European Review for Medical and Pharmacological Sciences 2021; 25: 6642-6651

Logotherapy to improve parent-child relationship among mothers of autistic children: a randomized clinical trial

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Abstract. – OBJECTIVE: Autism spectrum disorders are characterized by three characteristics: impairment in the quality of social relationships, severe impairment in communication, and restricted, repetitive behavioral patterns. The aim of this research is to determine the effect of logotherapy on the parent-child relationship among mothers of autistic children.

PATIENTS AND METHODS: This research is a clinical trial with pre-test, post-test design, and control group. Forty mothers were selected and randomly assigned into two groups of intervention and control. The intervention group attended 10 sessions (90 min) of logotherapy, twice a week, while the control group received the routine intervention. A mother-child relationship evaluation questionnaire was used to collect data. SPSS statistical software was employed to analyze the data.

RESULTS: The results showed that group logotherapy training affects the parent-child relationship in mothers of autistic children. We only examined the relatively short-term effects of logotherapy on parents and children's outcomes because after the children's school year ended, their mothers did not refer to the center. In order to achieve accurate results, we recommend examining the long-term effects of this approach in future studies.

CONCLUSIONS: Logotherapy is an effective approach to improve the parent-child relationship in mothers of autistic children.

Key Words:
Autism, Developmental disabilities, Group therapy, Health promotion, Logotherapy, Parent-child relationship.

Introduction

Autism spectrum disorders (ASD) are a group of neurodevelopmental syndromes that are characterized by a wide range of impairments in social communication as well as restricted, repetitive behaviors. According to the DSM-5, the diagnostic criteria for ASD include defects in social interaction and limited interests. The number of people diagnosed with ASD has increased dramatically over the past two decades. According to the DSM, autism is estimated to occur in 8 cases per 10,000 children[1] whereas the median prevalence estimates of this rate are one in 160 children worldwide[2]. In Iran, about 110,000 children between the ages of 2 and 5 were screened for autism in 2016[3]. Previous studies[4,5] have shown that children with ASD have fewer positive emotions, less interaction, and withdrawal from playing with a parent, so it may be difficult for parents to communicate with their children. Impaired communication skills are one of the characteristics of children with autism spectrum disorder, a characteristic that plays a major role in the failure of parents in caring for their children[6]. This makes parenting these children more difficult and thus complicates the parent-child relationship[7]. However, parents are responsible for choosing the best interventions that maintain the home and family relationships despite all these challenges. Therefore, identifying the factors affecting the parent-child relationship can be helpful[8].

When mothers of children with ASD get involved in interventions designed to help them deal with their children, the mother-child relationship improves[9]. Mothers of children with disabilities often have negative feelings about their ability to achieve their goals and lose hope. This can affect the meaning of their lives[10], and in many cases, they lose the meaning of their lives[11].

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Since meaning in life can change constantly, it is necessary for individuals to be constantly searching for the meaning of life and re-evaluating it. According to logotherapy, meaning must be found outside the individual, and a person's actions and responsibilities[12] that affect those around him or her defining that person's meaning in life[13]. Logotherapy offers a wide range of beneficial therapeutic measures and is intended for those who have experienced suffering in their lives. Logotherapy sessions can be tailored to the specific needs of the group and to address participants' symptoms. Logotherapy seeks to promote mental health while reducing symptoms and helping the individual search for meaning in the suffering he or she is experiencing. Therefore, logotherapy has immense potential to treat many mental health problems.

A child with autism can challenge the experience of meaning in a parent's life. Mothers are believed to be the primary caregivers of children and often try to provide the best possible care for their children[14]. In this regard, Heydari et al[15] explain the experiences of parents of children with autism and state that were caring for children with autism is a priority in the lives of mothers, and mothers rely on spirituality to help their child, but they need professional support. One way to provide such support is through group therapy which is an economical, affordable, and relatively low-risk treatment method[16]. The group training stimulates active learning and is an opportunity for sharing ideas and receiving support from group[17].

Given the fact that having meaning in life has an important and undeniable role in promoting individuals' health and enhancing their coping abilities against life events, and that parents (especially mothers) of autistic children need counseling and psychological services for rearing their children, the present study was aimed to determine the effect of logotherapy on the parent-child relationship among mothers having autistic children.

Patients and Methods

This research is a clinical trial, including control and an intervention group carried out from December 2017 to September 2019. We prepared a list of mothers who referred to Pishgaman-e Omid center in Urmia, northwest of Iran, and selected 40 mothers using a simple random sampling method. To ensure random allocation, the numbers representing each participant were placed in an opaque envelope, and we placed individuals in two groups using these numbers. As a maneuver to reduce selection bias, allocation concealment was done at the time of obtaining consent from the prospective trial participants. To reduce ascertainment bias, the outcome data were given to analysts coded as A and B (single-blinded trial), and once they completed the analysis, the results were given to the person in charge of writing the report using the same codes. The codes were not broken until the data analysis and reporting phases had been completed.

Inclusion criteria were women having a child (3 to 15 y) diagnosed with autism by a psychiatrist, having at least a third-grade junior high school education, and not having a physical or mental illness. Exclusion criteria were absence from more than two sessions and simultaneous participation in other psychotherapy sessions.

Participants completed a questionnaire on demographic characteristics, as well as the mother-child relationship evaluation (MCRE) questionnaire. The original version of MCRE was developed by Robert[18] in 1961 and had 48 items. This questionnaire assesses mothers' views on four subscales, namely child acceptance, over-protection, over-indulgence, and rejection. The validity of the test was evaluated through Cornbrash's alpha formula, and the results are as follows. Acceptance: 0.77, Rejection: 0.72, Over Indulgence: 0.71, and Overprotection: 0.78. Pearson correlation was employed to examine the reliability of the instrument (0.55)[19].

The group therapy sessions were conducted by the researcher and a psychologist. A brief description of these sessions is given in **Supplementary Table I**. Logotherapy has yielded several specific, well-known therapeutic techniques. One of the most commonly used logotherapy techniques[20] that were used in this study is that of Hutzell (1990)[21,22]. Our study included 10 Hutzell's logotherapy sessions (two sessions per week, 90 minutes each) for the intervention group. Apart from these sessions, both groups received the center's routine programs, including speech therapy, occupational therapy, play therapy, and nutrition therapy, as well as counseling sessions. To abide by ethical standards, after the completion of the intervention and follow-up, we presented an intensive logotherapy course to the control group in 5 one-hour sessions. Post-test was performed one week after the end of the sessions. The data were analyzed using SPSS statistical software version 20 (IBM, Armonk, NY, USA). We used descrip-

tive statistics (mean, standard deviation, Levene's test, and chi-square test) and inferential statistics (independent *t*-test and paired *t*-test).

Results

The present study was conducted in order to determine the effect of logotherapy on searching meaning. To this end, 40 mothers with autistic children were divided into two groups of intervention and control, 20 each (Figure 1). According to Table I, there is no statistically significant difference between the two groups of control and intervention in terms of qualitative demographic characteristics (p-value <0.05), so the two groups are homogeneous in terms of qualitative demographic characteristics.

Because the parent-child relationship has four components of "acceptance", "over-protection", "indulgence", and "child rejection," the results of Levene's test showed homogeneity of variances; in other words, in all four components, the significance level was more than 0.05. However, the results of the independent *t*-test for these four components are significant in the post-intervention phase. In the "over-protection" component, the obtained p-value was 0.058, indicating that logotherapy did not have any effect on this component of mothers with autistic children. However, logotherapy was effective in terms of the components of "acceptance," "indulgence," and "child rejection" of mothers after the intervention because the p-values obtained for these three components were p-value- 0.046, p-value = 0.001 and p-value = 0.011, respectively, which are all less than 0.05.

According to Table III, the results of the paired *t*-test showed that there was no significant difference between the mean score of the parent-child relationship at the beginning and end of the study within the control group (p-value 0.161). However,

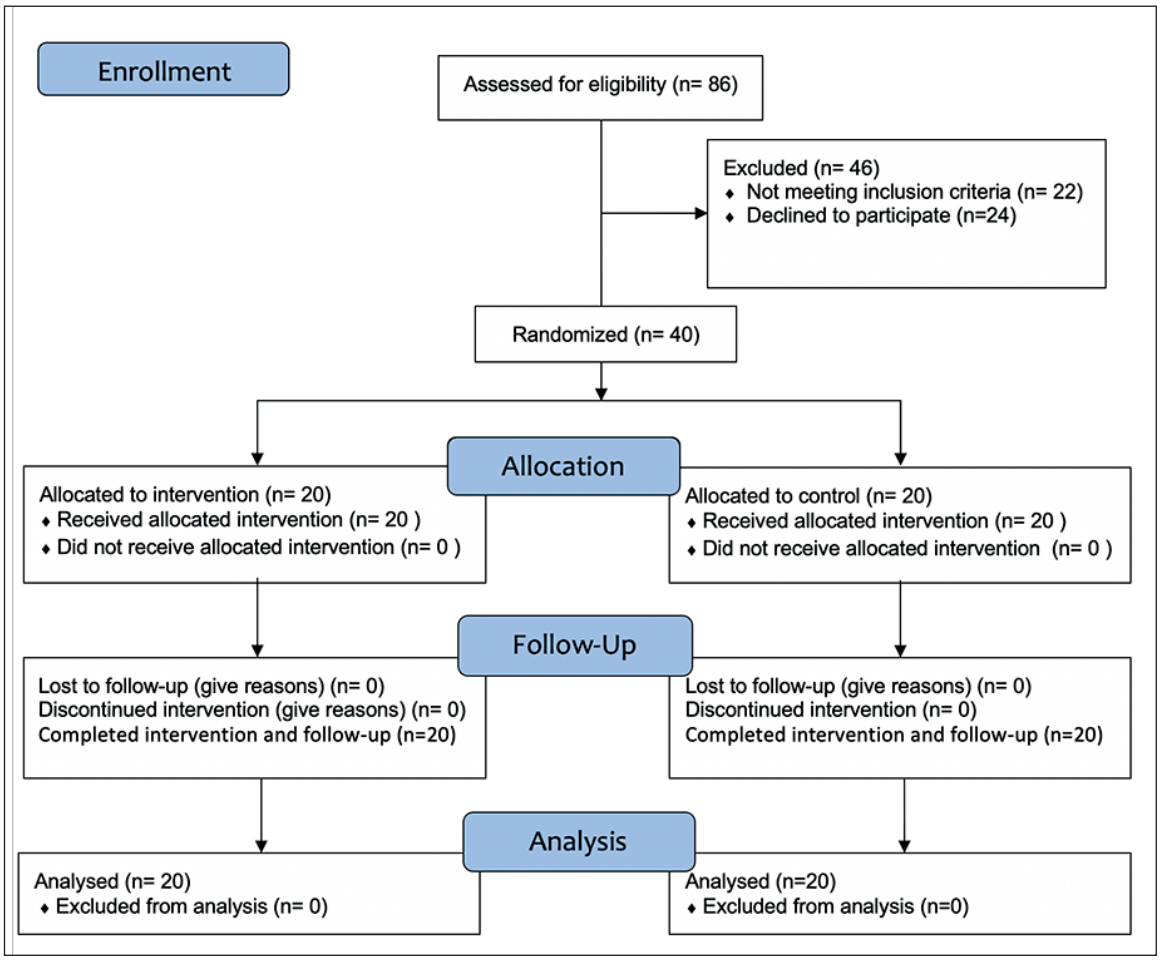

Figure 1. CONSORT flowchart of participants.

Table I. Comparison of qualitative demographic characteristics between control and intervention groups.

	Groups			Result of statistic chi-square test
Variable		**Control**	**Intervention**	
Mother's age		36.80 ± 8.12	33.13 ± 6.20	$t = 1.388$ df = 28 $p = 0.176$
History of maternal and spouse disease	Yes No	16 4	17 3	$X^2 = 0.006$ df = 1 $p = 0.941$
Mother's lifestyle	Independent With spouse's family	16 4	16 4	$X^2 = 0.000$ df=1 $p = 1.000$
Ranking of the child with autism	First Second Third	11 7 2	13 4 3	$X^2=1.64$ df = 2 $p = 0.921$
Mother's employment status	Householder Employed	17 3	17 3	$X^2 = 0.000$ df = 1 $p = 1.000$
Number of children	Daughter Son	15 5	13 7	$X^2 = 0.164$ df = 1 $p = 0.921$
Mother's education	Primary school Junior high school High school Bachelor	2 5 9 4	2 6 1 2	$X^2 = 1.178$ df=3 p=0.757

a significant difference was observed between the mean score of the parent-child relationship before and after the intervention within the intervention group (p-value 0.046). Therefore, we can conclude that in the intervention group, after logotherapy training to mothers with autistic children, the mean score of their child-parent relationship increased.

Table III also shows the results of the t-test for the four components of "acceptance," "over-protection," "indulgence," and "child rejection". No significant difference was observed within the control group, and the p-value for these components in the control groups was p-value = 0.419, p-value = 0.829, p-value = 0.125 and p-value = 0.097, respectively. In intervention group, apart from the "over-protection" component, which did not show a significant difference (p-value = 0.244), for the three other components, namely "acceptance", "indulgence" and "child rejection", the obtained P-value was p-value = 0.034, p-value = 0.017 and p-value = 0.031, respectively, indicating a significant difference. Therefore, we can conclude that in terms of the three components of "acceptance," "indulgence," and "child rejection," logotherapy training to mothers with autistic children within the intervention group increased their mean score. Therefore, logotherapy intervention has had a positive effect on the level of parent-child relationship of mothers, and thus the research hypothesis indicating the effect of logotherapy on the parent-child relationship in mothers with autistic children is confirmed.

Discussion

The aim of this research was to determine the effect of logotherapy on the parent-child relationship in mothers with autistic children. To this aim, 40 mothers with autistic children were selected and placed randomly into two groups of intervention and control. The average age of mothers was 35, and most of them were literate and housewives. The results of this research indicate that group logotherapy improved the parent-child relationship of mothers with autistic children. These findings are consistent with those of other studies conducted in Iran or other countries. As far as Iranian studies are concerned, the findings of the

Table II. Comparison of the mean score of the parent-child relationship questionnaire and its components before and after the intervention in intervention and control groups..

		Control group	Intervention group		
Variable	Stages	Mean & standard deviation	Mean & standard deviation	Independent *t*-test	Levene's test
Evaluating the parent-child relationship	Before intervention	156.11±20.26	158.9±46.47	*t*=-0.574 df=28 *p*=0.547	F = 0.010 *p* = 0.922
	After intervention	151.12±93.76	162.15±73.99	*t*=-4.990 df=28 *p* = 0.030	F = 1.426 *p* = 0.243
Acceptance	Before intervention	35.6±53.39	37.3±85.82	*t*=0.291 df=27 *p*=0.291	F = 0.590 *p* = 0.249
	After intervention	38.7±00.28	42.6±40.92	*t*=-2.235 df = 28 *p* = 0.046	F = -0.0513 *p* = 0.823
Over-protection	Before intervention	42.4±53.82	40.7±85.22	t = 0.466 df = 28 *p* = 0.512	F = 2.004 *p* = 0.168
	After intervention	38.5±86.52	42.5±73.17	t = 1.978 df = 28 *p* = 0.058	F = 0.089 *p* = 0.768
Indulgence	Before intervention	40.5±00.22	40.3±07.79	*t* = -0.042 df=28 *p* = 0.967	F = 2.433 *p* = 0.130
	After intervention	35.4±66.20	42.5±00.23	*t* = 3.653 df = 28 *p* = 0.001	F=0.692 *p* = 0.413
Rejection	Before intervention	38.4±13.64	38.3±15.28	*t*=-0.013 df=28 *p* = 0.989	F=0.267 *p* = 0.610
	After intervention	35.4±00.79	40.5±00.27	*t* = 2.715 df = 28 *p* = 0.011	F=0.013 *p* = 0.130

Note: The findings in Table II show the results of Levene's test and the independent t-test. Since the values of Levene's test in the control and intervention groups under study are more than 0.05 (p-value <0.05), the groups have the same variance. The results of the independent t-test showed that before the implementation of logotherapy intervention, the mean score of the parent-child relationship between the two groups of control and intervention did not differ significantly (p-value- 0.057). However, after the logotherapy intervention, there was a significant difference between the mean score of the parent-child relationship (p-value- 0.030). Therefore, we can conclude that logotherapy has a positive effect on the score of the parent-child relationship in the intervention group. That is, after the logotherapy intervention, the relationship of mothers with their autistic children improved.

present research are in line with those of studies done by Falahzade et al[23] and Ramin et al[24] on the effectiveness of logotherapy. In explaining the results, we can say that in the sessions, the participants are first acquainted with the principles of logotherapy, and then they are taught how to apply these principles in their lives.

In 2018 in intervention research, Falahzade et al[23] investigated the effect of logotherapy on the meaning of life and performance of mothers with autistic children. They concluded that by creating a strong sense of meaning and purpose in the lives of mothers with autistic children, logotherapy facilitates their psychological adjustment and reduces the impact of disturbing thoughts on their mental health. Therefore, group logotherapy is effective in enhancing the meaning of life, and holding logotherapy courses in rehabilitation centers and autism schools can be fruitful in this regard[23]. The difference between this research and ours is in the sample size (8 people in the intervention group and 10 people in the control group) and the research tools employed (The Life Meaning Questionnaire).

In 2014, Ramin et al[24] conducted research aimed to determine the effectiveness of group logotherapy on enhancing the quality of life of

Table III. Comparison of the mean score of the parent-child relationship by its components before and after the intervention within the two groups of intervention and control.

		before intervention	after intervention	
Variable	**Stages**	**Mean & standard deviation**	**Mean & standard deviation**	**Pair *t*-test**
Evaluating the parent-child relationship	Before intervention	156.11±30.16	151.9±69.56	*t*=-1.494 df=14 *p*=0.161
	After intervention	158.9±46.47	162.12±53.22	*t*=-2.226 df=14 *p* = 0.046
Acceptance	Before intervention	35.6±53.39	38.7±00.28	*t*=2.226 df=14 *p*=0.046
	After intervention	37.5±85.09	43.6±28.24	*t*=-2.377 df = 14 *p* = 0.034
Over-protection	Before intervention	42.4±53.82	42.5±73.17	*t* = 0.219 df = 14 *p* = 0.244
	After intervention	38.5±76.34	41.7±07.46	t = 1.226 df = 14 *p* = 0.244
Indulgence	Before intervention	39.5±85.37	41.5±92.42	*t* = 1.638 df = 28 *p* = 0.125
	After intervention	35.4±23.36	39.3±84.84	*t* = 2.776 df = 14 *p* = 0.017
Rejection	Before intervention	38.4±14.81	39.5±78.40	*t*=-1.791 df=28 *p* = 0.097
	After intervention	34.4±62.85	40.5±00.27	*t* = 2.715 df = 28 *p* = 0.011

mothers with hearing-impaired children. The results showed that the intervention had a significant effect on increasing the mean score of quality of life of mothers with hearing-impaired children in the case group compared to the control group. In this study, participants in the intervention group realized the fact that having a child with hearing loss and the problems associated with it is not the end of life. Rather, they can still be together and enjoy the possibilities around them and avail themselves of the teachings provided to them. They came to realize that although they could not change certain events in their lives, they can learn to change the way they deal with them and that they can react positively to the painful events of their life.

In Man's Search for Meaning, Frankl[12] concludes that "Our generation is realistic because we know the man as he is". The opinion that man is not only looking for meaning but also for assigning specific meanings and justification of actions through meaning is also appropriate and is unique to logotherapy. For those experiencing mental health problems, it is possible to explain why they need to find relief in the suffering they have lived through[12]. Autism is a serious neurological disorder that is highly due to hereditary reasons[25]. Having an autistic child can change the meaning of mothers' lives and make them look for different ways to help themselves and their children. They see the process of caring for their children as something valuable and accepting this great responsibility would prepare them to face the challenges. The goal of logotherapy is to try to find meaning in life, the first driving force and motivator of each individual[26]. From Frankl's point of view[12], there is a meaning

in every tragedy. If people expand their scope of vision to see the meaning and value of that tragedy, then they will be able to accept it bravely and fight it, and when they accept it, they can take care of their duties and responsibilities.

Frankl[12] discusses three approaches to finding meaning. The first approach is to find meaning through experiential values; that is, to experience something or someone we value. The most important example of experiential values is the love we give to other human beings.

The second way to find meaning is through creative values or, in his words, through doing work. The first reaches meaning by engaging in one's own plans, or in other words, in one's own life plan. The third way to find meaning is through attitudinal values. Attitudinal values include virtues such as compassion, courage, humor, and so on. The most famous of these, according to Frankl[11], is to find meaning through suffering.

Logotherapy helps man to find the meaning of his pain and suffering and to turn difficult situations into peaceful and comfortable ones[27].

It is important to understand the importance of the mutual relationship between parents and children. Just as children's characteristics affect their relationships with their parents, the children themselves are affected by their interpersonal interactions and relationships with adults, which affects their growth and performance. That a child's autism affects the parent-child interaction is hardly a matter of dispute[28]. In their study, Smith et al[6] showed how positive aspects of the family environment are associated with autism symptoms and behavior problems in families with autistic adolescents and adults. The findings showed that warmth, praise, and the quality of mothers' communication were associated with reduced behavior problems and reduced autism symptoms[6]. Solomon et al[29] designed an experimental study to determine the effectiveness of parent-child interactive therapy (PCIT) on 19 boys aged 5-12 years old and diagnosed with ASD. The results showed the positive effect of the intervention on reducing the behavioral problems reported by parents, improving the child's adaptive performance with new people and situations, and improving positive emotion between parents and the child (p <0.05). Therefore, knowing how parents treat their child can act as a strong reinforcer of desirable behavior, leading to increased levels of positive emotion in couples[29].

In research aimed at examining the effectiveness of parent-child interaction therapy in children with high-functioning autism and behavioral problems, Hatemzadeh et al[30] found that there was a reduction in these problems in all participants after implementing PCIT. In treatment programs such as parent-child interaction therapy, attempts are made to change the cycle of negative and hostile interactions by teaching behavioral management skills to mothers and to correct the child's behavioral problems to some extent. After treatment, a decrease in some of these children's behavioral problems and an increase in their interest in having a relationship were observed. Accordingly, it is apparently possible to improve some of the components that affect the relationship between mothers and highly active children with autism, following the implementation of a parent-child interaction therapy course.

Seifolahzadeh conducted research to examine personality traits (nervousness, extroversion, frankness, agreement, and conscientiousness) and the mother's relationship with the child (acceptance of the child, over-protection, over-indulgence, and rejection of the child) by comparing mothers of autistic children with those having normal children. The results showed that over-protection, over-indulgence, and rejection of the child in mothers of autistic children were significantly higher than those in mothers with normal children, while acceptance of the child was significantly lower among mothers of autistic children compared with mothers having normal children. These results suggest the presence of stress and anxiety in mothers with autistic children, which can gradually lead to dysfunctional parenting styles in them. Therefore, we recommend that mothers with autistic children improve their relationship with their children by availing themselves of psychological training packages[31].

Communication and behavior problems are an important part of an autistic child's symptoms. In Rabiee et al[32], the parents pointed out that these symptoms caused the main disruption in the parent-child relationship, and the researchers concluded that assigning sessions to provide practical solutions to communication and behavior problems is a good measure in this regard. Helping parents to have a better understanding of their relation with their children and to acquire new strategies to facilitate effective communication with them through positive parent-child interaction can enable the children to learn and develop new skills such as comprehension and expression, and a reduction in restricted repetitive behavior[33].

Group therapy is an interesting way to integrate ideas that offer different therapies. Group

therapy is applicable to any treatment method and can help those who are inattentive to individual therapy. This type of treatment helps people to create a pleasant environment and provides a haven not only for those who have no understanding of their disease but also for those who are looking for a cure. It may also be good for those who are not financially secure to pay for their treatment. Group therapy can provide a safe and non-judgmental environment in which they can talk about their experiences, support, and understand those who have a similar situation[13], and share experiences and knowledge with the members of group[34]. In the present research, educational sessions were held in groups, and there was mutual interaction between the researcher and the parents. Mothers were given the opportunity to express the stress and mental pressure they experience every day while interacting with their children and to gain a sense of empathy on the part of other mothers. Group therapy, counseling, and psychological training in groups have been effective for patients and their family members in resolving health-related issues. Group therapy empowers family members of children with autism[14].

In our study, the therapist assigned homework on the agenda of each session as a strategy for consolidating what the members had learned from the previous group sessions. The presentation of assignments in the group by each member caused the members of the group to share their experiences with each other more than before from the third session onwards. By helping each other, giving and receiving appropriate feedback, expressing their feelings and needs in group, establishing appropriate relationships even outside the group environment, empathy and group support were created, which were accompanied by group approval and encouragement. Reviewing the homework of participants led to the growth and development of group activity, member participation, and group interaction; it also played an important role in better learning.

Despite the strengths of this study, it had its own limitations, including the following: We only examined the relatively short-term effects of logotherapy on parents and children's outcomes because after the children's school year ended, their mothers did not refer to the center. In order to achieve accurate results, we recommend examining the long-term effects of this approach in future studies. Such studies need to schedule reminder sessions in their design, take into account the participation of both parents and its effects, and compare logotherapy with other methods such as behavioral methods and communication education. Because the study was conducted in one center, the effect of the intervention could not be generalized to other centers offering different programs.

Conclusions

The results of data analysis showed that group logotherapy improved the parent-child relationship of mothers and also increased the overall score obtained from the instrument. It is possible that parents are forced to rely more on self-help or mutual support from their family or other parents who have children with similar problems. Fortunately, there is promising evidence that such informal supports could be beneficial to families. An alternative method is group-based training for parents because it allows parents to support each other. Therefore, it is recommended that logotherapy courses be utilized by centers and organizations working for autistic children and families having similar problems.

Trial Registration Number

This study was registered with the Iranian Registry of Clinical Trial https://fa.irct.ir/trial/15481, (Identifier IRCT 20140212016564N11).

Ethical Approval

Ethical approval for this study was obtained from the ethical committee of Urmia University of Medical Sciences (APPROVAL NUMBER/ IR.UMSU.REC.1396.282). Informed consent Written informed consent was obtained from all subjects before the study.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The Authors declare that they have no conflict of interests.

Acknowledgments

This study was supported a grant from the Urmia University of Medical Sciences. The authors would like to thank all participants for their cooperation in this study.

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