

Research Paper: The Effects of Group Logotherapy on the Severity of Irritable Bowel Syndrome and the Quality of Life of the Affected Patients



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ABSTRACT

Objective: Irritable Bowel Syndrome (IBS) is among the most unknown psychosomatic disorders in the field of gastroenterology. IBS is a chronic, disabling, and functional disorder of the gastrointestinal tract. Moreover, it is characterized by recurrent abdominal pain, bloating, and changes in bowel habits in the absence of identifiable structural diseases. The present study aimed to evaluate the effects of group logotherapy on the IBS symptoms and Quality of Life in patients with IBS.

Methods: In a randomized clinical trial study, 30 IBS patients were selected; of them, 15 took part in 10×1 group therapy, and 15 were the controls. The data gathering tools included the IBS Severity Scoring System (IBS-SSS) for assessing the severity of IBS and the Irritable Bowel Syndrome Quality of Life (IBS-QOL) questionnaire. These inventories were completed in 3 stages of pre-test, Post-test, and follow-up. The collected data were analyzed using descriptive statistics and Multivariate Analysis of Covariance (MANCOVA) in SPSS.

Results: The mean scores of the experimental group, including pre-test (50.97), Post-test (30.50), and follow-up (25.83) phases, revealed significant changes in the studied patients' Quality of Life and decreased IBS severity scores. Moreover, these results remained consistent in the follow-up study that indicated a significant decrease in the IBS severity and Quality of Life of the patients ($P < 0.05$).

Conclusion: According to the present research data, developing a treatment plan based on group logotherapy intervention is effective in improving the patients' Quality of Life, and decreasing IBS severity

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Highlights

- The effects of group logotherapy on the IBS symptoms and quality of life in patients with IBS.
- The mean scores of the experimental group revealed significant changes in the studied patients' Quality of Life and decreased IBS severity scores.
- The results remained consistent in the follow-up study that indicated a significant decrease in the IBS severity and Quality of Life of the patients.

Plain Language Summary

Irritable Bowel Syndrome (IBS) is among the most unknown psychosomatic disorders and a chronic, disabling, and functional disorder of the gastrointestinal tract. It is characterized by abdominal pain, bloating, and changes in bowel habits. This study aimed to evaluate the effects of group logotherapy on the IBS symptoms and quality of life in patients with IBS. The data gathering tools and the Irritable Bowel Syndrome Quality of Life (IBS-QOL) questionnaire were used. These inventories were completed in 3 stages of pre-test, Post-test, and follow-up. The mean scores of the experimental group revealed significant changes in the studied patients' quality of life and decreased IBS severity scores. According to the present research data, developing a treatment plan based on group logotherapy intervention is effective in improving the patients' quality of life, and decreasing IBS severity.

1. Introduction

Studies on the group logotherapy in patients with Irritable Bowel Syndrome in Iran are scarce. Emotional distress, the issues of meaning in life, and the co-morbidity of psychological conditions with IBS may exacerbate the symptoms of this syndrome. Thus, the current study aimed to test the effects of group logotherapy on the IBS severity and the quality of life the affected patients in Urmia City, Iran.

IBS is a chronic Functional Gastrointestinal Disorder (FGID) that characteristically presents with intestinal problems, including abdominal pain, diarrhea, constipation, and additional symptoms of bloating, gas, swelling, and urgency (Schorpfner et al., 2008). No identifiable structural abnormality, biological markers, or specific bacterial imbalance are identified to explain these symptoms (Rutter, & Rutter, 2002). IBS is diagnosed in approximately 10% of the general population and up to 25% of individuals in Western countries, making it the most frequent cause of referral to a gastroenterologist (Clarke, Quigley, Cryan, Dinan, 2009, Jones & Lydeard, 1992).

The Rome I and II criteria is the most comprehensive diagnostic tool for IBS, especially when an individual experiences abdominal pain or discomfort for ≥ 3 days per month for 3 months. These symptoms must be accompa-

nied by two of the following: changes in stool frequency (more or less), or form (harder or softer), or discomfort relieved with defecation (Gwee, 2007). Patients' symptomatology could appear as medically unexplainable, i.e. a diagnosis often accompanied by feelings of misunderstanding and stigmatization (Crane, Martin, 2002); it potentially reduces help-seeking behaviors (Trikas, Vlachonkolis, Fragkiadakis, Vasilakis, Manousos, Paritsis, 1999). IBS significantly influences an individual's quality of life and well-being in some areas, including nutrition, traveling, physical appearance, occupation, family, education, and healthy physical and sexual relationships (Whitehead, Burnett, Cook, Taub, 1996, Hungin, Whorwell, Tack, 2003). Investigating a biopsychosocial model for IBS has identified several psychosocial factors that strongly influence IBS in three main pathways. These routes include meditating the function and sensation of the gut, specifically influencing the presenting symptom type and severity of reported pain, causing certain illness behaviors, and meditating the risk of onset induced by stress or trauma (Ljotsson, Andreewitch, Hedman, Ruck, Andersson, Lindefors, 2010, Lackner, Mesmer, Morley, Dowzer, Hamilton, 2004).

Numerous studies have investigated the relationship between psychosocial factors and IBS; two of them revealed that subjects with IBS reported higher levels of depression, anxiety, and neuroticism, compared with their healthy counterparts (Koloski, Talley, Boyce, 2002, Locke, Weaver, Melton, Talley, 2004). Overall, IBS pa-

tients reported higher mental disorders and decreased quality of life, compared to those with gastrointestinal disease, and the general population (Qing-Lin, Guo, Ming, 2013). Recently diet changes, mental and neurological factors, and infections have led to the growing trend of IBS (Wang, Luo, Chen, Guo, 2014). Pharmaceutical treatments could mitigate IBS symptoms; however, they are costly and may produce adverse effects. A significant proportion of IBS patients fail to respond to conventional medical treatments. Besides, evidence indicated that psychological treatments significantly impact the symptoms and the quality of life of these patients (Qing-Lin, Guo, Ming, 2013). Treatments, such as hypnotherapy, cognitive behavioral therapy, biofeedback training, relaxation training, meditation, and yoga, are also effective in this regard (Tosic, Miljkovic, Nago-rmi, Lazarevic, Nikolic, 2010).

Psychological factors significantly affect health maintenance and recovery. Among the variables that appear to hold promise as predictors and concomitant of health is known as meaning in life (Frankel, 2006). This family includes the constructs of the presence of meaning and search for meaning in life. The presence of meaning in life refers to individuals' comprehension of their life experiences along with a sense of overarching purpose they seek; search for meaning in life refers to the intensity and activity in which people are seeking to establish and improve the presence of meaning in their lives (Steger, Frazier, Oishi, Kaler, 2006). Both variables are theoretically important to biopsychological health. However, the presence of meaning in life is reported to play a significant role in promoting and maintaining biopsychological health (Steger & Joshua, 2009).

Furthermore, the will to acquire meaning in life is a significant and universal human motive; the loss of meaning is characterized by boredom, hopelessness, and the loss of will to live (Frankel, 2006). A human life without existential meaning may be very unsatisfactory and could result in major depression disorder (Yalom, 1980). The most difficult psychological issue people encounter in the modern world is an existential crisis, or in general, feeling hollow due to the lack of meaning in life. Accordingly, Frankel developed a therapeutic approach called logotherapy to address this most challenging hurdle (Frankel, 2006).

Logotherapy is a psychological therapeutic approach to address the leading cause of such problems. It helps people appreciate their existence, gain liberty from emotional distress, and find meaning and purpose in their lives. Having meaning in life is regarded as being aware

of the overriding goals of one's life that add purpose to everyday living and is a primary motivational force in humans (Frankel, 1988). Group logotherapy appears to effectively manage existential concerns. Group logotherapy attempts to leverage the therapeutic value of exploring existence issues by emphasizing the existentialism embedded in the group process (Somov, 2007). Therefore, this study aimed to test the effects of group logotherapy on IBS severity and the quality of life in the study participants. Besides, we investigated the consistency of the obtained effects of group logotherapy in a one-month follow-up.

2. Methods

This study was approved by the local Ethics Committee. It was an experimental study with a pre-test-Post-test, follow-up, and a control group design. The required data were collected from gastroenterological clinics in the local area for 2 months (i.e. January 2017 to March 2017). Moreover, the statistical population included all patients with IBS, referring to the gastroenterological clinics in the local area. The research sample was selected through convenience sampling method.

The sample selection was performed based on IBS diagnostic criteria by specialists and Rome I and II criteria. The inclusion criteria included an illness duration of 6 years, the age of ≥ 20 years, and having at least a diploma degree. In total, 37 individuals were recruited, of whom 30 patients were selected after a briefing session, and 7 patients were excluded from the study. Moreover, 15 patients were randomly selected and took part in a 5-week 10 \times 1 weekly group logotherapy sessions. Additionally, 15 patients participated as controls who received no intervention during the study, and the intervention was provided to them one month after the follow-up session was held.

The Quality of Life of patients with IBS was measured by the 34-Item Irritable Bowel Syndrome Quality of Life (IBS-QoL-34). This questionnaire has 8 subscales of boredom, interfering in the activity, body image, anxiety, health, food avoidance, and social reaction, as well as sexual and interpersonal concerns. Each question is answered on a five-point Likert-type scale. The Persian version of this questionnaire was validated in Iran (Jamali, Yazdi Pour, Tehrani, Dowlatshahi, 2014), i.e. equal to 0.92 (Haghighyegh, Kalantari, Solati, Molavi, Adibi, 2008).

IBS Severity Scoring System (IBS-SSS) was implemented to assess the symptoms of IBS. This scale pri-

marily evaluates the intensity of IBS symptoms during 10 days, concerning abdominal pain, distension, stool frequency and consistency, and interference with life in general. The IBS-SSS calculates the sum value of these 5 items, with each scored on a visual analog scale ranged 0-100. Symptoms range from mild to severe, and the maximum score is 500. Diagnosis classifications are mild: 75 to <175, moderate: 175 to <300, and severe: >300 (Drossman, et al., 2011). The data were analyzed using descriptive statistics and Multivariate Analysis of Covariance (MANCOVA) in SPSS.

The study intervention involved a logotherapy approach and emphasized finding value in the individuals' life to attain meaning. Table 1 provides a summary of the therapy session contents. The program was designed to help participants clarify values that were particularly meaningful to them and set reasonable goals to ensure actualizing the participants' significant values. It also

aims to determine participants' assets and deficits that could affect their attempts to achieve their goals and to actualize their values. The focus of the initial sessions was on clarifying participants' values. This aim was accomplished by the Value Awareness Technique (VAT). Briefly, this technique consists of a series of exercises, each of which involving a three-step format.

The first step was to expand conscious awareness. The study participants were instructed to observe their lives from a different perspective. The second step was stimulating creative imagination. Participants were instructed to brainstorm numerous possible values that could underlie the results obtained from step one. The third step was projecting personal values. The particular values that underlie their particular responses were covered in step one. Following these three-step exercises, the study participants were instructed to identify the values, i.e. repeatedly selected during the activities. After the clari-

Table 1. The sessions' summary

Session	Sessions' Summary
First	Introducing logo therapy's necessary information and intended course of group logotherapy; explaining values awareness technique. Group practice was about "what I want to be." Homework was to begin the exploration of creative values.
Second	The clarification of creative values. We discussed progress or difficulties with homework assignments. We distributed the values worksheet. Group practice involved satisfying achievements. Homework was regarding the completion of exploring creative values.
Third	The clarification of experimental values. We discussed progress or difficulties with the assigned homework. Group practices involved recent events, positive persons, and artistic expressions. Homework consisted of completing the exploration of experimental values.
Fourth	The clarification of attitudinal values. We discussed progress or difficulties with the assigned homework. Group practice involved wise saying, taking a stance, and "my obituary." Homework included completing the exploration of attitudinal values.
Fifth	Focusing on goals. We discussed progress or difficulties with the assigned homework. Group practice involved setting goals and fostering another perspective on goals.
Sixth	Fitting goals with values. We discussed progress or difficulties with the assigned homework. Analyzing goals for fitting with personal values. Homework included requesting the study participants to analyze various goals by the method discussed during the current session. Participants should have become aware of any disregarded values for short-term goals, intermediate goals, and long-term goals.
Seventh	Setting new goals. Group discussion was about homework results and covered insights. Setting new goals for overlooked values was also practiced. Homework involved using the method described in this session, setting a new short-term goal, a new intermediate goal, and a new long-term goal. The study participants hierarchy evaluated each new goal in terms of each value in their values using the process demonstrated in the previous session. If the disregarded hierarchy values remained after the new goals, compared with the values, additional goals were set until no values remained overlooked.
Eighth	Planning for goal achievement. Goal achievement was outlined (the goal should be measurable and attainable). We Discussed ideas concerning the topic of establishing plans to achieve goals. Homework involved using the method described in the current session. Participants have set goal achievement plans for one short-term goal, a goal achievement plan for one intermediate goal, and a goal achievement plan for one long-term goal.
Ninth	Current statue analyzing. We discussed homework accomplishments and insights. Each participant shared three goals for which they have established plans. Group practice involved assets and deficits. Group discussion comprised recognizing our deficits as well as asset,s because once we get aware of them, we are in a position to choose to change or not change. Homework included incorporating assets and deficits into plans.
Tenth	It was about summary and critique. Participants shared examples of how they will incorporate their assets and deficits into their plans to achieve their goals. We summarized the topics included in the course of group therapy. Group discussion involved any changes participants observed in their symptoms resulting from attending the group logotherapy. Then, they completed questionnaires of IBS-QOL and IBS-SSS, and we have set a date for the follow-up session.

fication of participants' personal values, the focus was on goals to set new goals for values, planning for goal achievement, and undertaking ongoing current status analysis concerning the process.

3. Results

To evaluate the effects of group logotherapy on the quality of life and IBS severity, IBS-SSS was applied. After calculating the pre-test, Post-test, and follow-up scores in the experimental and control groups, descriptive statistics, including mean and standard deviation for the dependent variables, were used to analyze the relevant data (Table 2).

According to the obtained data, the mean scores of the experimental group, including the pre-test (50.97), Post-test (30.50), and follow-up (25.83) stages revealed significant changes in the quality of life scores and decreased IBS severity scores at Post-test (160.93) and follow-up (157.40), compared to the pre-test score (252.46); the

same changes were not observed in the control group. To examine the equality hypothesis of variances, Levene's test was used (Table 3).

According to Table 3 and the significance level ($P < 0.05$), variances were equal, and there were no significant differences between the dependent variables; thus, MANCOVA was applied for both dependent variables to detect differences in the IBS severity and Quality of Life in the experimental group ($P < 0.05$; Table 4).

According to Table 4, group logotherapy impacted the IBS severity and IBS Quality of Life scores in the experimental group; the effects remained stable at a one-month follow-up ($P < 0.05$). Thus, group logotherapy significantly affected the Quality of Life and IBS severity values in the experimental group. Such effects sustained until the follow-up session.

Table 2. The Mean±SD scores for IBS-QOL and IBS-SSS of the study groups (n=15)

Stages	Experimental		Control	
	IBS-QOL	IBS-SSS	IBS-QOL	IBS-SSS
	Mean±SD			
Pre-test	50.97±3.71	252.46±79.80	51.87±5.40	252.13±89.51
Post-test	30.50±3.69	160.93±43.58	49.91±4.85	246.13±76.90
Follow-up	25.83±3.84	157.40±43.64	53.52±5.28	255.13±85.10

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Table 3. Levene's test data for the homogeneity of variances

Stages	Variance Source	df	Mean of Squares	F	Sig.	Eta. Squared
Post-test	IBS-QOL	1	104.72	6.80	.01	.20
	IBS-SSS	1	76789.93	63.60	.00	.71
Follow-up	IBS-QOL	1	109.54	6.05	.02	.18
	IBS-SSS	1	94056.46	74.65	.00	.73
Error	IBS-QOL	27	15.39			
	IBS-SSS	27	18.10			

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Table 4. MANCOVA results for IBS-QOL and IBS-SSS in the experimental group

Stages	Variables	F	df ¹	df ²	Sig.
Post-test	IBS-QOL	3.59	1	28	0.06
	IBS-SSS	0.00	1	28	0.99
Follow-up	IBS-QOL	0.27	1	28	0.60
	IBS-SSS	0.17	1	28	0.68

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4. Discussion

The research result suggested that group logotherapy was effective in reducing IBS severity and quality of life in the studied IBS patients. This finding is consistent with those of [Raty and Raštjoui \(2007\)](#) that found that meaning in life is a reliable and stable predictive variable in individuals' lives. Besides, [Fabrykatver and Tlandal \(2004\)](#) stated that in addition to pharmacotherapy, the meaning is an essential factor in enhancing the quality of life in IBS patients.

There is substantial empirical support for a positive link between the presence of meaning in life and mental health, including depression and anxiety ([Steger and Joshua, 2009](#)). However, there is inadequate support for a positive correlation between them; although some studies have indicated positive and significant links between the presence of meaning in life and immunological, neuroendocrine, and cardiovascular markers of health ([Bower, Kemeny, Taylor, Fahey, 1998, Ryff, et al., 2006](#)).

According to other study, the presence of meaning in life appears to enhance the recovery from knee replacement surgery ([Smith & Zautra, 2004](#)) and reduced excessive response of an autonomic nervous system to emotional stress ([Ishida & Okada, 2006](#)). Moreover, research reported that logotherapy is effective in reducing pain and improving life's meaning. Furthermore, it could be used to avoid the confusion of existence and enhance the quality of life; as research reported that the meaning in life is a vital variable in determining individuals' mental health, and the meaning has an essential role in developing biopsychological health and wellbeing ([Steger & Joshua, 2009](#)).

The positive effect of logotherapy is not limited to decreasing psychological pain in the context of chronic disease. Studies on patients with chronic pain have highlighted that meaning in life correlates with significantly reduced hopelessness, depression, anxiety, and anger, as well as significant improvements in the clinical presentation of chronic pain. These results are consistent with those of our study, revealing that group logotherapy effectively reduced the severity of symptoms and enhanced the quality of life in IBS patients.

Emotional factors significantly influence the development of almost all organic illnesses. Besides, the physical symptoms experienced by the patients are related to various independent factors, including psychological and cultural characteristics. The physical signs and

manifestation of an illness, unless caused by mechanical trauma, cannot separate from a person's emotional life. Each person responds to stress uniquely. Emotions affect individuals' sensitivity to the trauma, proneness to infections, and the ability to recover from the effects of illnesses. Physical conditions in which psychological factors are suggested to be contributory are classified as psychological factors affecting medical health ([Khatami, 1987](#)). Considering the cumulative evidence, including current study results, meaning in life could be a critical mental resource.

This study had certain limitations. We derived the current study findings based on a limited number of patients, which makes our data vulnerable to statistical biases; thus, applying logotherapy in different settings should be supported by additional analyses focused on diverse IBS populations and by different sampling methods. Furthermore, due to the inclusion criteria, factors such as marital status, occupation, and socioeconomic status of patients were not controlled. We recommend further efforts to establish a causal path between psychological wellbeing and IBS, using a large sample size.

5. Conclusion

Group logotherapy for IBS patients was found to be effective in reducing IBS symptoms severity and the quality of life. Applying comprehensive therapies in treating IBS patients could be an essential step in enhancing these patients' biopsychological well-being. Therefore, we need to improve the implementation of psychological interventions, like logotherapy, which may be an efficient group intervention for IBS patients.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages; they were also assured about the confidentiality of their information; Moreover, They were allowed to leave the study whenever they wish, and if desired, the results of the research would be available to them.

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Authors' contributions

All authors contributed equally in preparing all parts of the research.

Conflict of interest

The authors declared no conflicts of interest.

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