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The Impact of Intensive Short-Term Dynamic Psychotherapy (ISTDP) on Psychological Capacity, Anxiety Severity, and Functional Gastrointestinal Disorders in Psychosomatic Patients with Gastrointestinal Symptoms

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A B S T R A C T

Purpose: The present study aimed to investigate the impact of Intensive Short-Term Dynamic Psychotherapy (ISTDP) on psychological capacity, anxiety severity, and functional gastrointestinal disorders in psychosomatic patients with gastrointestinal symptoms.

Methodology: This research is applied in nature and utilized a quasi-experimental pretest-posttest design with a control group. The statistical population consisted of patients with gastrointestinal functional disorders who sought treatment for anxiety at the Bojika Counseling Center located in District 3 of Tehran in 2020. A sample of 16 participants was selected based on previous research and through purposive voluntary sampling. The sample was randomly assigned to experimental and control groups (8 participants per group). Participants were assessed before and after the intervention using the Beck Anxiety Inventory, the Gastrointestinal Symptom Rating Scale (GSRS), and the Ego Strength Scale. The experimental group underwent 15 sessions of ISTDP, each lasting 90 minutes, while the control group did not receive any intervention.

Findings: Results from the simple mixed factorial design indicated that ISTDP was effective in reducing anxiety and gastrointestinal symptoms and in enhancing ego strength in psychosomatic patients with gastrointestinal symptoms in both the short-term (posttest) and long-term (follow-up) ($P < 0.05$).

Conclusion: Therefore, the findings empirically support the efficacy of ISTDP in improving the condition of psychosomatic patients.

Keywords: *Intensive Short-Term Dynamic Psychotherapy, Anxiety, Psychological Capacity, Functional Gastrointestinal Disorders, Psychosomatic.*

1. Introduction

Functional gastrointestinal disorders (FGIDs) represent a significant and complex area of psychosomatic medicine, characterized by chronic or recurrent gastrointestinal symptoms in the absence of structural or biochemical abnormalities detectable by routine diagnostic tests (Xiong et al., 2018). These disorders, including irritable bowel syndrome (IBS), functional dyspepsia, and functional abdominal pain, are highly prevalent globally and are associated with substantial impairment in quality of life (Baaleman et al., 2021; Choi & Jung, 2011). Despite their widespread occurrence, the pathophysiology of FGIDs remains poorly understood, which complicates both diagnosis and treatment.

The biopsychosocial model has been widely accepted in understanding FGIDs, emphasizing the interaction between biological, psychological, and social factors (Ghoshal & Singh, 2017). Psychological factors, particularly anxiety, depression, and stress, have been strongly linked to the exacerbation of FGID symptoms (Narayanan et al., 2021). This has led to an increasing focus on psychotherapeutic interventions as part of a multidisciplinary treatment approach.

Intensive Short-Term Dynamic Psychotherapy (ISTDP) has emerged as a promising psychotherapeutic intervention for treating FGIDs and other psychosomatic conditions. ISTDP is a form of psychodynamic therapy that emphasizes the rapid resolution of emotional conflicts through direct and focused techniques (Abbass, Grantmyre, & Kay, 2013; Abbass et al., 2021; Abbass et al., 2012). This approach aims to identify and process repressed emotions, which are believed to contribute to the development and maintenance of psychosomatic symptoms (Abbass & Katzman, 2013). The effectiveness of ISTDP in treating a range of psychosomatic conditions, including FGIDs, has been supported by numerous studies and meta-analyses (Abbass, Grantmyre, & Kay, 2013; Abbass & Katzman, 2013; Abbass et al., 2021; Abbass & Town, 2021; Abbass, Town, & Driessen, 2013).

The link between emotional repression and FGIDs is well-documented. Research has shown that patients with FGIDs often struggle with alexithymia, a condition characterized by difficulty in identifying and expressing emotions (Babakhanlou & Babakhanlou, 2024; Kano et al., 2018). This emotional dysregulation can manifest physically, leading to the development of gastrointestinal symptoms (Keely et al., 2015; Roghani et al., 2022; Safikhani, 2022). ISTDP addresses this by helping patients recognize and express their emotions, thereby reducing the psychological and physiological distress that contributes to FGIDs (Town & Abbass, 2014).

ISTDP's effectiveness in treating psychosomatic conditions, particularly FGIDs, has been demonstrated in various clinical settings. For example, Abbass and Town (2013) highlighted the key clinical processes of ISTDP, including the identification of defense mechanisms and the therapeutic unlocking of the unconscious, which are crucial for resolving the emotional conflicts underlying psychosomatic symptoms (Abbass & Town, 2013). Moreover, ISTDP has been shown to be cost-effective, with significant reductions in healthcare utilization and symptom severity following treatment (Abbass, Grantmyre, & Kay, 2013).

In addition to its efficacy, ISTDP has been found to be a valuable treatment option for patients with treatment-resistant FGIDs. A systematic review by Abbass, Town, and Driessen (2013) indicated that ISTDP could significantly reduce symptom severity and improve quality of life in patients who had not responded to conventional medical treatments (Abbass, Town, & Driessen, 2013). This is particularly important given the chronic and often refractory nature of FGIDs, which can lead to prolonged suffering and extensive use of healthcare resources (Mahadeva, 2023; Pathipati et al., 2021).

The role of psychological therapies, including ISTDP, in treating FGIDs is supported by evidence that suggests a bidirectional relationship between the brain and the gut, often referred to as the "brain-gut axis" (Gwee et al., 2022). Dysregulation of this axis, influenced by stress and emotional factors, can exacerbate gastrointestinal symptoms, making psychological interventions a critical component of treatment (Barbara et al., 2016). Furthermore, the gut microbiome, which plays a crucial role in gastrointestinal health, is also influenced by psychological stress, highlighting the importance of addressing emotional and psychological factors in the management of FGIDs (Mandarino et al., 2023).

Despite the growing evidence supporting ISTDP for FGIDs, there remains a gap in understanding the specific mechanisms by which this therapy exerts its effects. The therapeutic process in ISTDP involves several key elements, including the establishment of a strong therapeutic alliance, the identification and challenge of maladaptive defense mechanisms, and the facilitation of emotional expression (Abbass & Town, 2021). These processes are believed to

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contribute to the resolution of unconscious emotional conflicts, which in turn alleviates psychosomatic symptoms (Abbass et al., 2021).

One of the challenges in implementing ISTDP is the intensity and emotional demand it places on both the therapist and the patient. This therapy requires a high level of therapist activity and expertise to effectively manage the emotional responses that arise during sessions (Katzman & Coughlin, 2013). Moreover, the therapy's focus on rapidly accessing and processing deep-seated emotions can be overwhelming for some patients, necessitating careful patient selection and preparation (Doorn & Prout, 2022).

The potential of ISTDP to improve outcomes in FGIDs has been further demonstrated in studies focusing on specific populations. For instance, Town et al. (2020) conducted a randomized controlled trial that showed significant improvements in depressive symptoms and overall functioning in patients with treatment-resistant depression who underwent ISTDP (Town et al., 2020). These findings are relevant to FGIDs, given the high comorbidity of depression and anxiety in this population (Town et al., 2022).

In addition to its psychological benefits, ISTDP has been shown to impact physiological markers of stress and immune function, which are often dysregulated in patients with FGIDs (Volodikhina et al., 2022). For example, studies have indicated that ISTDP can reduce cortisol levels and improve autonomic nervous system regulation, both of which are crucial in managing the stress-related aspects of FGIDs (Halawi & Camilleri, 2017).

Despite these promising findings, further research is needed to optimize the delivery of ISTDP for FGIDs. This includes identifying the most effective components of the therapy, understanding the role of therapist-patient interactions, and exploring the long-term sustainability of treatment effects (Town et al., 2017). Additionally, more studies are needed to compare ISTDP with other psychological and medical treatments to establish its relative efficacy and cost-effectiveness (Lilliengren et al., 2017).

In conclusion, ISTDP represents a powerful tool in the treatment of FGIDs, offering a unique approach that addresses the psychological and emotional roots of these complex disorders. By focusing on the resolution of unconscious emotional conflicts, ISTDP has the potential to significantly improve the lives of patients suffering from FGIDs, reducing both their psychological distress and gastrointestinal symptoms. As research in this area continues to evolve, ISTDP may become a cornerstone of psychosomatic treatment, providing relief for patients who have long struggled with these challenging and often debilitating conditions. The present study aimed to investigate the impact of Intensive Short-Term Dynamic Psychotherapy (ISTDP) on psychological capacity, anxiety severity, and functional gastrointestinal disorders in psychosomatic patients with gastrointestinal symptoms.

2. Methods and Materials

2.1. Study Design and Participants

The present study is an applied research study, utilizing a quasi-experimental pretest-posttest design with a two-month follow-up phase and a control group. The statistical population consisted of patients with functional gastrointestinal disorders who sought treatment for anxiety at the Bojika Counseling Center in District 3 of Tehran in 2020. Participants were assessed based on inclusion criteria during the data collection period. The inclusion criteria were: a minimum education level of secondary school completion, age between 18 and 60 years, diagnosis of functional gastrointestinal disorders based on the Gastrointestinal Symptom Rating Scale (GSRS), and diagnosis of anxiety disorders based on clinical interviews and screening with the Beck Anxiety Inventory. Exclusion criteria included missing more than two sessions of the intervention, taking medications for other medical or psychiatric disorders, and concurrent participation in other training programs. Based on previous research and purposive voluntary sampling, a sample size of 16 participants was selected. The sample was randomly assigned to experimental and control groups (8 participants in each group) and assessed before and after the intervention using the Beck Anxiety Inventory, the GSRS, and the Ego Strength Scale. The experimental group underwent 15 sessions of Intensive Short-Term Dynamic Psychotherapy (ISTDP), each lasting 90 minutes, while the control group did not receive any intervention.

Participants were fully informed about the study and the intervention process, and their informed consent was obtained before participation. Both groups completed the questionnaires, after which the experimental group received the ISTDP intervention, while the control group received no intervention. At the end of the intervention, both groups completed the questionnaires again.

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2.2. Measures

2.2.1. Ego Strength

The Psychological Inventory of Ego Strength (PIES) was developed by Markstrom et al. (1997). This questionnaire measures eight dimensions of ego strength, including Hope (items 8, 15, 26, 32, 39, 42, 44, 58), Will (items 2, 4, 19, 27, 33, 36, 54, 63), Purpose (items 16, 24, 25, 28, 28, 40, 45, 51, 62), Competence (items 3, 11, 13, 29, 35, 59, 61, 64), Fidelity (items 6, 10, 18, 20, 37, 41, 48, 53), Love (items 1, 7, 14, 23, 38, 57, 60), Care (items 9, 17, 21, 30, 46, 47, 52, 55), and Wisdom (items 5, 12, 22, 31, 43, 50, 56), with a total of 64 items. The items are scored on a five-point Likert scale, ranging from "Strongly Agree" (5) to "Strongly Disagree" (1). The scoring of certain items (items 4, 6, 10, 11, 12, 14, 16, 21, 22, 23, 25, 26, 27, 29, 30, 34, 36, 38, 40, 42, 43, 44, 47, 48, 50, 51, 55, 58, 61, 64) is reversed. The maximum possible score is 300, and the minimum is 60, with higher scores indicating stronger ego strength. The total score is obtained by summing the scores of all items. Markstrom et al. (1997) confirmed the face, content, and construct validity of this questionnaire, and reported a Cronbach's alpha reliability of 0.68. In Iran, Lotfi (2009) reported a Cronbach's alpha of 0.91 and a split-half reliability of 0.77 for an Iranian sample (Einy et al., 2019; Jamil et al., 2015).

2.2.2. Anxiety Severity

The Beck Anxiety Inventory was developed by Beck et al. in 1988 to measure the severity of anxiety across 21 items. Scoring is based on a four-point Likert scale ranging from 0 to 3, with a minimum score of 0 and a maximum score of 63. Anxiety levels are categorized as follows: a score below 9 indicates no anxiety, a score between 10-20 indicates mild anxiety, a score between 21-30 indicates moderate anxiety, and a score of 31 or above indicates severe anxiety. This inventory has high validity and reliability, with an internal consistency (Cronbach's alpha) of 0.92, test-retest reliability of 0.75 over a one-week interval, and item correlations ranging from 0.30 to 0.76. The Persian version of the BAI has been validated for clinical and research use in the Iranian population (Atayi et al., 2023; Dehnamaki Moshgabadi et al., 2024; Nematollahi et al., 2023; Ofem et al., 2024; Seghatoleslam et al., 2024).

2.2.3. Gastrointestinal Symptom

The Gastrointestinal Symptom Rating Scale (GSRS) is a disease-specific assessment tool developed based on gastrointestinal symptoms and clinical experience. It is used to evaluate common symptoms of gastrointestinal disorders and consists of 15 items, each rated on a seven-point Likert scale ranging from "No Discomfort" (0) to "Severe Discomfort" (6). The GSRS includes five subscales: Abdominal Pain Syndrome (abdominal pain, hunger pain, nausea), Reflux Syndrome (heartburn, acid regurgitation), Diarrhea Syndrome (diarrhea, loose stools, urgent need for defecation), Constipation Syndrome (constipation, hard stools, incomplete evacuation), and Indigestion Syndrome (rumbling, bloating, belching, increased gas). The total score is calculated by averaging the subscale scores, with higher scores indicating greater symptom severity. In Iran, this questionnaire was validated by Mazaheri and Khoshouei (2012), with internal consistency reliability for the five subscales ranging from 0.61 to 0.83, confirmed using Cronbach's alpha. Construct validity was supported through principal component analysis, with satisfactory factor loadings for all components (Hekmatpour et al., 2019).

2.3. Intervention

2.3.1. Intensive Short-Term Dynamic Psychotherapy

In this study, ISTDP was administered according to the protocol provided by Abbass et al. (2021) over 15 sessions, each lasting 90 minutes (Abbass et al., 2021).

Session 1: The first session involved establishing the rules and guidelines for the therapeutic sessions, along with conducting an initial interview using a dynamic sequence to evaluate the patient's presenting problems.

Session 2: From the second session onward, interventions were tailored to address the specific types of defenses exhibited by the patients. Effective and appropriate interventions for each type of defense were implemented, focusing on understanding and addressing these defenses.

Session 3: This session focused on working with tactical defenses that patients use to distance themselves from the therapist, such as ambiguity, generalizations, and covering language. The effective intervention included raising the patient's awareness of how these defenses hinder clear identification of the problem, helping them to relinquish these defenses, regulating anxiety, and encouraging clear communication about their issues.

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Session 4: The fourth session involved examining the patient's use of tactical defenses such as avoidance and diversification. The effective intervention was to make the patient aware of how these defenses prevent addressing the core issue, assisting them in abandoning these defenses, regulating anxiety, and encouraging them to speak clearly about their primary concerns.

Session 5: This session addressed repression defenses used to keep feelings at bay, focusing on avoidance and denial. The effective intervention involved educating the patient about how avoiding their feelings perpetuates suffering and how denial does not eliminate the distress. The therapist helped the patient to abandon these defenses, regulate anxiety, and encouraged the deep experience of their emotions during the session.

Session 6: The focus was on analyzing and addressing the repressive defenses of rationalization and intellectualization. Effective interventions included helping the patient differentiate between thoughts and feelings, distinguishing reasons from emotions, and assisting the patient in letting go of these defenses to confront their true feelings.

Session 7: The seventh session focused on the defense mechanism of displacement. The effective intervention was to make the patient aware that they were expressing their feelings towards someone or something other than the person to whom the feelings were actually directed. The therapist helped the patient to abandon this defense and experience their true emotions within the session.

Session 8: This session dealt with the repressive defense of identification with the aggressor. The effective intervention was to inform the patient that they identify with the aggressor to avoid feeling anger towards the person who hurt them, which results in turning their anger inward. The therapist assisted the patient in differentiating themselves from the aggressor.

Session 9: The ninth session focused on the defense mechanism of affect isolation. The effective intervention involved helping the patient realize that while they could identify their feelings, they were unable to experience the physical sensations associated with those feelings. The therapist worked with the patient to achieve this important connection.

Session 10: This session addressed the repressive defense of minimization. The effective intervention was to help the patient understand that they acknowledge their feelings but minimize them, and to encourage them to express their feelings without dilution or censorship.

Session 11: The focus was on the repressive defense of reaction formation. The effective intervention involved clarifying that the patient was acting in opposition to their true feelings and assisting them in experiencing their genuine, repressed emotions instead of engaging in contrary behaviors.

Session 12: This session addressed the repressive defense of suppression. The effective intervention involved clarifying that trying to forget about emotions through deliberate non-thinking does not eliminate them, and the suffering continues. The therapist helped the patient to abandon this defense and face their feelings directly.

Session 13: The therapist worked on increasing the patient's awareness of the negative consequences of the defenses they were using, helping them to abandon these defenses, regulate anxiety, and encourage them to deeply experience their emotions during the session.

Sessions 14 and 15: In the final sessions, the therapist helped the patient gain awareness of the conflict triangle (feelings, anxiety, defenses) that was generating their problems. Together, the therapist and the patient agreed on the causes of the issues and the therapeutic task of recognizing harmful defenses, abandoning them, confronting anxiety-provoking situations, and avoiding avoidance behaviors.

2.4. Data Analysis

Data were analyzed in two stages: descriptive statistics (mean and standard deviation) and inferential statistics (univariate and multivariate analysis of covariance). Data analysis was conducted using SPSS version 22.

3. Findings and Results

The demographic findings showed that the mean age (standard deviation) of the participants in the experimental group was 34.23 (9.76) years, while in the control group, it was 35.57 (10.16) years. Subsequently, the mean and standard deviation data for the participants' scores in the variables of anxiety, gastrointestinal dysfunction, and ego strength for both the experimental and control groups were presented.

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Table 1

Descriptive Statistics of Research Variables by Group at Three Time Points

Variables	Group	Pre-test Mean (SD)	Post-test Mean (SD)	Follow-up Mean (SD)
Anxiety	Experimental	34.62 (5.13)	29.28 (5.41)	29.41 (5.12)
	Control	33.89 (5.22)	33.80 (4.94)	34.02 (5.22)
Gastrointestinal Dysfunction	Experimental	54.93 (9.81)	48.53 (10.09)	48.70 (10.51)
	Control	55.40 (10.31)	54.90 (10.54)	55.55 (9.98)
Ego Strength	Experimental	173.59 (19.92)	192.61 (16.22)	190.31 (18.20)
	Control	169.64 (19.43)	170.04 (20.56)	168.60 (18.81)

Table 1 shows the descriptive statistics (mean and standard deviation) for the research variables, including anxiety, gastrointestinal dysfunction, and ego strength, for both groups across the three time points. The results indicate that in the experimental group, after the implementation of Intensive Short-Term Dynamic Psychotherapy (ISTDP), participants' scores in anxiety and gastrointestinal dysfunction decreased, while their ego strength scores increased. Additionally, the results from Table 1 showed no significant changes in the scores of the control group across the three time points. As observed, the participants in the study had high scores in anxiety and gastrointestinal dysfunction and low scores in ego strength during the pre-test, prior to the implementation of ISTDP.

Before employing the simple mixed ANOVA, the assumptions of normality, homogeneity of error variances, equality of covariance matrices, and Mauchly's test of sphericity were prioritized. The results of the Shapiro-Wilk and Levene's tests, which were used to verify the assumptions of normality and homogeneity of error variances, respectively, were confirmed ($P < 0.05$). Additionally, the Box's M test was used to assess the assumption of homogeneity of covariance matrices for the dependent variables, and the results indicated that the assumption of homogeneity of the covariance matrices for the research variables by group factor was met ($P < 0.05$). Finally, the results of Mauchly's test of sphericity for the dependent variable anxiety were 0.93 ($\chi^2 = 0.96$, Sig. = 0.62), for gastrointestinal dysfunction 0.90 ($\chi^2 = 0.91$, Sig. = 0.55), and for ego strength 1.60 ($\chi^2 = 0.88$, Sig. = 0.45). The results empirically supported the adherence to the assumption of sphericity.

Table 2

Results of Simple Mixed Factorial ANOVA

Source	Variable	Test of Sphericity	SS	DF	MS	F	Sig.	Eta
Time	Anxiety	Assumed	257.29	2	128.64	25.53	0.001	0.65
	Gastrointestinal Dysfunction	Assumed	585.13	2	292.56	22.02	0.001	0.61
	Ego Strength	Assumed	571.67	2	285.84	29.76	0.001	0.74
Time*Group	Anxiety	Assumed	243.88	2	121.94	20.42	0.001	0.59
	Gastrointestinal Dysfunction	Assumed	508.79	2	254.40	19.14	0.001	0.58
	Ego Strength	Assumed	641.23	2	320.62	33.76	0.001	0.77
Group	Anxiety	-	379.69	1	379.69	4.74	0.05	0.25
	Gastrointestinal Dysfunction	-	1160.33	1	1160.33	4.98	0.05	0.26
	Ego Strength	-	5250.08	1	5250.08	5.23	0.05	0.29

As shown in Table 2, the results of the simple mixed factorial ANOVA indicated that the main effect of the time factor (within-subject factor), the interaction effect between time and group factors (between-subject factor), and the main effect of the group factor were all statistically significant ($P < 0.05$).

The results of the Bonferroni post hoc test, which was conducted to determine the statistical significance of the pairwise comparisons of the within-subject (time) factor levels, showed that in all comparisons based on the variables of anxiety, gastrointestinal dysfunction, and ego strength, the differences between the mean scores of the participants in the pre-test with their mean scores in the post-test and follow-up were statistically significant, whereas the differences in the pairwise comparisons between the mean scores in the post-test and follow-up were not statistically significant (Table 3).

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Table 3

Results of Bonferroni Post Hoc Test for Pairwise Comparisons of Mean Scores of Research Variables

Variables	Test Phase	Mean Difference	Std. Error	Sig.
Anxiety	Pre-test/Post-test	4.38	0.35	0.001
	Pre-test/Follow-up	4.51	0.31	0.001
	Post-test/Follow-up	0.13	0.25	0.69
Gastrointestinal Dysfunction	Pre-test/Post-test	7.44	1.53	0.001
	Pre-test/Follow-up	7.35	1.61	0.001
	Post-test/Follow-up	0.06	0.22	0.90
Ego Strength	Pre-test/Post-test	-8.25	0.27	0.001
	Pre-test/Follow-up	-7.98	0.37	0.001
	Post-test/Follow-up	0.27	0.35	0.40

4. Discussion and Conclusion

The present study aimed to investigate the effects of Intensive Short-Term Dynamic Psychotherapy (ISTDP) on anxiety, gastrointestinal dysfunction, and ego strength in patients with functional gastrointestinal disorders (FGIDs). The findings revealed significant improvements in all three variables among the experimental group who received ISTDP, compared to the control group who did not receive any intervention. Specifically, the results indicated a marked reduction in anxiety and gastrointestinal dysfunction, alongside an increase in ego strength in the experimental group. These findings suggest that ISTDP is an effective psychotherapeutic intervention for patients with FGIDs, corroborating previous research on the efficacy of ISTDP in treating psychosomatic conditions (Abbass et al., 2021; Abbass & Town, 2013, 2021; Abbass et al., 2012; Abbass, Town, & Driessen, 2013; Tan et al., 2019; Town & Abbass, 2014; Town et al., 2013; Town et al., 2017; Town et al., 2020; Town & Driessen, 2013; Town et al., 2022).

The reduction in anxiety observed in the experimental group aligns with previous studies that have demonstrated the efficacy of ISTDP in alleviating symptoms of anxiety disorders (Abbass et al., 2012; Lilliengren et al., 2017). ISTDP focuses on uncovering and processing repressed emotions, which are often at the root of anxiety. By facilitating the expression and resolution of these emotions, ISTDP helps to diminish the psychological tension that contributes to anxiety (Abbass & Town, 2013; Abbass, Town, & Driessen, 2013). This mechanism may explain the significant decrease in anxiety scores observed in this study. Moreover, the reduction in anxiety is particularly relevant for patients with FGIDs, as anxiety is known to exacerbate gastrointestinal symptoms through the brain-gut axis (Barbara et al., 2016; Narayanan et al., 2021). The findings of this study are consistent with research by Rahmani et al. (2020), who found that ISTDP significantly reduced anxiety levels in patients with social anxiety disorder, suggesting that the therapeutic effects of ISTDP extend across various anxiety-related conditions (Rahmani et al., 2020).

The improvement in gastrointestinal dysfunction following ISTDP treatment is also noteworthy. FGIDs are characterized by chronic gastrointestinal symptoms without an identifiable organic cause, and these symptoms are often linked to psychological factors, including stress and emotional dysregulation (Xiong et al., 2018). The significant reduction in gastrointestinal symptoms in the experimental group suggests that ISTDP may effectively address the psychological underpinnings of FGIDs, leading to symptomatic relief. This is consistent with the findings of Abbass et al. (2021), who conducted a meta-analysis and found that psychodynamic psychotherapy, including ISTDP, was effective in reducing symptoms in patients with functional somatic disorders, including FGIDs (Abbass et al., 2021). The present study extends this evidence by demonstrating that ISTDP can lead to sustained improvements in gastrointestinal symptoms, as evidenced by the stable follow-up scores.

The increase in ego strength observed in the experimental group further supports the efficacy of ISTDP. Ego strength refers to an individual's capacity to manage stress, regulate emotions, and maintain psychological stability (Abbass & Town, 2013). Enhancing ego strength is a core objective of ISTDP, as a stronger ego enables individuals to better cope with emotional conflicts and stressors, which are often implicated in the development of psychosomatic symptoms (Abbass & Town, 2021). The significant improvement in ego strength in this study suggests that ISTDP not only alleviates symptoms but also strengthens the patient's psychological resilience, potentially reducing the likelihood of symptom recurrence. This finding is in line with previous research by Town et al. (2022), who reported that ISTDP

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was associated with significant improvements in psychological structure and resilience in patients with depression, highlighting the broad applicability of ISTDP across different psychological conditions (Town et al., 2022).

The results of this study contribute to the growing body of literature supporting the use of ISTDP for psychosomatic conditions, including FGIDs. The significant reductions in anxiety and gastrointestinal dysfunction, coupled with the increase in ego strength, underscore the holistic benefits of ISTDP, which addresses both the psychological and physiological aspects of FGIDs. These findings are particularly important given the chronic nature of FGIDs and the limitations of conventional medical treatments in providing long-term relief (Mahadeva, 2023; Pathipati et al., 2021). The study's findings also align with the biopsychosocial model of FGIDs, which posits that effective treatment must address the interplay between psychological and physiological factors (Ghoshal & Singh, 2017; Narayanan et al., 2021).

Moreover, the study's use of a controlled experimental design adds to the robustness of the findings, providing strong evidence for the effectiveness of ISTDP in this context. The significant differences between the experimental and control groups in terms of anxiety, gastrointestinal dysfunction, and ego strength suggest that the observed improvements were indeed attributable to the ISTDP intervention, rather than other extraneous factors. This is supported by the statistical analyses, which confirmed the normality of the data and the homogeneity of variances, ensuring the validity of the results.

Despite the promising findings, this study has several limitations that should be acknowledged. First, the sample size was relatively small, with only 16 participants in each group. While the results were statistically significant, a larger sample size would increase the generalizability of the findings and provide more robust evidence for the effectiveness of ISTDP. Second, the study was conducted at a single counseling center in Tehran, which may limit the generalizability of the results to other populations and settings. Cultural factors, in particular, could influence the outcomes of psychotherapeutic interventions, and it is unclear whether the results of this study would be replicated in different cultural or clinical contexts.

Additionally, the study relied on self-report measures for assessing anxiety, gastrointestinal dysfunction, and ego strength. While these measures are widely used and validated, they are subject to biases such as social desirability and response bias. Future studies could benefit from incorporating objective measures, such as physiological assessments or clinician-rated scales, to complement self-report data. Finally, the study did not include a long-term follow-up beyond the two-month period. While the results showed sustained improvements at the two-month follow-up, it is unclear whether these benefits would persist over a longer period. Long-term follow-up studies are needed to assess the durability of ISTDP's effects on FGIDs.

Given the limitations of the present study, several suggestions for future research are warranted. First, future studies should aim to include larger and more diverse samples to enhance the generalizability of the findings. Multicenter studies involving participants from different cultural and clinical settings would provide more comprehensive evidence for the effectiveness of ISTDP in treating FGIDs. Additionally, future research should explore the mechanisms underlying the observed improvements in anxiety, gastrointestinal dysfunction, and ego strength. Understanding the specific therapeutic processes that contribute to these outcomes would provide valuable insights into how ISTDP exerts its effects and could inform the development of more targeted interventions.

Furthermore, it would be beneficial for future studies to compare ISTDP with other therapeutic approaches, such as cognitive-behavioral therapy (CBT) or pharmacotherapy, to determine its relative efficacy. While ISTDP has shown promise in this study, comparing it to other evidence-based treatments would help to establish its place in the broader landscape of FGID treatment. Additionally, future research could explore the potential of combining ISTDP with other interventions, such as dietary modifications or pharmacological treatments, to assess whether an integrative approach yields superior outcomes.

Finally, long-term follow-up studies are essential to determine the sustainability of ISTDP's effects. While the present study demonstrated significant improvements at the two-month follow-up, it is crucial to assess whether these benefits are maintained over the long term. Future research should include follow-up assessments at six months, one year, and beyond to evaluate the durability of the treatment effects and to identify any factors that may contribute to the maintenance or relapse of symptoms.

The findings of this study have several important implications for clinical practice. First and foremost, ISTDP should be considered as a viable treatment option for patients with FGIDs, particularly those who have not responded to

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conventional medical treatments. Given the significant reductions in anxiety and gastrointestinal dysfunction observed in this study, clinicians working with FGID patients should consider integrating ISTDP into their treatment plans. This psychotherapeutic approach offers a holistic method that addresses both the psychological and physiological aspects of FGIDs, making it a valuable addition to multidisciplinary care teams.

Clinicians should also be aware of the importance of enhancing ego strength in patients with FGIDs. The increase in ego strength observed in the experimental group suggests that ISTDP not only alleviates symptoms but also equips patients with the psychological resilience needed to cope with stress and emotional conflicts. This highlights the importance of focusing on psychological strengthening in the treatment of FGIDs, rather than solely addressing symptom reduction. Enhancing ego strength could potentially reduce the likelihood of symptom recurrence and improve long-term outcomes for patients.

Furthermore, the results of this study underscore the importance of a patient-centered approach in the treatment of FGIDs. ISTDP is a highly individualized therapy that requires the therapist to work closely with the patient to uncover and resolve deep-seated emotional conflicts. This therapeutic alliance is crucial for the success of ISTDP and should be prioritized in clinical practice. Clinicians should ensure that they establish a strong, collaborative relationship with their patients, creating a safe and supportive environment that facilitates emotional expression and healing. Given the intensity and emotional demand of ISTDP, clinicians should also receive appropriate training and supervision to effectively manage the therapeutic process and address any challenges that may arise.

In conclusion, this study provides strong evidence for the effectiveness of ISTDP in treating anxiety, gastrointestinal dysfunction, and ego strength in patients with FGIDs. The findings support the integration of ISTDP into clinical practice for FGIDs, particularly for patients who have not found relief through conventional treatments. By addressing the psychological roots of FGIDs, ISTDP offers a comprehensive approach that can significantly improve patient outcomes and quality of life.

Authors' Contributions

In this article, the corresponding author was responsible for the intervention implementation, data analysis, and manuscript writing, while the other authors supervised the data analysis and manuscript writing.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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