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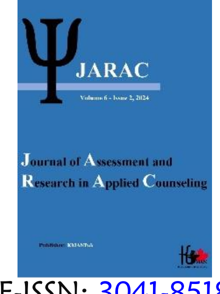

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Effectiveness of Short-term Intensive Dynamic Psychotherapy on the Severity of Gastrointestinal Symptoms and Depression in Patients with the Diarrhea Subtype of Irritable Bowel Syndrome

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ABSTRACT

Objective: Irritable Bowel Syndrome (IBS) is one of the functional gastrointestinal disorders and the most common digestive disorder. The purpose of the current study was to investigate the effectiveness of short-term intensive dynamic psychotherapy on the severity of gastrointestinal symptoms and depression in patients with the diarrhea subtype and concurrent depression of Irritable Bowel Syndrome.

Methods and Materials: The present study employed a single-case quasi-experimental design. Three patients with the diarrhea subtype and concurrent depression of Irritable Bowel Syndrome, who had visited neurology and psychiatry clinics in Qom in December 2023, were selected through purposive sampling and each received 18 sessions of short-term intensive dynamic psychotherapy. Data derived from the Somatic Symptom Scale by Solati Dekordi et al. (2009) and the Beck Depression Inventory-II (BDI-II) by Beck et al. (1996) were recorded at three stages (baseline, treatment, and follow-up) and analyzed using visual plotting methods, the Reliable Change Index, and the percentage of improvement formula.

Findings: The percentage of improvement in the severity of gastrointestinal symptoms and the severity of depression symptoms for each patient in the treatment and follow-up stages was higher than 50%, indicating therapeutic success. The Reliable Change Index for the severity of gastrointestinal symptoms and depression severity for all three patients was above 1.96, indicating significant improvement.

Conclusion: Short-term intensive dynamic psychotherapy appears to be effective in reducing the severity of gastrointestinal symptoms and depression in these patients. Therefore, it is recommended that randomized controlled trials with long-term follow-up be conducted as a continuation of this preliminary study.

Keywords: *Dynamic Psychotherapy, Irritable Bowel Syndrome, Depression.*

1. Introduction

Irritable Bowel Syndrome (IBS) is one of the functional gastrointestinal disorders and the most common digestive disorder (Lackner et al., 2019). This condition is characterized by abdominal pain and changes in bowel habits, and according to the Rome IV criteria, it is classified into four subtypes: with diarrhea, constipation, both, and unsubtyped. The etiology of this disease is not fully understood; however, there is increasing evidence that each subtype may have a different etiology (Ford et al., 2017). Various factors may contribute to the occurrence of this disease, among which psychological factors have always been considered (Drossman, 2006). This chronic disease is currently considered a gut-brain interaction disorder, and patients often exhibit psychological disorders concurrently (Polster et al., 2017).

In this context, the psychoanalytic school proposes a model for the symptoms of IBS, closer to its diarrhea subtype; because patients with IBS with the diarrhea subtype who have concurrent depression show more anxiety and somatization (Lu et al., 2020). Short-term intensive dynamic psychotherapy sees many of the symptoms of functional disorders as the result of the discharge of unconscious anxiety in the somatic and visceral nerves. According to this perspective, anxiety signals the arousal of unconscious emotions. Emotions such as love, sorrow, anger, and guilt towards significant people in one's life, both past and present, exist. Expressing some of these emotions was very dangerous for the child because it involved the loss of the bond with the primary caregiver and threatened survival. As a result, these emotions became associated with anxiety, and the child used defense mechanisms to push these emotions out of consciousness to avoid danger (Davanloo, 1995). The strategies that an individual uses to regulate these emotions are formed in relation to their primary caregivers (Fonagy et al., 2018). If the parental response to the child's emotions is accepting and soothing, the child gradually acquires the ability to tolerate emotions and regulate anxiety. The more rejecting and hostile the parents' reaction to the expression of emotions, the more these emotions will lead to anxiety, and the person will use more primitive and unhealthy defenses to cope with their emotions (Frederickson, 2020). According to the classification of this approach, which is based on the tolerance of emotions, type of defense mechanisms, and the pattern of anxiety discharge, a group of patients falls into the category of resistant patients with regression, referred to as treatment-resistant depression. These patients often show depression along with functional disorders. They use immediate regressive defenses (such as denial, mind-emptying, selective forgetting, and psychomotor retardation). That is, as soon as emotions are aroused, they quickly push them out of consciousness. At this time, the patient's unconscious anxiety enters the parasympathetic channel and involves smooth muscles (Koelen et al., 2014). These patients, due to chronic neglect of their anxiety symptoms, frequently have parasympathetic nervous system activity. This intense compensatory activity is a counterbalance to the constant arousal of sympathetic anxiety (Ten Have-De Labije & Neborsky, 2018). The patient shows symptoms such as saliva secretion, tearing eyes, pupil constriction, decreased heart rate and breathing, increased gastrointestinal motility (nausea, vomiting, and diarrhea), bladder sphincter relaxation (urge to urinate), and migraine headaches (due to vasodilation) (Frederickson, 2013). Frequent discharge of anxiety in the smooth muscles of the gastrointestinal tract can lead to medical manifestations such as IBS, gastroesophageal reflux disease, functional vomiting, and medically unexplained abdominal pain (Abbass & Town, 2013).

Research findings support the psychoanalytic perspective's hypothesis about the symptoms of IBS. Studies show that patients with IBS have more defects in all dimensions of emotional processing, especially in tolerating emotions, compared to healthy individuals. This inability to recognize their emotional states may lead to the experience of emotional turmoil physically and increase the risk of functional disorders (Berens et al., 2021). The emotional processing of patients with IBS is influenced by their level of anxiety and primary insecure attachment. Research evidence suggests that distressing childhood experiences can lead to the development of IBS, i.e., through abnormal signaling of glucocorticoids in the hypothalamic-pituitary-adrenal axis, causing changes in the autonomic nervous system and creating visceral sensitivity (Oudenhove et al., 2016). IBS can be considered part of the central sensitivity syndrome, which refers to a group of diseases without structural pathology (such as fibromyalgia, chronic fatigue syndrome, or multiple chemical sensitivity). In these cases, the central nervous system becomes overly excitable, leading to over-sensitivity to both noxious and non-noxious stimuli (Neblett et al., 2013). Individuals with IBS commonly receive diagnoses of migraine, fibromyalgia, interstitial cystitis, chronic fatigue syndrome, sleep disorders, depression, anxiety, and headache as concurrent disorders (Satake et al., 2015). Research evidence shows that

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the levels of depression and anxiety in patients with IBS and the prevalence of depressive and anxiety symptoms among them are higher than in healthy individuals (Zamani et al., 2019). Furthermore, there is growing evidence that mood disorders can cause the symptoms of IBS (Koloski et al., 2012; Koloski et al., 2016). Additionally, studies have shown that some antidepressants are effective on IBS. Lu and colleagues (2020) observed that in treatment with paroxetine, symptoms of anxiety, somatization, and psychomotor retardation were coherently reduced with diarrhea symptoms. Also, in treatment with mirtazapine, sleep problems were coherently reduced with abdominal pain/discomfort and diarrhea (Lu et al., 2020).

Treating patients with treatment-resistant depression who have somatization, according to the psychoanalytic view (Frederickson, 2013, 2020), focuses on creating the capacity to tolerate emotions for the full experience of unconscious feelings. The ability to experience emotions without resorting to regressive defenses, somatization, and self-attack, and with experiencing anxiety in the striated muscles indicates the individual's recovery. In a meta-analysis (Henningsen et al., 2018), researchers reviewed studies related to functional and somatic symptom disorders and concluded that emotional factors, such as distressing childhood experiences, attachment disorders, and problems with emotional identification, are risk factors for functional disorders and somatic symptoms. They also concluded that treatments such as psychoanalytic therapies, which focus on the emotional effects of distressing childhood experiences, can be clinically beneficial. In this regard, a study (Thakur et al., 2017) showed that emotional awareness and expression training, based on psychoanalytic therapies, is effective in reducing symptoms of IBS. Given the aforementioned, it became necessary to measure the impact of short-term intensive psychoanalytic psychotherapy in a preliminary study on a sample of patients with the diarrhea subtype having concurrent depression to begin broader research to answer the question of whether this psychotherapeutic approach can justify and treat the diarrhea subtype of IBS.

2. Methods and Materials

2.1. Study Design and Participants

In the current study, a single-case experimental design, specifically a multiple baseline design, was utilized. The study population included all patients with the diarrhea subtype of IBS who also had Major Depressive Disorder and had visited neurology and psychiatry clinics in Qom in December 2023. The sample consisted of 3 participants (2 women and 1 man) selected through purposive sampling based on inclusion criteria. The inclusion criteria for the study were a diagnosis of the diarrhea subtype of IBS according to the Rome IV criteria by a gastroenterologist, the presence of concurrent depressive disorder, the absence of organic gastrointestinal diseases, connective tissue diseases, metabolic diseases, and the non-use of analgesics, digestive system affecting drugs, tranquilizers, and antidepressants. To adhere to ethical principles, participants were first provided with information about the treatment and research processes before obtaining informed consent, and it was emphasized that they could withdraw from the study at any stage. It was also assured that the information disclosed in therapy sessions and questionnaire results would remain confidential, not shared with any person or organization, and analyzed anonymously. The severity scores of IBS symptoms and depression in participants were recorded in three baseline instances, three treatment session instances, and two one-month follow-up instances after the end of the treatment sessions.

2.2. Measures

2.2.1. Bowel Symptom Severity and Frequency

The Bowel Symptom Severity and Frequency Scale (BSS-FS) was used to measure symptoms of IBS. This scale, designed by Solati Dehkordi and colleagues, based on the Rome III diagnostic criteria for patients with the diarrhea subtype of IBS, consists of 10 questions on a 5-point scale. Its face and content validity were confirmed by experts, and it has achieved a Cronbach's alpha reliability of .70 and a test-retest reliability of .80 (Solati-Dehkordy et al., 2011).

2.2.2. Depression

The Beck Depression Inventory-II (BDI-II) was developed by Beck and colleagues in 1996 based on the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). This questionnaire consists of 21 items measuring the physical, behavioral, and cognitive symptoms of depression. Each item has four options scored from 0 to 3, with a maximum possible score of 63. The Cronbach's alpha coefficient in the American sample was calculated as .93. In Iran, the Cronbach's alpha coefficient of the questionnaire is .87, the average test-retest reliability

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coefficient is .78, and the range of item-total correlations is between .36 and .64 (Rahimi 2014).

2.3. Interventions

2.3.1. Short-Term Intensive Dynamic Psychotherapy

Each participant received 18 sessions of short-term intensive dynamic psychotherapy. The first session lasted an average of 90 minutes, and subsequent sessions were 60 minutes each. Below, the short-term intensive psychoanalytic intervention for the resistant patient with regression (depressed with somatization) is described (Abbass, 2015; Abbass & Town, 2013):

Initial Process: Trial therapy; psychometric evaluation to identify the threshold of regression and its manifestations.

Step-by-Step Phase: Building capacity to tolerate complex emotions and changing the pattern of anxiety discharge and abandoning regressive defenses, somatization, and self-attack.

Repeated Unlocking: Initial penetrations; partial and major unlockings to optimize the unconscious therapeutic alliance.

Resolution: Provoking and experiencing the remnants of grief, anger, and guilt, and consolidating achievements.

Termination of Treatment: Closing the therapeutic relationship over 3 to 5 sessions.

2.4. Data analysis

Data analysis was performed using visual plotting methods, the Reliable Change Index (RCI), and the percentage of improvement formula using SPSS software.

3. Findings and Results

The participants included two women (Participant 1: 33 years old, high school diploma, married; Participant 2: 31 years old, high school diploma, married) and one man (Participant 3: 27 years old, bachelor's degree, single). Table 1 shows the trend of symptom severity changes for all three patients in the baseline, treatment, and follow-up stages, as well as the Reliable Change Index (RCI) and the percentage of improvement.

Table 1

Change Trend in Short-term Intensive Psychoanalytic Therapy Stages

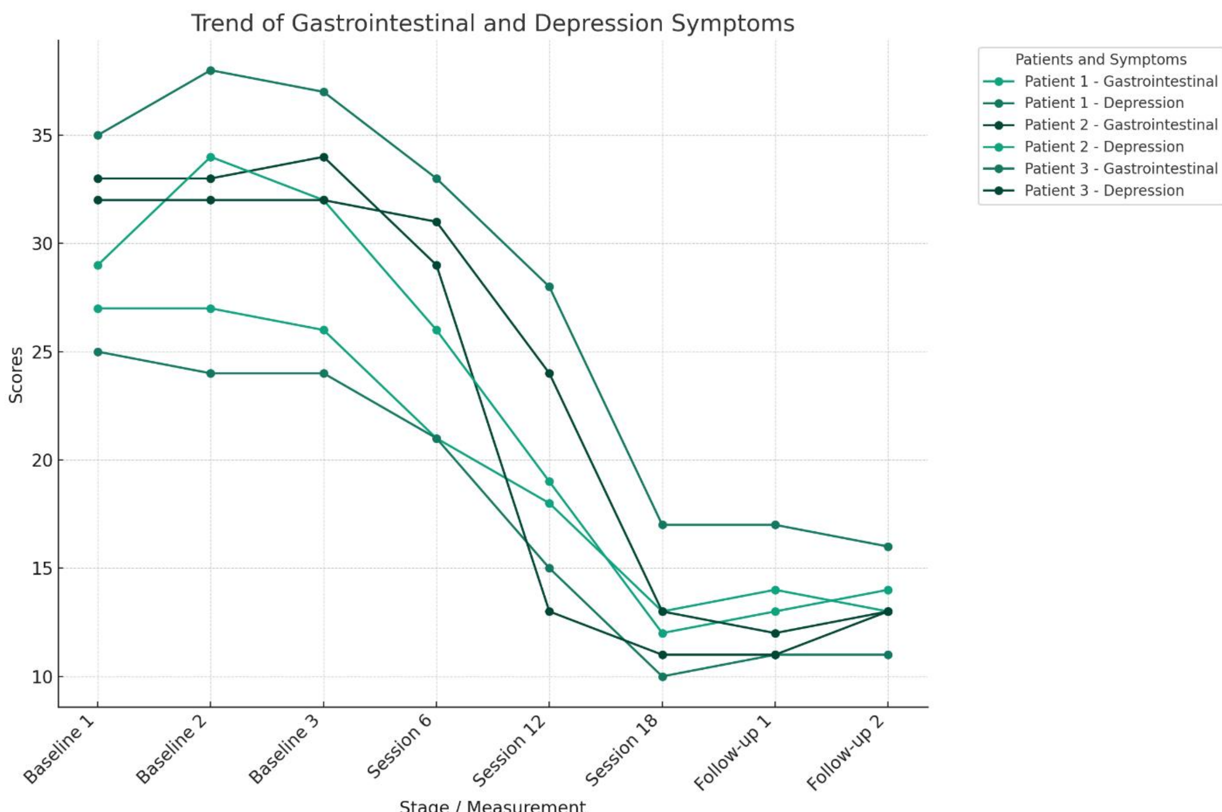
Stage/Measurement	Patient 1 - Gastrointestinal	Patient 1 - Depression	Patient 2 - Gastrointestinal	Patient 2 - Depression	Patient 3 - Gastrointestinal	Patient 3 - Depression
Baseline 1	27	25	33	29	35	32
Baseline 2	27	24	33	34	38	32
Baseline 3	26	24	34	32	37	32
Average Baseline	26.66	24.33	33.33	31.66	36.66	32
Session 6	21	21	29	26	33	31
Session 12	18	15	13	19	28	24
Session 18	13	10	11	12	17	13
Average Treatment	17.33	15.33	17.66	19	26	22.66
RCI	4.84	5.17	7.91	7.14	6.97	6.90
Post-treatment Improvement %	51.23	58.89	66.99	62.09	53.62	59.37
Follow-up 1	14	11	11	13	17	12
Follow-up 2	13	11	13	14	16	13
Average Follow-up	13.50	11	12	13.50	16.50	12.50
RCI (Follow-up)	4.84	5.10	7.20	6.76	7.32	6.90
Post-follow-up Improvement %	51.23	54.78	60.99	55.78	56.35	66.22
Overall Improvement %	56.19	57.28	60.11	60.11	58.92	

As observed, the percentage of improvement according to the Blanchard formula for the first patient is 51.23%, for the second patient is 66.99%, and for the third patient is 53.62%, all above 50%, indicating symptom reduction and treatment success. Furthermore, the RCI after treatment for these three patients are 4.84, 7.91, and 6.97 respectively, all above 1.96, therefore with 95% confidence, it can be stated that the improvements were not random and resulted from the therapeutic intervention. Additionally, the average scores, the RCI, the percentage of improvement, and the overall percentage improvement in the severity of IBS symptoms did not change significantly over the two months of follow-

up compared to the treatment stage. The percentage of improvement for the first patient was 58.89%, for the second patient was 62.09%, and for the third patient was 59.37%, all above 50%, indicating a reduction in depression symptoms and patient improvement. The RCI after treatment for these three patients were 5.17, 7.14, and 6.90 respectively, all above 1.96, thus with 95% confidence, it can be stated that the reduction in the severity of depression symptoms was not random and resulted from the therapeutic intervention. Furthermore, the average scores, the RCI, the percentage of improvement, and the overall percentage improvement in the severity of depression symptoms slightly decreased over the two months of follow-up compared to the treatment stage. Figure 1 shows the trend of changes for the three patients.

Figure 1

Trend of Gastrointestinal and Depression Symptoms



4. Discussion and Conclusion

The present study aimed to examine the effectiveness of short-term intensive dynamic psychotherapy on the severity of gastrointestinal symptoms and depression in patients with the diarrhea subtype of IBS. The findings from the visual analysis of the baseline, treatment, and follow-up stages of gastrointestinal symptoms in these patients showed that short-term intensive dynamic psychotherapy has created significant, meaningful, and lasting improvement percentages. Several studies have examined the effectiveness of various psychotherapies, such as cognitive-behavioral (Edebol-Carlman et al., 2018) and compassion-focused therapies (Seyyedjafari, 2019), which have a different focus compared to the psychoanalytic school. However, no study before has assessed the impact of short-term intensive dynamic psychotherapy on the symptoms of IBS. Nevertheless, the study by Thakur et al. (2017), previously mentioned, aligns with the findings of this research. This study showed that emotional awareness and expression training, based on psychoanalytic therapies, are effective in reducing symptoms of IBS (Thakur et al., 2017). The findings indicated that short-term intensive dynamic psychotherapy also resulted in significant, meaningful, and lasting improvement percentages for depression symptoms in all three patients. This finding is consistent with the results of the research by Town et al. (2017). The visual analysis of the graphs for all three patients also showed that during the treatment sessions, the severity of IBS and depression

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symptoms decreased in correlation with each other (Town et al., 2017).

In explaining the above findings, it can be said that short-term intensive dynamic psychotherapy familiarizes these patients with an aspect of themselves that they have previously ignored, namely their emotions. Depressed patients who use somatization often regress their emotions and mistake them for anxiety or their defenses. The psychoanalytic therapist provides biological feedback cycles for the patient to recover their feedback cycles and allow the information related to emotions to reach and be processed in the cortical areas of the brain. Every time the therapist draws the patient's attention to the presence of a defense mechanism, anxiety, or emotion, it leads to the formation of new synapses in the cortical and subcortical areas of the brain (Fossella et al., 2003). Repeating this process allows the patient to identify their emotions, anxiety, and defenses and restore their internal feedback cycles. As previously mentioned, this group of patients predominantly discharges anxiety through the parasympathetic system via smooth muscles. It was also mentioned that this condition results from the excessive arousal of sympathetic anxiety exceeding the patient's tolerance threshold. The psychoanalytic therapist, in a step-by-step format, first simultaneously provokes the patient's complex emotions (such as anger towards a loved one). When the pressure from the emotions becomes unbearable for the patient, the therapist stops the pressure and, by drawing the patient's attention to the physical signs of anxiety and explaining what is happening in their body, prepares the biological feedback cycles for the individual. Gradually, the patient gains the ability to tolerate a greater amount of emotions, allowing the therapist to apply more pressure towards experiencing the full range of unconscious emotions without experiencing parasympathetic anxiety and physical somatization defenses and self-attack. Therefore, short-term intensive dynamic psychotherapy can be considered an appropriate treatment for reducing the severity of gastrointestinal and depression symptoms in patients with the diarrhea subtype of IBS.

5. Limitations & Suggestions

Like any other study, the present study faced limitations. The small sample size, selected due to the statistical analysis method and the preliminary nature of the study, limits the generalizability of the findings. Other limitations of this research include the short duration of follow-up, sole reliance on self-report instruments, and the absence of measurement for other psychological and physiological variables involved in the described processes. It is recommended that subsequent to this preliminary study, randomized controlled trials with long-term follow-up, incorporating other variables involved in this process such as anxiety, emotional tolerance, or visceral sensitivity, and using other assessment tools, be conducted.

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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 in this article.

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