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Ambivalence over emotional expression and perceived social constraints as moderators of relaxation training and emotional awareness and expression training for irritable bowel syndrome☆

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ABSTRACT

Objective: Psychological treatments are generally beneficial for patients with irritable bowel syndrome (IBS), but patients' responses vary. A prior randomized controlled trial found that both relaxation training (RT) and emotional awareness and expression training (EAET) were superior to a waitlist control condition for IBS symptoms, quality of life, depression, and anxiety among IBS patients (Thakur et al., 2017).

Method: We conducted secondary analyses on these data to examine potential moderators of treatment outcomes. Baseline measures of patients' ambivalence over emotional expression and perceived social constraints, which have been hypothesized to influence some treatments, were tested as possible moderators of the effects of RT and EAET, compared to the control condition.

Results: Results indicated that these variables moderated the effects of RT but not EAET. The benefits of RT occurred for patients who reported higher ambivalence over emotional expression or perceived social constraints, whereas the benefits of EAET were not influenced by these factors.

Conclusion: These findings suggest that RT might be particularly helpful for people who tend to avoid emotional disclosure and expression, supporting the possible benefit of targeting treatments to patient characteristics and preferences, whereas EAET might be helpful for a broader range of patients with IBS.

1. Introduction

Irritable bowel syndrome (IBS) is a disorder of bidirectional brain-gut interactions and is characterized by abdominal pain that improves with defecation and is associated with changes in stool frequency or form [2]. IBS occurs in 10–15% of the population [3], and can be debilitating, greatly affecting a person's functioning, quality of life, and psychological status [4,5]. Stress, exposure to traumatic events, emotional avoidance or suppression, and physiological arousal are common in IBS and appear to trigger or augment symptoms [6–8].

Various psychological and behavioral treatments for IBS have been tested [9,10]. Relaxation training (RT) — including progressive muscle relaxation, relaxed breathing, and guided imagery — directly reduces the physiological arousal and negative emotions that contribute to IBS symptoms. RT is the most common component of cognitive-behavioral or stress management interventions for IBS, but RT also improves self-reported gastrointestinal symptoms in patients with IBS as a stand-alone intervention [11,12]. A conceptually different approach to stress reduction targets IBS symptoms by reversing emotional avoidance or suppression. Emotional awareness and expression therapy (EAET) integrates concepts and techniques from experiential, intensive psychodynamic, prolonged exposure, expressive writing, and rescripting therapies to help patients resolve emotional conflicts. Stressors are disclosed and primary emotions are expressed in session by engaging in role-playing and empty chair techniques while activating one's body and voice to directly express feelings (e.g., anger, guilt, love). This therapy has been shown to reduce self-reported pain severity and psychological symptoms in patients with fibromyalgia [13], chronic musculoskeletal pain [14], and medically unexplained symptoms [15].

In a recent randomized trial, we tested the effects of brief (3-session)

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RT and EAET against a waitlist control (WLC) condition among patients with IBS [1]. Compared with the control condition, both RT and EAET improved quality of life, EAET significantly lowered IBS symptoms and anxiety, and RT significantly reduced anxiety and depression. Effect sizes compared to control ranged from small to large (Cohen's *d* ranging from 0.21 to 0.86); about two-thirds of the EAET patients and over half of RT patients showed clinically significant reductions in IBS symptoms. These data suggest that both interventions are generally effective, but outcomes vary among patients.

No studies have examined patient characteristics that moderate – that is, differentially predict – the outcomes of treatments versus control conditions for IBS. Only demographic and baseline symptom predictors of success within a single treatment have been examined [16], which highlights the need for studies of moderators. Lumley [17] developed a theoretical model of who benefits from emotional disclosure, which serves as a framework from which to consider potential moderators of emotional awareness and expression interventions. According to this model, individuals are more likely to benefit from emotional disclosure under certain conditions, including when they tend to inhibit disclosure of stressors and emotions, or they perceive that their social environment discourages disclosure. In this study, we extend this model to RT in addition to EAET.

We conducted secondary analyses of the data from the randomized trial of RT, EAET, and control [1]. We examined two baseline patient characteristics from Lumley's [17] emotional disclosure model that we thought might moderate the effects of each treatment compared to waitlist controls. First, ambivalence over emotional expression refers to ambivalence or conflicted feelings about expressing one's emotions – that is, the simultaneous desire to express one's feelings but also fear of doing so. Second, the construct of perceived social constraints refers to the experience of being “compelled by others to regulate, restrict, or modify our thoughts, actions, or feelings” [18]. Perceived social constraints refers to the perception that one must restrict one's thoughts and feelings because of others; thus, it is influenced by both external factors (e.g., family, friends), and internal factors (e.g., sensitivity to interpersonal cues, discomfort with disclosure).

There are several possible ways that patients' ambivalence over emotional expression and perceived external constraints against disclosure or expression of private thoughts and feelings may influence patients' responses to RT and EAET. First, both of these individual differences variables are likely to create stress in patients, and both RT and EAET aim to reduce stress – RT via autonomic down-regulation of the stress response, and EAET by activation and expression of emotions related to stress. Thus, given that both RT and EAET target stress reduction, it is possible that elevated baseline levels of both ambivalence over emotional expression and perceived social constraints would predict more improvement in response to both RT and EAET. Second, both ambivalence over emotional expression and perceived social constraints may reflect a preference for not disclosing stressors and expressing emotions. In that case, such patients may have positive outcomes of a therapy that matches their preference — RT — because it does not entail disclosure and emotional expression, but such patients would have poorer outcomes of a therapy that does have such expectations — EAET. Finally, as suggested by studies of private expressive writing about stress [19–21], it is possible that socially constrained patients would have better outcomes of EAET, given that both EAET and expressive emphasize the importance of disclosure and expression of inhibited, stress-related emotions. We tested these various hypotheses by examining ambivalence over emotional expression and perceived social constraints as potential moderators of RT and EAET compared to waitlist controls.

2. Method

2.1. Participants

Participants were adults recruited from the local community through newspaper and internet advertisements and the distribution of fliers in waiting rooms at gastroenterology clinics. All participants had to meet the Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders, specifically for IBS [22] and report pain or discomfort at least two days per week. Exclusion criteria included post-infectious IBS, organic gastrointestinal diseases (e.g., inflammatory bowel disease), immunodeficiency, a current psychotic disorder or bipolar disorder, drug or alcohol dependence within the past two years, inability to communicate in English, or participation in another clinical research trial for IBS.

2.2. Procedures

This study was approved by the local IRB and registered before recruitment at clinicaltrials.gov (NCT01886027). Study activities were conducted at a university department of psychology. Eligible participants provided written informed consent and completed baseline questionnaires, including potential moderator measures and baseline levels of trial outcome measures. Participants were randomized to one of the three conditions; randomization was stratified by participant gender and therapist and conducted in randomized blocks of 3 and 6. Participants assigned to either RT or EAET had their first session immediately following their baseline assessment, and returned 1 and 2 weeks later for sessions 2 and 3. All participants completed follow-up outcome measures again 2 weeks and 10 weeks after session 3 (or the equivalent time for waitlist controls). Participants were paid for completing assessments, and interventions were provided at no charge.

All three sessions of both RT and EAET were conducted individually for 50 min, once per week, by female, master's-level therapists. At the end of each session, homework was provided, and supervision was conducted to assure treatment competence and fidelity. All participants were encouraged to maintain their usual IBS-related healthcare throughout the trial.

2.3. Relaxation training (RT)

This intervention is based on the premise that long-term stress elevates physiological arousal, exacerbates pain, and dysregulates the brain-gut relationship in IBS. The goal of RT is to reduce physiological arousal and negative mood, thereby attenuating IBS symptoms. Participants were taught different relaxation training skills (e.g., progressive muscle relaxation, applied relaxation, and guided imagery) over the three manualized sessions, based on Blanchard et al. [11] During each session, participants were guided through the relaxation exercise, and they learned variations of the techniques (e.g., applied relaxation), so they could integrate them into their everyday lives. Homework consisted of practicing the exercises with audio recordings for guidance.

2.4. Emotional awareness and expression training (EAET)

This intervention is based on the principle that stress and conflict are maintained by emotional suppression or avoidance, which can lead to chronic over-arousal, somatic symptoms, and a dysregulated brain-gut system. The goal of the intervention is to help patients resolve stress by: a) educating them about connections among their stressful life experiences, emotions, and somatic symptoms; b) teaching them to identify, experience, and express their emotions related to these stressful situations; and c) encouraging them to engage in direct, adaptive interpersonal behaviors in their daily lives, including assertive and genuine communication with others (see also [13–15,23]). Over