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## Introduction

A long-term functional problem of the digestive system is irritable bowel syndrome or IBS. In the absence of any biological or anatomical abnormalities, patients report various gastrointestinal symptoms and stomach pain. Symptoms of this syndrome may be associated with diarrhea, constipation, or a combination of both (Lovell

# A Comparative Study of Individual and Group Analytical Psychotherapy on Gastrointestinal Symptoms, Perceived Stress, and Perfectionism in IBS Patients

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## ABSTRACT

**Objective:** A long-term functional problem of the digestive system is irritable bowel syndrome or IBS. This study compared how well individual psychoanalysis and analytical group therapy worked for gastrointestinal symptoms, perceived stress, and perfectionism in irritable bowel syndrome patients.

**Methods and Materials:** The present study was applied, and the experimental design was a pre-test, post-test, and follow-up with the control group. The study's statistical population included patients to medical centers in Tehran in 2019 with irritable bowel syndrome, among which 68 people were selected based on inclusion and exclusion criteria by available sampling method. Then, 25 subjects were randomly assigned to individual psychoanalysis (n=5), analytical group therapy (n=10) and control group (n=10). Data were obtained using Perceived Stress Scale (Cohen, Kamarak, and Marmalstein, 1983), multidimensional perfectionism scale (Hewitt, & Flett, 1996) and irritable bowel syndrome severity index (Patrick et al., 1998). Repeated measure ANOVA and SPSS.22 software were used for inferential analysis.

**Findings:** The results showed that the mean of perceived stress, severity of gastrointestinal symptoms, and perfectionism in the individual psychoanalysis group and the analytical group therapy were lower at the end of the post-test than the control group ( $p < 0.01$ ). However, there was no significant difference between individual psychoanalysis and analytic group therapy.

**Conclusion:** It can be concluded that both individual psychoanalysis and analytical group therapy approaches are effective on perfectionism, perceived stress, and the severity of gastrointestinal symptoms in IBS patients, and both of these therapies can be used to improve psychological problems in patients with irritable bowel syndrome.

**Keywords:** Irritable Bowel Syndrome, Perfectionism, Gastrointestinal Diseases, Psychoanalytic Therapy, Stress.

& Ford, 2012). The worldwide prevalence of IBS is estimated to be about 11% (Saulnier et al., 2011), the prevalence of IBS in Iran has been reported in a review study between 1.1% and 25%, recently a study showed a prevalence of 21.5% irritable bowel syndrome in Iran (Ford et al., 2014; Foroozanfar & Ansari-Shahidi, 2020; Mohammadi et al., 2022). It affects both sexes at different ages, though its prevalence is higher in women due to the

role of sex hormones in irritable bowel syndrome (Whelan & Quigley, 2013).

In addition, many behavioral science researchers, physicians, and psychiatrists have verified the vulnerability of perfectionist individuals to developing psychosomatic diseases. Strict conscience, anxiety, guilt, self-punitiveness, self-dissatisfaction, and disgust are common emotional features that are seen in most patients with intestinal symptoms (Sirois & Molnar, 2014). All humans desire perfection and prosperity. Humans are trying to develop their potential and to be beyond what they are. Perfectionism was initially considered a dysfunctional trait in which the need to progress in the form of high and unrealistic personal standards emerges and creates a situation where the fear of making mistakes is at the center (Jordan et al., 2016). Perfectionist and non-realizable personal criteria impose self-blame and helplessness through increasing experiences of failure, thereby increasing readiness to experience anxiety and stress (Alizadeh et al., 2023; Hasheminejad et al., 2024; Sykes et al., 2015).

In this regard, people with irritable bowel syndrome have reported significant symptoms of psychological disorders and mental disorders. Reciprocal people with psychocognitive disorders and mental disorders have reported mental disorders and common conditions, and mutual persons with mental disorders such as anxiety disorders and panic attacks have reported gastric-bowel symptoms consistent with irritable bowel syndrome. Psychological disorders are thought to be a significant factor in the development or aggravation of stomach A-bowel symptoms that are indicative of irritable bowel syndrome (Ghorbani Ashin et al., 2024; Hajrezaei et al., 2024; Targownik et al., 2015).

One of the hallmarks of psychoanalytic therapies is the therapist's constant effort to experience profound emotional/emotional experiences as a healing ingredient (Shepherd & Beail, 2017). Over the past two decades, extensive studies have shown that spoken and written disclosure improves physical and mental health and autonomic immune and neurological function (Lindfors et al., 2017). The active position of the therapist and the proper application of techniques in this position allow the client to identify and touch the depth of their feelings and thoughts and achieve excellent mental health (Tammiz, 2017). In this treatment, the patient is helped to solve their problems based on how they deal

with emotions or conflicts. These conflicts and emotions result from initial losses and traumas in life. Anxiety and defenses are mobilized When a stressful event activates these emotions. The result is a combination of anxiety, somatization, depression, avoidance of self-defeating patterns, and interpersonal problems (Zellner & Olds, 2016). Considering the increasing number of patients with IBS and their major problems in the field of perceived stress and severity of gastrointestinal symptoms and perfectionism, it seems that many of these patients do not have enough knowledge and skills to manage such problems properly. In the case of psychoanalysis to patients, such problems can be reduced. This study aimed to compare the effectiveness of individual psychoanalysis and analytic group therapy on the severity of gastrointestinal symptoms, perceived stress, and perfectionism in patients with irritable bowel syndrome (IBS).

## Methods and Materials

### *Study Design and Participants*

The present study was applied, and the experimental design was a pre-test, post-test, and follow-up with the control group. In 2019, patients with irritable bowel syndrome referred to medical centers in Tehran were included in the study's statistical population. The sampling method in this study was that among patients with irritable bowel syndrome who were referred to medical centers in Tehran and were eligible and volunteered to participate in the research, 68 subjects were selected based on inclusion and exclusion criteria. Then, 25 subjects were randomly assigned to two individual psychoanalysts (n=5), group therapy (n=10) and control group (n=10). After confirming the physician and the patient's medical record of having IBS, they entered the study. The pre-test was performed for participants of three groups before the start of the sessions and with informed consent. Individual psychoanalysis was held in two three-month periods, and there was a gap of one week between the two periods. Twelve sessions were held every three months, and twenty-four sessions were considered. There was no downturn among the three groups, and all subjects were present until the end of the sessions. After the sessions, group counseling sessions were also held in two sessions for the control group. Inclusion criteria were irritable

bowel syndrome (IBS) with the approval of a gastroenterologist for at least one year, having at least 20 years of age, having at least secondary education, and not receiving psychological treatment since diagnosis. Severe complications of irritable bowel syndrome leading to hospitalization and absence of more than two treatment sessions were considered as a criterion of exclusion. After the sessions, subjects in all three groups completed the questionnaires again, and the questionnaires were administered two months after the end of the psychotherapy course as a follow-up.

#### *Data Collection Tools*

**Perceived Stress Scale (PSS):** This scale, designed by Cohen, Kamarak, and Marmalstein (1983), is one of the global scales of perceived stress. The perceived stress scale consists of four, 10, and 14 questions forms in which 14 questions are used. The response of the options according to the scale instruction is graded from zero to very high (four), and the range of scores ranges from zero to 56, and most of the subjects on this scale indicate high stress levels (Cohen et al., 1983 and Cohen & Williamson, 1988). Cohen et al. (1983) reported the test-retest reliability of this scale as 0.85. The Cronbach's alpha of this test was calculated from 0.84 to 0.86. Agahi Harris and Mousavi (2013) confirmed the consistency coefficient of the items in the Iranian population. Cronbach's alpha of the items was also 0.84. The reliability of this questionnaire was reported to be 0.78 using Cronbach's alpha (Rahimi et al., 2023; Vatanpanah et al., 2023).

**Multidimensional Perfectionism Scale (MPS):** A multidimensional perfectionism scale (MPS) was used to measure perfectionism. MPS consists of three 15-item subscales that measure egoistic perfectionism, other-oriented perfectionism, and community perfectionism. Subjects agree based on a 5-part scale; higher scores indicate higher perfectionism (Hewitt, & Flett, 1996). Several studies have supported the multidimensional validity and reliability of the MPS scale in clinical populations, students, and the general public (Khayata et al., 2003). The alpha coefficient range for this scale was reported between 0.74 and 0.89, and subscales correlated with the constructs that were theoretically similar and were not affected by response biases. In the

research of Aghamohammadian et al. (2014), the reliability of the MPS questionnaire was obtained by Cronbach's alpha method. The alpha coefficients for the egoistic and community-oriented perfectionism subscale were 0.79 and 0.70, respectively, indicating the internal consistency above the scale (Jazi, 2024).

**The IBS Severity Index (IBS):** This scale consists of 5 questions that examine the symptoms of IBS, including pain, habitual disorder, a sensation of bloating, the effect of the disease on daily living activities, and extra-intestinal symptoms with IBS-SI. Each section's mean score has a maximum of 100, and the questionnaire's overall score is 500. Scores ranging from 75 to 175, 175 to 300, and greater than 300 indicate mild to moderate and severe instances, respectively. Although none of the IBS severity gauges have been fully confirmed, the tool listed is currently the best-reported tool used in most similar studies (Mohammadi et al., 2022).

#### *Intervention*

The sessions' content follows the Intersubjective Psychotherapy Guidelines (Fox, 2009), i.e., the seven stages of questioning about problems, pressure, challenge, transitional resistance, direct access to the unconscious, transfer analysis, and exploratory exploration in the unconscious. Analytical group therapy sessions based on Kabanis, Chery, Daglas, and Schwartz, 2011 were conducted in 6 sessions of 90 minutes per week (Lindfors et al., 2017).

#### *Data analysis*

For inferential analysis, the ANOVA approach analyses quantitative variables between two groups. Furthermore, multivariate analysis of covariance was employed with SPSS.22.

#### *Findings and Results*

The mean (SD) of age in the individual psychoanalytic group was 38.59 (7.20), analytical group therapy was 37.46 (7.55), and the control group was 39.83 (8.11). The three groups did not have any significant age differences. The mean deviation of studied variables in this study is presented in Table 1.

**Table 1***Mean (SD) of research variables in two experimental and control groups*

Variables	Group	Pre-test		Post-test		Follow-up	
		M	SD	M	SD	M	SD
Perceived stress	Individual Psychoanalysis	33.66	8.29	26.60	6.18	25.06	5.38
	Analytical Group Therapy	32.33	9.23	28.73	6.27	28.33	6.54
	Control	31.73	8.49	31.20	8.26	30.80	7.20
Severity of gastrointestinal symptoms	Individual Psychoanalysis	38.06	6.43	33.80	4.31	33.13	4.42
	Analytical Group Therapy	37.00	3.81	32.66	3.95	31.93	3.69
	Control	37.60	4.13	37.26	4.00	37.46	3.96
Perfectionism	Individual Psychoanalysis	43.53	6.12	35.86	5.74	37.80	5.02
	Analytical Group Therapy	45.40	6.00	37.11	5.36	39.40	5.94
	Control	44.53	5.70	44.00	5.59	43.46	4.77

Considering that the M-box test was insignificant for any of the variables (Box's  $M=21.95$ ;  $df=20$ ;  $p<0.05$ ), the covariance-variance matrix homogeneity condition was observed correctly. Furthermore, the Levene test's

insignificance of all the variables demonstrated that the intergroup variances were similar and that each group's dependent variable error variance was the same.

**Table 2***Results of multivariate analysis of variance*

Effects	Test	Value	F	Df hypothesis	Df Error	P-value	Eta <sup>2</sup>
Group	Pillai effect	0.95	8.16	8	72	0.001	0.47
	Wilks Lambda	0.09	19.44	8	70	0.001	0.69
	Hotteling effect	8.89	37.78	8	68	0.001	0.81
	Roy's largest root	8.83	79.51	4	36	0.001	0.89

As can be seen in Table 2, the level of significance of all tests is significant at the level of 0.001, indicating that there is a significant difference between the three groups of individual psychoanalysis and analytical group therapy, and control group on perceived stress, severity of gastrointestinal symptoms and perfectionism in terms

of statistically. Wilkes Lambda test with a value of 0.09 and  $F=19.44$  showed a significant difference between the three groups of individual psychoanalysis and analytical group therapy and control group on perceived stress, the severity of gastrointestinal symptoms, and perfectionism ( $p<0.01$ ).

**Table 3***Multivariate analysis of covariance for comparing three groups*

Source	Variables	SS	Df	MS	F	P-value	Eta <sup>2</sup>
Group	Perceived stress	61.35	2	30.67	50.49	0.001	0.72
	Severity of gastrointestinal symptoms	584.57	2	142.28	29.77	0.001	0.76
	Perfectionism	176.58	2	88.29	32.17	0.001	0.62

The results of Table 3 indicate that for perceived stress components (50.46) at the level of 0.0001, the severity of gastrointestinal symptoms (29.77) was

significant at 0.0001, and perfectionism (32.17) at 0.0001 level.

**Table 4***Bonferroni post hoc test results for comparison of research variables*

Variables	Group	Group	Mean Diff.	P-value
Perceived stress	Individual Psychoanalysis	Analytical Group Therapy	-2.13	0.095
		Control	-4.60	0.001
Severity of gastrointestinal symptoms	Analytical Group Therapy	Control	-2.47	0.038
		Control	-2.47	0.038
	Individual Psychoanalysis	Analytical Group Therapy	1.14	0.189
		Control	-3.46	0.021
Perfectionism	Analytical Group Therapy	Control	-4.60	0.001
		Control	-4.60	0.001
	Individual Psychoanalysis	Analytical Group Therapy	-1.25	0.561
		Control	-8.41	0.001
	Analytical Group Therapy	Control	-6.89	0.001

The results of Table 4 show that the mean perceived stress, severity of gastrointestinal symptoms, and perfectionism in individual psychoanalysis and analytical group therapy groups were lower at the end of the post-test than in the control group ( $p < 0.01$ ). However, there was no significant difference between individual psychoanalysis and analytic group therapy.

### Discussion and Conclusion

This study aimed to compare the effectiveness of individual psychoanalysis and analytic group therapy on the severity of gastrointestinal symptoms, perceived stress, and perfectionism in patients with irritable bowel syndrome (IBS). The findings show that there was no difference in the effectiveness of individual psychoanalysis and group therapy on perceived stress, perfectionism, and severity of gastrointestinal symptoms in patients with IBS. Additionally, there was no difference in the effectiveness of psychoanalysis and group therapy on these factors (IBS). The results of this research were in line with prior studies (Bergner, 2009; Faramarzi et al., 2013; Lindfors et al., 2017; Norouzi et al., 2017; Shepherd & Beail, 2017; Tamez, 2017; Zellner & Olds, 2016).

In explaining this finding, it can be said that irritable bowel syndrome may be caused by irregularities in interactions between the central nervous system and the intestinal nervous system called the brain-gut axis. Through these intersecting connections, sensory inputs from the gut are replayed and processed to the higher cortical centers that regulate emotion, pain perception, and behavioral responses. The bilateral brain-gut relationship allows higher-level mental processes (attention, emotion, emotion, feeling, and thinking) to influence the gastrointestinal tract's function, secretion, and sensations (Huang et al., 2018). Considering that

emotional and psychological factors play a role in the incidence of irritable bowel syndrome, psychological strategies such as psychoanalysis can be effective in the prevention and treatment of this disease. Psychoanalytic or psychoanalytic therapy is a rigorous discursive method that aims to uncover unconscious thoughts and feelings buried deep within the patient, often resulting from repressed childhood experiences and emotions. A particular approach, theory, and technique helps the psychoanalyst understand the patient's mind. According to statistics, a large number of patients with depression, emotional disorders, mental disorders, and personality disorders are recovered through psychoanalytic and psychoanalysis (Pan et al., 2017). Psychoanalysis is a rigorous discursive method aimed at discovering unconscious thoughts and feelings buried deep within the patient, often resulting from repressed childhood experiences and emotions. A particular approach, theory, and technique helps the psychoanalyst understand the patient's mind. The psychoanalyst uses these methods to examine how the patient's subconscious mind affects his thoughts and behaviors. The patient will talk about his childhood experiences and memories, and by studying these experiences and memories, the root of his current problems will be discovered. How a person's past has affected their life and present experiences or potentially caused their worries and anxieties

There was no significant difference between individual and group methods in terms of affecting the rate of severity of gastrointestinal symptoms, perfectionism, and perceived stress in patients with IBS. However, individual psychoanalysis and group therapy have been effective in improving perceived stress, severity of gastrointestinal symptoms, and perfectionism in IBS patients. Some previous studies



have not seen a difference in effectiveness between the two methods (Bryns et al., 2018). Perhaps this factor in both treatment groups, a person who has implemented a treatment plan, has caused the two programs to be very similar. Another reason seems to be the similarity between the two treatment programs in the two groups that make the same impact (Gottlieb et al., 2017). If there is no difference between the two forms of group and individual performance in terms of effectiveness, performing group therapy is cost-effective because more people receive psycho-cognitive treatment in a shorter period and benefit from the disease in terms of costs.

The current study has certain limitations as well. Specifically, subjects' accuracy of responses may have been reduced due to multiple questionnaire responses, which the test settings may have influenced. The community of individuals with irritable bowel syndrome in Tehran was the sole focus of this study. Thus, extra care should be used when extrapolating the findings to other areas and cities. The therapist was the same person who ran both models, and the interference effect may have occurred. It is suggested that individualized psychoanalysis-based training be introduced to therapists and counselors of treatment centers for people with IBS to take practical steps to improve the psychological status of these patients by using these treatments or introducing them to people with irritable bowel syndrome. Considering the cost-effectiveness, importance, and harmlessness of individual psychoanalysis counseling methods, it is recommended that workshops be held for patients with IBS to teach the basic skills and techniques of these two methods.

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### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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### Authors' Contributions

All authors equally contributed to this study.

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