairments in verbal and nonverbal communication (Barnameh et al., 2024). A family's normal functioning is frequently disrupted and parental responsibilities are greatly

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strained when a kid with ASD is present, especially for mothers' psychological well-being and general mental health. (Pastor-Cerezuela et al., 2020).

Mothers of children with ASD frequently encounter numerous challenges and psychological stressors. Studies show that these mothers endure intense and ongoing emotional pressure, which can negatively impact their mental well-being. According to psychological theories, one of the key steps in overcoming life's difficulties is to deepen one's understanding of the events and their underlying meanings, a process commonly described as "finding meaning" (Pakenham et al., 2004).

It is well known that the pursuit of meaning is a fundamental human urge that gives people a sense of direction and improves their capacity to handle adversity. (Schippers & Ziegler, 2019). In this sense, finding purpose in life promotes constructive responses to hardship and efficient problem-solving, both of which are essential for maintaining mental health. The sense of purpose and significance people attach to their lives is known as "meaning in life," and it is a major source of inspiration. (Chu & Lowery, 2024).

Having a strong life purpose can act as a psychological buffer, enabling moms to better comprehend their circumstances and preserve emotional stability. Mothers who find greater meaning in their caring responsibilities are more likely to maintain their mental health, increase their resilience, and better handle stress. Their desire and endurance are boosted by this feeling of

purpose, which enables them to see difficulties as a necessary component of a larger goal. Resilience, subjective well-being, and life purpose all work together to influence psychological health and stress tolerance. (Buchholz et al., 2024)

Resilience is generally defined as the ability to adapt positively when faced with adversity by drawing on internal strengths and emotional resources to cope and recover. (Cooke et al., 2020). Mothers who are less resilient may find it difficult to cope with everyday stressors, which leaves them more susceptible to mental health conditions including anxiety, despair, and fatigue. Because of the ongoing caregiving responsibilities and emotional strains associated with raising a child with complex needs, moms of children with ASD frequently see a reduction in resilience over time. (Barnameh et al., 2023).

This reduced resilience can undermine the quality and consistency of care, strain family relationships, and negatively affect the child's development and emotional well-being. Therefore, fostering resilience is crucial not only for the mother's mental health but also for sustaining a stable and nurturing family environment (Ghanouni & Eves, 2023). In order for people to accept and cope with the difficult stages of life, logo therapy acts as a guide to help them uncover the meaning and values that are concealed within. The goal of logo therapy is to help people find their purpose in life by helping them get over their shame and pain (Tayyebi et al., 2014).

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Logo therapy, an existential therapeutic approach pioneered by Viktor Frankl, centers on helping individuals find meaning in life, which serves as a fundamental driver of mental health and resilience. This approach has demonstrated effectiveness in helping individuals confront existential distress and find renewed purpose (Adhiya-Shah, 2017). For mothers caring for children with (ASD), interventions based on logo therapy have demonstrated effectiveness in enhancing their life purpose and boosting their capacity to handle caregiving stresses (Kenneth & Patricia, 2024).

Nurses have a vital role in delivering these interventions, offering emotional assistance, facilitating therapeutic methods like Socratic questioning and de reflection, and creating supportive spaces that encourage self-discovery and healing. (Lukas, 2020). Through their involvement, nurses enable mothers to restore a sense of hope, alleviate emotional burdens, and strengthen their resilience. Therefore, integrating logo therapy into nursing practice offers useful strategies to help mothers better manage the particular difficulties associated raising a child with ASD. (Maurits et al., 2023).

Significance of the study:

In developing countries like Egypt, the mental health and well-being of caregivers especially mothers of children with autism spectrum disorder (ASD is an urgent yet frequently neglected concern. A recent large-scale study in Giza found that 22.5% of 3,555 participants were diagnosed with ASD

(Meguid et al., 2023). Although most interventions programs in Egypt focus on child development, with little attention to caregivers' mental health. Mothers often juggle caregiving, therapy coordination, and advocacy without sufficient psychological support .revealing a major gap in existing services. (Shata et al., 2017),This study is significant because it explores the application of logo therapy-based interventions as a means of fostering resilience and a sense of meaning in life among mothers caring for kids with ASD. By cultivating these psychological resources, such interventions have the potential to enhance emotional well-being, reduce caregiver burnout, and strengthen overall family functioning. By prioritizing caregiver mental health, the research addresses a critical gap and highlights the potential of logo therapy in low-resource settings, ultimately benefiting both mothers and their children with ASD.

Theoretical and operational definitions:

- **Meaning of life:** is defined conceptually as the degree to which a person's life is valuable and significant. (Bartres-Faz et al., 2018). In this investigation, it is operationally defined as the mother's belief that life is purposeful, comprehensible, and meaningful. Measurement will be conducted using the meaning in life questionnaire, which was created by Steger et al., (2006).
- **Resilience** is theoretically defined as the individual's capacity to adapt to

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stress sources, manage with stressful situations and crises, recover from difficult life experiences, or successfully adjust to changes or disasters. (Onan et al., 2019). While in this study, it is operationally defined as the capacity of moms to adjust to change, cope with life's challenges, and manage negative emotions like pain, grief, or rage. Maintains concentration, thinks rationally, and doesn't give up when they fail. It will be measured with Modified Connor-Davidson Resilience Scale (CD-RISC) that was created by Connor & Davidson (2007).

- **Logo therapy:** is theoretically defined as an existential form of psychotherapy developed by Viktor E. Frankl. It is based on the idea that the search for purpose in life is the main source of human drive. (Frankl, 2006). For the purposes of this study, logo therapy is operationally defined as a therapeutic method that assists individuals in identifying and embracing personal meaning through structured techniques such as Socratic dialogue, dereflection, and paradoxical intention. These methods are applied to help individuals confront existential challenges, alleviate psychological distress, and cultivate a deeper sense of responsibility and purpose (Batthyány, 2016).

Purpose:

To evaluate effectiveness of logo therapy-based intervention on meaning in life and resilience among mothers of

children with autistic spectrum disorder.

Research Hypotheses:

- Autistic spectrum children's mothers who will attend the logo therapy based intervention are more likely to have higher scores in meaning of life post-intervention compared to mothers who will not attend the intervention.
- Autistic spectrum children's mothers who will attend the logo therapy based intervention are more likely to have higher levels of resilience post-intervention compared to mothers who will not attend the intervention

Design:

A quasi-experimental design comprising a study and control group, pre-post, and follow-up was employed to accomplish the study's goal.

Setting:

The study was conducted at the psychiatric outpatient clinics in Menoufia University Hospital at Shebin El-kom city

Sampling:

A purposive sample of eighty mother of children diagnosed with autism was chosen for the study based on the following criteria which include: mothers who provide the majority of their daily care to children affected by autism, don't have psychiatric illnesses or drug addiction (based on mothers report) and no recent participation in simultaneous psychological care interventions. Mothers who meet the eligibility requirements were distributed randomly into equal group.

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The intervention group (I) consists of 40 mothers and the control group (II) consists of 40 mothers. An intervention based on logo therapy was given to the implementation group (I). The control group (ii) just received standard treatment and received no intervention.

Sample size:

Sample size has been calculated using the following equation: $n = (z^2 \times p \times q) / D^2$ at power 80% and CI 95%, the calculated sample was 80.

Instruments: -

Instrument one: Structured interview assessment form:

After a thorough literature review (Mihandoust et al, 2021) it was developed to assess socio-demographic traits of the mothers and their children. It was divided into two parts:

- **Part one:** Sociodemographic traits of mothers, including age, marital status, employment status, place of residence, education, parent-child connection, income level, and number of children.
- **Part two:** The child's socio-demographic characteristics, such as gender, age, and birth order.

Instrument two: Meaning in Life Questionnaire (MLQ):

It was designed by Steger et al, (2006) it was used to measure meaning in life. It consisted of 10 items with two subscales measuring "the search for meaning in life" and "the existence of meaning in life." The scale is made up of ten statements. For example, the existence of meaning in life statement is phrased negatively and reverse-

coded as 1, 4, 5, 6, and 9. Items 2, 3, 7, 8, and 10 show that the phrase "searching for meaning" is phrased positively. Each item was rated on a 7-point Likert scale (with responses ranging from 1="completely wrong" to 7="completely correct"). The scores on both scales range from 5 to 35, with the higher score indicating a higher level of the presence or the search for meaning in life. This questionnaire was tested for its validity by a panel of experts. The reliability of the scale was done using the Cronbach alpha reliability test and proved to be strongly reliable at (0.933)

Instrument three: The Modified Connor-Davidson Resilience Scale (CD-RISC):

It was developed by Connor and Davidson, (2007) and translated into Arabic by Salem (2022). It was used to evaluate resilience. The scale consists of twenty-eight items. Each item was rated on a five-point Likert scale ranging from (1- 5), where 1 was for very disagree, 2 was for neutral, 4 was for agree, and 5 was for very agree. A group of specialists assessed the reliability and validity of the modified CD-RISC (Connor-Davidson Resilience Scale). The Cronbach alpha reliability test was employed to assess the scale's reliability, and it was determined to be highly reliable at (0.917), indicating that the instrument was internally consistent. The total score can range from 28-140 which is represented as the following:

Low level of resilience	28-64
Moderate level of resilience	65-102
High level of resilience	103-140.

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Validity:

The forms of Meaning in Life Questionnaire translated by the researchers, were submitted to five scholastic nursing professors' specialists in the fields of psychiatric, community and woman's health and pediatric nursing to evaluate face and content validity. The tool's contents were verified for completeness, relevancy, and clarity. The necessary changes were made based on the professionals' advice.

Ethical consideration:

Ethical approval was obtained from the ethical and rehearsal research committee of the faculty of nursing, Menoufia University (approved number is ERCNMA1000/4/9/48/24). Purpose of the study, advantages, and obligations was explained for each mother before signed an official form related to their acceptance to participate in the research. They were permitted to withdraw at any time due to the study's voluntary nature. Following the administration of the post-tests to the intervention group, and the logo therapy-based intervention was applied to the control group mothers when desired.

Pilot study:

The feasibility, clarity, and applicability of the instruments were tested, along with the time it took for respondents to complete them, in a pilot study that involved 10% of the total sample, (8 mothers). The study sample did not include them.

Procedure: -

The study's purpose and data collection methods were described in a formal letter from the Dean of the Faculty of Nursing at Menoufia University to the administrator of the outpatient clinic at Menoufia University Hospital in Shebin al-Kom, Menoufia Governorate, Egypt, requesting permission to conduct the study. Mothers gave their informed consent after learning about the study's goals, methods, and confidentiality measures. Data collection lasted from September 2024 through January 2025. There were four phases to this research: assessment, planning, implementation, and evaluation

Assessment phase:

Researcher asked the psychiatric nurse at the outpatient clinic to get mothers to gather together at the waiting room. Each mother was provided information about the purpose of the study and ways and means of data gathering, meeting dates and location, a pretest was conducted for meaning of life and resilience (CD-RISC) using instruments two and three. Mothers with low resilience and meaning in life scores were selected to participate in the study. Following that, participants were split up into two groups: the intervention group and the control group. Eight 60-minute sessions based on logo therapy were held with participants in the intervention group.

Planning phase:

The researcher created an Arabic guiding booklet after conducting a thorough review of electronic

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dissertations, books, articles, and journals. The control group (40 mothers) was split into two groups; each group contained about twenty mothers. The intervention group (consisted of 40 mothers) was split into four smaller groups (each group contained ten mothers). Each group was met twice a week for 60 minutes over a period of two months starting from September to October 2024 and then had a two-month follow-up from the end of December 2024 to the end of January 2025. Discussion, lectures, demonstration, re-demonstration, brainstorming, role-playing, modeling, and giving real examples were used as teaching methods. A booklet, data show, and pictures were used as media

Implementation Phase:

- To prevent the mothers in the logo therapy-based intervention and control groups from affecting each other, the data of the control group was gathered first, Pre and post tests were applied to the mothers in the control group.
- Once data had been gathered from the control group, the logo therapy-based intervention for intervention groups was implemented in small groups at the waiting room, with each group comprising ten mothers. Each group attended eight intervention sessions with one session a week. Duration of every session was 60 minutes two days/week on Saturday, Monday (two groups per day) from 9.30 a.m. to 12 or 12.30 p.m. Before sessions, the mothers were called by phone, and sessions schedule time were reminded. While the logo therapy-

based intervention was being implemented, the first ten minutes of each session were utilized to summarize the previous session and review homework to establish a connection between the sessions and remind them of the previous session. The last 40 minutes were dedicated to finishing the task for the session, while the remaining 10 minutes were allocated for feedback, questions, and discussing homework assignments for the next meeting

Logo therapy-based intervention sessions:

- **First session: Orientation:** - It was emphasized on orienting mothers about treatment sessions and about session rules, such as the security of research data and respecting meeting dates and times. After that, a pretest was administered to them using research instruments.
- **Second session: (Knowledge about autism spectrum disorder and logo therapy).** A comprehensive explanation of autism spectrum disorder (ASD) was the main focus, including its definition, causes, symptoms, and problems. Be sure to go into great depth regarding logo therapy's significance, principles, and definition.
- **Third session: (Finding Meaning in Daily Challenges).** This session aimed to helping mothers finding meaning in difficult or challenging situations. Helping parents reframe their experiences, encouraging them to find purpose and meaning in their challenges. By focusing on the positive aspects and growth

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opportunities, parents can develop a more resilient mindset

- **Fourth session :(Empowerment through Choice).** The goal of this session was to educate the attendees on how parents might respond constructively to challenging behaviors rather than feeling helpless. In order to maintain composure and make deliberate decisions, this class covered stress management and mindfulness practices. To keep your emotional fortitude, do things that advance your wellbeing.
- **Fifth session: (Pursuing Personal Meaning)** mothers can find personal fulfillment by taking part in activities or pursuits they are interested about, which can help them feel balanced and purposeful.
- **Advice:** Make time for yourself to do something you enjoy or find meaningful, even if it's only a few minutes each day.
- **Sixth session: (Creating a Supportive Environment)** this session emphasizes the need of interacting with other moms through support groups, whether in person or virtually. These organizations give moms a forum to talk about their struggles, ask for help, and get both emotional and practical support from people who have gone through similar things.
- **Seventh session (Focusing on Strengths and Positives):** Training mothers to recognize and foster their autistic child's special skills and abilities was the aim of these sessions. This entailed determining the child's interests and abilities, encouraging them, and

acknowledging even the slightest accomplishments to boost their self-esteem and drive.

- **Eighth session:** final session mothers were encouraged to practice what they were trained on in their daily lives, thanked them for their commitment and participation in the program.

Evaluation phase:

- Posttest was conducted at the end of each session. Follow-up test was conducted two months later using instruments two and three
- Once the research was completed, mothers of children in the control group with autism spectrum disorder were notified that they could be given logo therapy-based intervention if they wished to.

Statistical Analysis:

The collected data organized, tabulated and statistically analyzed using Statistical Package for Social Science (SPSS) version 25 for windows, running on IBM compatible computer. Descriptive statistics were (e.g. frequency, percentages, mean and standard deviation). Test of significance, qualitative variables were compared using Chi square test, quantitative variables were compared using paired t test, independent samples T test and One Way ANOVA Test used for more than two categories. Correlation coefficient test (r) was used to test the correlation between studied variables. Reliability of the study instruments was assessed using Cronbach's Alpha. When $p < 0.05$, a level value was considered significant, and when $p < 0.01$, a level value was

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considered highly significant. When $p \geq 0.05$, no statistically significant difference was taken into account.

Results

Table (1): shows demographic characteristics of studied groups. As regards age, half of mothers (50%, 45 %) of both groups were of the same age from 30-< 40 with a mean age of (31.6 ± 4.85 , 30.3 ± 4.83). Pertaining to the level of education, 60% of mothers of both groups had secondary education level. Regarding demographic and clinical characteristics of their children, more than one-third (40%, 37.5%) of both groups respectively, had children aged 6 to 9 years and 75% and 62.5 % of them were male. Results indicated an absence of significant differences between the study and control groups ($P \geq .05$).

Table (2): Indicates that there was a highly significant differences between the study and control group immediately after the intervention and two months later at follow-up regarding the mean score of meaning in life , it's all subscales, and resilience ($P < 0.000$). In the study group, the mean score for the meaning of life increased from 34.2 ± 8.10 before the intervention to 54.8 ± 9.66 immediately after, and 53.2 ± 10.5 during the follow-up session. Furthermore, the mean score for the resilience in study group increased from 60.6 ± 12.0 before the intervention to 101.2 ± 15.5 immediately after, and 100.9 ± 15.7 during the follow-up session. The control group, on the other hand, did not exhibit any statistically significant changes during the pre-, post-, or follow-up phases.

The study group showed highly statistically significant improvements between the pre, post, and follow-up tests ($P < 0.000$).

Figure (1): Clarifies distribution of mothers' resilience levels in the study and control groups at pre-intervention, post-intervention, and follow-up of the logo therapy intervention. These findings reflect a statistically significant improvement in resilience among mothers in the study group both immediately after and two months following the intervention, compared to their pre-intervention levels and the control group. Before the intervention, the majority of mothers in both groups exhibited either low resilience (62.5% in the study group versus 55% in the control group) or moderate resilience (37.5% versus 45%). Following the intervention and at follow-up, the mothers participating in the study showed higher resilience levels, with approximately 40% showing moderate resilience at both post-intervention and follow-up assessments. Furthermore, high resilience was observed in 52.5% of the study group immediately post-intervention compared to 50% at follow-up.

Figure (2): reveals that there was a statistically significant difference between both groups (study group and control group) regarding meaning in life and resilience post intervention and follow-up sessions. For mothers in the study group, their mean score for meaning in life increased at post and follow-up intervention. Which increased from 34.2 ± 8.10 before the intervention to 54.8 ± 9.66 immediately after, and 53.2 ± 10.5 during the follow-

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up session. Also, the mean score for the resilience in study group increased from 60.6 ± 12.0 before the intervention to 101.2 ± 15.5 immediately after, and 100.9 ± 15.7 during the follow-up session. But in the control group, there were minimal differences between the mean score of mother's meaning in life and resilience.

Table (3): shows there was a highly statistically significant positive correlation between total meaning in life and resilience score pre, post and follow up intervention. This means that when mothers have high meaning in life, their resilience will be increased

Table (4) Clarifies that there was a highly statistically significant association between mothers' educational level and mean scores of meaning in life, and resilience post logo therapy intervention at P values=

(0.001, $p=0.009$) respectively. Additionally, there was a highly statistically significant association between monthly income, child age and relationship between spouses and mean scores of resilience post logo therapy intervention at P values= (0.001, 0.002, 0.000) respectively.

Table (5) Clarifies that there was a highly statistically significant association between mothers' educational level and mean scores of meaning in life, and resilience of the control group post logo therapy intervention at P values= (0.005, $p=0.003$) respectively. Also, there was a highly statistically significant association between marital status, mean scores of meaning in life, and resilience of the control group post logo therapy intervention at P values= (0.008, $p=0.000$).

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Table (1): Demographic Characteristics of the studied groups.

Demographic Characteristics	Study group (n=40)		Control group (n=40)		X ²	P-Value
	No.	%	No.	%		
Age (years)					1.409	0.494
20 -< 30	16	40.0	21	52.5		
30-<40	22	55.0	18	45.0		
≥ 40	2	5.0	1	2.5		
Mean ± SD	31.6±4.85		30.3±4.83		t=1.200	0.234
Education level					0.508	0.776
Basic education	10	25.0	8	20.0		
Secondary education	24	60.0	24	60.0		
High education	6	15.0	8	20.0		
Marital status					0.503	0.478
Married	28	70.0	25	62.5		
Divorced	12	30.0	15	37.5		
Widowed	0	0.0	0	0.0		
Residence					0.524	0.469
Rural	29	72.5	26	65.0		
Urban	11	27.5	14	35.0		
Occupation					1.250	0.264
Working	6	15.0	10	25.0		
Housewife	34	85.0	30	75.0		
Monthly Income					0.549	0.459
Enough	10	25.0	13	32.5		
Not Enough	30	75.0	27	67.5		
Number of children					1.214	0.750
One	9	22.5	10	25.0		
Two	12	30.0	11	27.5		
Three	16	40.0	18	45.0		
Four and more	3	7.5	1	2.5		
Consanguinity between the spouses					0.201	0.654
Yes	22	55.0	20	50.0		
No	18	45.0	20	50.0		
Relationship between the spouses					0.202	0.653
Good	19	47.5	17	42.5		
Bad	21	52.5	23	57.5		
Child age (years)					0.663	0.718
3 -< 6	18	45.0	21	52.5		
6 -< 9	16	40.0	15	37.5		
≥9	6	15.0	4	10.0		
Mean ± SD	5.95±1.98		5.55±1.76		t=0.951	0.344
Gender					1.455	0.228
Male	30	75.0	25	62.5		
Female	10	25.0	15	37.5		
Ranking of the child with autism					2.105	0.349
First	20	50.0	18	45.0		
Second	15	37.5	20	50.0		
Third	5	12.5	2	5.0		
Fourth	0	0.0	0	0.0		

X²: Chi-square test. SD: Standard deviation. t: Independent t-test No Statistically significant at p >0.05.

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Table (2): Distribution of The Mean and Standard Deviation of Mothers' Meaning in Life Score , its Subscales, and Resilience among Studied Subjects at Pre-test, Post-test, and Follow-up Intervention (N=80).

Meaning in Life and its subscales	Study group (n=40)			Control group (n=40)			Test of significance		
	Pre intervention	Post intervention	Follow-up	Pre intervention	Post intervention	Follow-up	(p ₁)	(p ₂)	(p ₃)
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD			
Presence of meaning in life	16.3±4.44	26.9±5.25	26.3±5.4	16.4±5.26	15.7±4.6	14.9±4.1	t=0.023 p=0.982	t=10.15 p=0.000**	t=10.47 p=0.000**
Search for meaning in life	17.8±3.89	27.9±4.65	26.9±5.2	17.4±5.63	16.5±4.91	15.8±4.3	t=0.392 p=0.696	t=10.66 p=0.000**	t=10.28 p=0.000**
Overall Meaning in Life	34.2±8.10	54.8±9.66	53.2±10.5	33.8±10.7	33.0±9.62	31.6±8.7	t=0.187 p=0.852	t=10.09 p=0.000**	t=9.979 p=0.000**
Total resilience	60.6±12.0	101.2±15.5	100.9±15.7	62.8±13.4	61.2±13.4	59.8±13.9	t=0.745 p=0.459	t=12.31 p=0.000**	t=12.35 p=0.000**

No significant at p >0.05. **Highly significant at p < 0.01.

P₁: p value for comparing between the (Study and Control group) in pre intervention.

P₂: p value for comparing between the (Study and Control group) in post intervention.

P₃: p value for comparing between the (Study and Control group) in follow-up phase.

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Figure (1): Distribution of the Mothers according to their Level of Resilience in the Study and Control groups Pre, Post and Follow up Logo Therapy Intervention (N= 80)

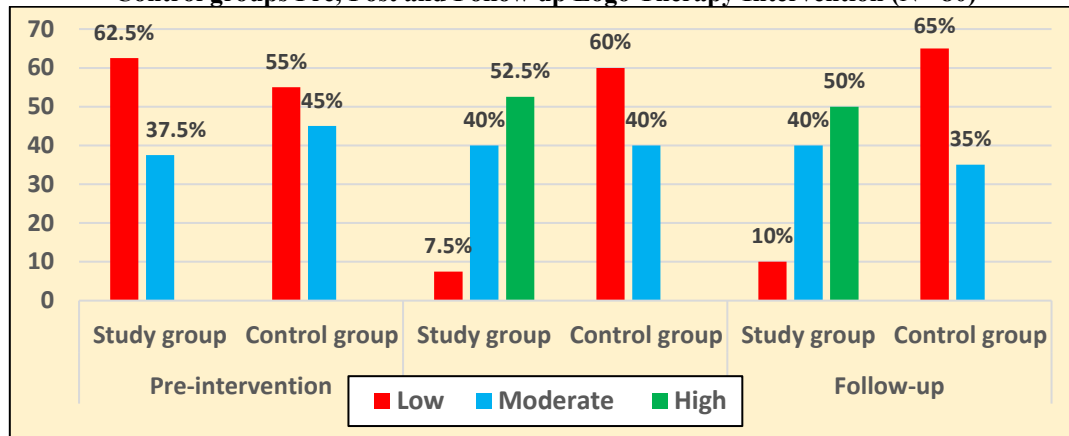


Figure (2): Distribution of Mothers in the Studied groups according to their Mean and Standard Deviation of Meaning in Life and Resilience at Pre, Post and Follow up Logo Therapy Intervention (N= 80)

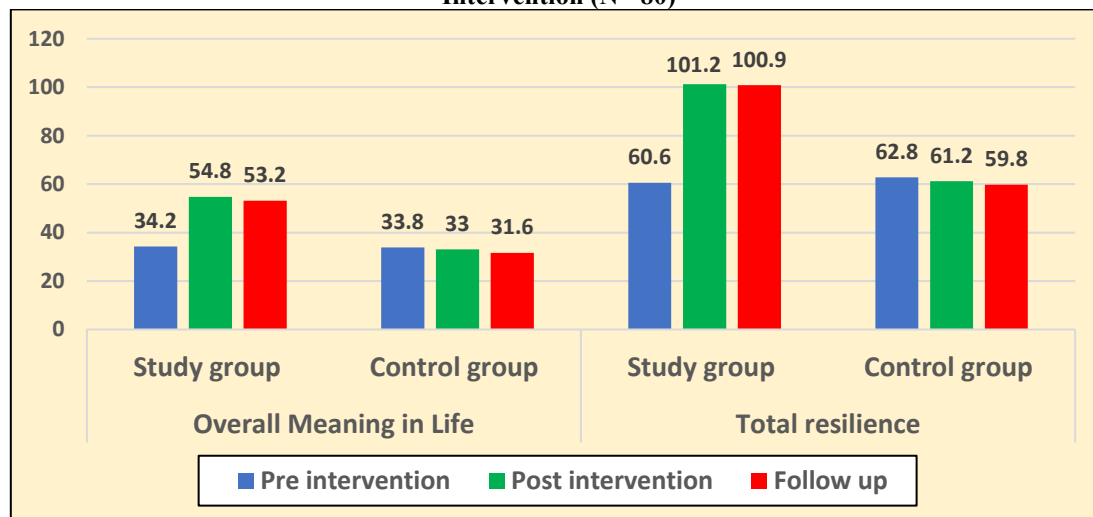


Table (3): Correlation between Total Meaning in Life Score and Total Resilience Score Pre, Post and Follow up Logo Therapy Intervention among Studied Subjects.

Variables		Study group			Control group		
		Total resilience score			Total resilience score		
		Pre intervention	Post intervention	Follow-up	Pre intervention	Post intervention	Follow-up
Presence of meaning in life	r	0.885	0.819	0.791	0.903	0.532	0.657
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Search for meaning in life	r	0.789	0.788	0.777	0.916	0.543	0.681
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Total meaning in life score	r	0.858	0.822	0.799	0.917	0.635	0.768
	p	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**

r represents the correlation coefficient, while p denotes the p-value. A result is considered highly significant when the p-value is less than 0.01 ($p < 0.01$).

Interpretation of r: Weak (0.1-0.24) intermediate (0.25-0.74) Strong (0.75-0.99) Perfect (1).

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Table (4): Relation between Demographic Characteristics, Total Meaning in Life Score and Total Resilience at Pre- and Post-Intervention among the Study group.

Demographic characteristics		Total meaning in life		Total resilience	
		Pre	Post	Pre	Post
Age (years)	20 -< 30	34.3±8.2	56.8±9.4	61.3±12.1	106.6±9.4
	30-<40	34.4±8.5	53.8±10.1	60.3±12.7	97.5±18.5
	≥ 40	31.5±2.1	49.0±2.82	59.0±2.8	99.0±1.4
Test of Sig.		F=0.114 p=0.892	F=0.824 p=0.446	F=0.053 p=0.948	F=1.706 p=0.196
Education level	Basic	29.7±5.1	49.2±9.9	50.8±7.2	91.6±21.2
	Secondary	33.2±6.7	55.1±8.3	61.2±11.2	101.7±11.3
	High	45.6±7.2	63.1±9.1	74.6±5.4	115.3±7.1
Test of Sig.		F=12.09 p=0.000**	F=4.679 p=0.001**	F=11.35 p=0.000**	F=5.419 p=0.009**
Marital status	Married	34.0±8.2	56.3±9.4	61.2±11.4	103.5±12.5
	Divorced	34.6±7.9	51.1±9.6	59.2±13.8	95.9±20.5
Test of Sig.		t=0.223 p=0.825	t=1.598 p=0.118	t=0.484 p=0.631	t=1.443 p=0.157
Residence	Rural	34.2±7.7	55.0±9.8	60.2±12.1	101.6±15.5
	Urban	34.1±9.3	54.3±9.5	61.8±12.3	100.1±16.1
Test of Sig.		t=0.020 p=0.984	t=0.184 p=0.854	t=0.365 p=0.717	t=0.265 p=0.792
Occupation	Working	31.5±6.7	51.3±4.6	55.3±8.5	97.6±10.5
	Housewife	34.7±8.3	55.4±10.2	61.6±12.4	101.8±16.2
Test of Sig.		t=0.891 p=0.379	t=0.959 p=0.344	t=1.182 p=0.244	t=0.609 p=0.546
Monthly Income	Enough	45.5±4.3	63.8±5.4	76.4±2.2	114.56±4
	Not Enough	30.4±4.9	51.8±8.9	55.4±8.9	96.8±15.1
Test of Sig.		t=0.8614 p=0.584	t=0.3985 p=0.689	t=7.256 p=0.000**	t=3.552 p=0.001**
Number of children	One	40.1±10.1	59.5±9.4	66.4±15.1	106.8±17.3
	Two	33.3±9.0	55.0±10.5	62.4±11.5	104.0±11.7
	Three	31.9±4.9	54.9±7.1	56.8±9.1	102.8±8.2
	Four and more	32.3±5.5	39.3±4.0	56.6±16.4	64.6±3.7
Test of Sig.		F=2.324 p=0.391	F=4.065 p=0.244	F=1.459 p=0.242	F=0.941 p=0.458
Consanguinity between the spouses	Yes	34.3±7.5	54.8±8.4	60.7±11.7	102.5±13.9
	No	34.1±8.9	54.7±11.2	60.5±12.7	99.6±17.5
Test of Sig.		t=0.079 p=0.937	t=0.028 p=0.978	t=0.056 p=0.956	t=0.579 p=0.566

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Relationship between the spouses	Good	39.3±8.1	58.4±9.0	69.7±8.7	107.6±12.6
	Bad	9.5±4.5	51.5±9.2	52.4±8.0	95.4±15.8
Test of Sig.		t=4.760 p=0.826	t=2.406 p=0.578	t=6.541 p=0.000**	t=2.686 p=0.000**
Child age (years)	3 -< 6	36.7±9.6	58.6±9.7	66.1±12.2	107.7±10.6
	6 -< 9	33.1±6.7	54.1±8.1	57.5±9.6	100.6±13.4
	≥9	29.6±3.3	45.5±7.	52.6±11.2	83.5±20.4
Test of Sig.		F=2.055 p=0.142	F=5.114 p=0.254	F=4.305 p=0.000**	F=7.277 p=0.002**
Gender of child	Male	33.4±8.1	52.8±9.9	59.1±11.2	98.9±16.6
	Female	36.6±8.2	60.7±5.8	65.5±13.7	108.3±8.4
Test of Sig.		t=1.483 p=0.146	t=1.699 p=0.098	t=1.072 p=0.291	t=2.344 p=0.0872
Ranking of the child with autism	First	36.1±9.2	57.3±11.2	63.5±12.5	103.5±17.7
	Second	30.8±5.6	52.6±7.1	54.9±10.6	99.8±11.8
	Third	36.8±7.2	51.4±8.2	66.4±8.0	96.2±17.2
Test of Sig.		F=2.202 p=0.125	F=1.424 p=0.254	F=3.140 p=0.055	F=0.531 p=0.592

t: Independent-samples t-test. F= One Way ANOVA Test. No significant at $p > 0.05$. *Significant at $p < 0.05$. **highly significant at $p < 0.01$.

Table (5): Relation between Demographic Characteristics, Total Meaning in Life Score and Total Resilience at Pre- and Post-Intervention among The Control group.

Demographic characteristics		Total meaning in life score		Total resilience score	
		Pre	Post	Pre	Post
Age (years)	20 -< 30	31.9±9.7	32.6±9.3	60.1±13.3	59.0±13.9
	30-<40	36.5±11.8	33.9±10.2	66.2±13.4	64.0±13.1
	≥ 40	25.0±0.0	25.0±0.0	57.0±0.0	58.0±0.0
Test of Sig.		F=1.215 p=0.308	F=0.432 p=0.653	F=1.097 p=0.345	F=0.685 p=0.510
Education level	Basic	25.7±2.7	25.7±2.7	53.7±4.8	52.6±4.6
	Secondar y	33.8±11.2	33.4±9.6	62.1±14.6	60.9±14.3
	High	41.8±8.8	39.1±9.8	73.7±6.3	70.6±11.1
Test of Sig.		F=5.485 p=0.008**	F=4.654 p=0.005**	F=5.570 p=0.008**	F=4.161 p=0.003**
Marital status	Married	38.6±10.3	35.6±10.1	69.4±10.9	67.6±12.5
	Divorced	25.7±5.4	28.8±7.1	51.8±9.3	50.6±6.5
Test of Sig.		t=4.479 p=0.000**	t=2.277 p=0.008**	t=5.179 p=0.000**	t=4.853 p=0.000**
Residence	Rural	33.8±10.2	33.3±9.6	63.2±12.2	61.5±13.2
	Urban	33.8±12.1	32.5±9.9	61.9±15.7	60.5±14.3
Test of Sig.		t=0.014 p=0.989	t=0.228 p=0.821	t=0.298 p=0.767	t=0.222 p=0.825
Occupation	Working	32.4±10.9	32.6±10.6	62.2±11.2	60.4±11.3
	Housewif e	34.3±10.8	33.2±9.4	63.0±14.2	61.5±14.2

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Test of Sig.		t=0.477 p=0.636	t=0.169 p=0.867	t=0.161 p=0.873	t=0.221 p=0.826
Monthly Income	Enough	44.8±3.8	41.1±8.2	75.6±2.1	73.7±7.0
	Not Enough	28.5±8.8	29.1±7.6	56.6±12.1	55.1±11.5
Test of Sig.		t=6.344 p=0.128	t=4.527 p=0.953	t=5.584 p=0.247	t=5.332 p=0.087
Number of children	One	42.2±7.8	37.1±9.4	73.0±10.0	68.9±11.1
	Two	24.6±2.6	29.2±7.3	51.3±8.2	53.0±8.7
	Three	35.2±11.3	33.5±10.4	64.4±12.9	62.1±15.0
	Four and more	25.0±0.0	25.0±0.0	57.0±0.0	58.0±0.0
Test of Sig.		F=7.478 p=0.782	F=1.455 p=0.243	F=6.896 p=0.981	F=2.804 p=0.064
Consanguinity between the spouses	Yes	32.4±10.4	31.9±9.6	62.6±12.1	60.0±13.8
	No	35.2±11.2	34.2±9.6	63.0±14.9	62.4±13.3
Test of Sig.		t=0.831 p=0.411	t=0.752 p=0.457	t=0.093 p=0.926	t=0.570 p=0.572
Relationship between the spouses	Good	40.2±9.9	38.7±9.0	69.8±13.3	70.2±11.1
	Bad	29.0±8.8	28.8±7.7	57.5±11.0	54.5±11.0
Test of Sig.		t=3.769 p=0.984	t=3.725 p=0.547	t=3.191 p=0.523	t=4.414 p=0.456
Child age (years)	3 -< 6	38.5±10.6	35.8±9.3	69.1±11.4	64.9±15.1
	6 -< 9	29.8±9.3	30.4±9.7	55.6±13.4	57.6±11.6
	≥9	24.2±0.9	28.2±7.8	56.0±4.7	55.2±3.8
Test of Sig.		F=5.715 p=0.425	F=2.000 p=0.0150	F=6.409 p=0.256	F=1.766 p=0.185
Gender	Male	34.7±11.1	32.9±9.5	64.4±12.3	61.4±13.1
	Female	32.3±10.5	33.2±10.1	60.0±14.9	60.9±14.4
Test of Sig.		t=0.672 p=0.506	t=0.109 p=0.914	t=1.023 p=0.313	t=0.105 p=0.917
Ranking of the child with autism	First	28.5±8.5	31.0±8.7	56.5±12.3	55.6±12.1
	Second	39.5±10.2	35.7±10.1	68.8±12.4	66.9±13.1
	Third	24.5±0.7	24.5±0.7	58.5±2.1	54.5±4.9
Test of Sig.		F=7.548 p=0.256	F=2.038 p=0.145	F=4.905 p=0.073	F=4.212 p=0.082

t: Independent-samples t-test. F= One Way ANOVA Test. No significant at $p > 0.05$. *Significant at $p < 0.05$. **highly significant at $p < 0.01$.

Discussion

Mothers who are raising a child with autism, a developmental disease that lasts a lifetime, face several special difficulties that affect their sense of purpose and existence. These obstacles frequently result in hardships, poor

resilience, sadness, and pain. Thus, logo therapy sessions can assist parents of autistic children, especially mothers, deal with their challenges and improve their resilience and sense of purpose in life (Acharya & Sharma, 2021). Given

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the significance of this issue, this study investigates how logo therapy impacts the resilience and meaning of life of mothers whose children have autism spectrum disorder.

For the effect of the study intervention on mothers' perceptions of meaning of life, before the intervention mothers in the study and control groups did not differ significantly in their perceptions of meaning of life, the study group reported significantly higher meaning of life scores after the intervention and the follow-up. From my perspective, the use of logo therapy techniques such as Socratic dialogue, value clarification, and attitude modification, these interventions support mothers in identifying sources of meaning within their daily lives, personal values, and relationships. This process fosters a renewed sense of self, spiritual growth, and emotional resilience. Consequently, mothers report greater coherence, direction, and hope, despite the ongoing demands of raising a child with special needs, demonstrating that meaning-making is a crucial pathway to psychological strength and well-being. They concluded that logotherapy facilitates mothers' psychological adjustment and reduces the effect of disturbing thoughts on their mental health status by creating a powerful feeling of meaning and purpose Falahzade et al., in a piece of interventional research, aimed at investigating the effect of logotherapy on the life and performance of mothers having children with ASD. They concluded that logotherapy facilitates mothers' psychological adjustment and

reduces the effect of disturbing thoughts on their mental health status by creating a powerful feeling of meaning and purpose (20Falahzade et al., in a piece of interventional research, aimed at investigating the effect of logotherapy on the life and performance of mothers having children with ASD. They concluded that logotherapy facilitates mothers' psychological adjustment and reduces the effect of disturbing thoughts on their mental health status by creating a powerful feeling of meaning and purpose (20This result was congruent with Falahzade et al. (2018), Mihandoust et al., (2021) and Sarhang et al., (2022), they discovered that logo therapy significantly improved psychological well-being of mothers, reduced stress related to maternal parenting, and improved communication skills .Furthermore, demonstrated significant changes in the mean score of meaning in life between the experimental and control groups post logo therapy intervention and at follow-up.

Concerning the effect of the intervention on mothers' resilience levels, the findings revealed significant differences between the research and control groups. Mothers in the study group demonstrated higher resilience both after the intervention and during follow-up, this improvement was attributed to the effectiveness of logo therapy-based interventions in assisting mothers in reframing their suffering as a necessary part of a meaningful journey rather than as a form of punishment or failure was credited with this improvement. This change

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improved mental flexibility and decreased emotional weariness, two important components of resilience. Furthermore, the intervention's value definition technique assisted moms in recognizing their own values, which included spiritual or existential ideas, motherhood, and giving. As a result, their psychological resources such as self-efficacy, emotional fortitude, and hope were reinforced, enabling people to deal with life more skillfully and greatly increasing resilience.

Similar findings were reported by Faramarzi and Bavali (2017), they discovered that mothers' mental health improved as a result of the group training based on logo therapy. Also Sharifian, et al., (2024), Mottaghi et al., (2023), Mohammadi et al., (2022) and Hosseini and jahanbakhshi (2021) found that resilience training improved the mental health of mothers whose children had physical or mental disabilities.

Additionally, Yolme et al. (2020), discovered that Islamic logo therapy training enhanced the self-resilience of sixty thalassemia mothers. The study emphasized the beneficial effects of religion and spirituality on people with long-term conditions, encouraging flexibility and overall wellbeing. Moreover, Panahali and Zanjani (2019) investigated how well group logo therapy affected the resilience of women exhibiting signs of alexithymia. After ten sessions, they discovered that the experimental group's resilience scores were noticeably higher than those of the control group due to logo therapy.

The findings of the current study revealed a positive correlation between meaning in life and resilience. This may be because when mothers derive meaning from their caregiving role, such as feeling that they contribute to their child's development or gaining strength from the experience, it provides a sense of meaning in life in facing daily challenges. Their resilience is strengthened as a result of this sense of purpose, which also improves their capacity to cope with stress and overcome hardship. Positive feelings, optimism, and general life satisfaction are also associated with a strong sense of purpose in life. In the end, these psychological traits foster more resilience by acting as a buffer against typical caregiver difficulties including burnout, anxiety, and despair.

This conclusion was the same as the findings of Rahman et al (2025) , Platstidou & Daniilidou (2021), and Mohseni et al. (2019), they showed that resilience and life meaning were positively and significantly correlated ($p = 0.000$), implying that the more resilient a person is, the more meaningful their life is, and vice versa. Also, Alsa et al. (2021) stated that having a sense of purpose in life was positively correlated with job satisfaction and overall happiness.

The study found a strong association between mothers' educational level and their resilience and sense of meaning in life. This could be because mothers possessing higher educational qualifications typically have enhanced access to information,

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support services, and practical methods for dealing with day-to-day difficulties. They are usually better able to interact with professionals, comprehend their child's health, and make well-informed decisions about their care and growth. Additionally, education enhances reflective thinking, allowing mothers to view their caregiving role as meaningful and purposeful, rather than merely stressful. This positive outlook helps them cope more effectively and maintain a stronger sense of emotional well-being. Higher educational achievement can therefore be crucial in enhancing resilience and the capacity to derive significance from the experience of providing care.

Similarly, Zhao, & Fu, (2020) demonstrated that the mothers' level of education was significantly correlated with their resilience, Mihandoust, et al., (2021) revealed a p-value of just 0.02 indicating a statistically significant correlation between mothers' views of life's purpose and their educational attainment.

A highly statistically significant association between resilience and mothers' income level was found in the current research. This may be due to higher income enables mothers to seek mental health support, maintain social connections, enable access to better healthcare services, and educational resources, all of which help reduce the stress and burden associated with caregiving and increase their resilience. On the other hand, financial difficulties can exacerbate feelings of helplessness, social isolation, and emotional exhaustion, diminishing a

mother's ability to cope effectively. Therefore, income acts as a practical and emotional factor that impacts the development and maintenance of resilience of mothers.

This finding was supported by Lu et al., (2015), According to their findings, mothers of children with ASD consistently dedicate all their time to caring for their child and often give up work to take on the responsibility of childcare, with little regard for their own mental health. This result was in disagreement with Kelly (2019), found no statistically significant correlation between parental resilience and monetary status or neighborhood material deprivation.

The study findings indicated a relationship between the resilience of mothers in the research group and the age of their children, both before and after the intervention. In my opinion, this may be because caregiving challenges change across the child's developmental stages. During the early years, mothers often face high stress due to the initial diagnosis, uncertainty about the future, and the complexities of treatment. As the child grows, mothers tend to become better equipped to handle these challenges by developing coping strategies, building support systems, and gaining a clearer understanding of their child's needs, all of which enhance their resilience. However, this finding contrasts with the results of Ghanouni and Eves (2023), who reported no significant relationship between a child's age and any measure of resilience in either the parent or the autistic child.

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The results of the study demonstrated a significant association between the resilience of the research group and the quality of their marital relationships, both before and after the intervention. In my opinion, the reason could be that a supportive marital bond plays an essential role in offering emotional reassurance, distributing caregiving duties, and reinforcing a sense of shared responsibility. Such support can alleviate psychological stress, minimize feelings of isolation, and prevent caregiver burnout. Elements such as open communication, mutual understanding, and collaborative problem-solving within the marital relationship help establish an emotionally secure environment that facilitates effective stress management and coping. In contrast, marital conflict or insufficient support from a spouse may intensify emotional distress, foster loneliness, and negatively impact mental health, thereby weakening a mother's resilience. Therefore, a strong marital relationship is an essential support that enables mothers to manage the challenges of raising a child with special needs.

This study aligns with the findings of Saragih & Moeliono. (2021), they found that the mother's and the child's resilience is positively and statistically significantly impacted by the husband's degree of social support ($r = 0.663$; $p = 0.000$). Moreover, this study found two interesting results on the correlation between resilient spouses' social support characteristics. In the same line, Guçlu, & Hurmeydan, (2024) found a positive correlation between marital adjustment and resilience of

mothers with autistic child ($P < .001$) ($r = 0.465$). Together, these studies emphasize the pivotal role of spousal support and marital quality in strengthening maternal resilience.

Limitations of this study:

Because this study only used one setting for data collection and had a limited sample size, it is important to use caution when extrapolating the findings.

Conclusion:

The logo therapy based intervention was a successful intervention in improving the level of meaning in life and resilience among mothers of children with autistic spectrum disorder.

Recommendation:

- Psychiatric outpatient clinics should incorporate the logo therapy-based intervention into their preventive services as, from an alternative viewpoint, it aids mothers in managing the obstacles and problems they encounter.
- Nurses and counselors in physiotherapy, outpatient, and pediatrics departments need to receive extensive training in logo therapy in order to support mothers and their children.

Implications for practice:

The logo therapy based nursing intervention appears to be an effective method for supporting mothers of children with ASD in enhancing life meaning and fostering resilience.

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