The effectiveness of therapy based on the acceptance and commitment in reducing the pain intensity in patients suffering from functional gastrointestinal syndrome

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Abstract

Functional gastrointestinal syndrome is a common disorder characterized by frequent symptoms of the gastrointestinal tract. Suffering from functional gastrointestinal tract syndrome causes several mental disorders in the affected person. To this end, the purpose of this study is to use therapy based on the acceptance and commitment to improve the severity of pain experience in these patients. In this study with semi-experimental approach, 30 women were selected through available sampling method from all women with functional gastrointestinal disorders in Isfahan city, who had referred to Isfahan health center clinic. Then all of the subjects completed the McGill pain questionnaire and then it was performed on the admission and commitment treatment group, at 8-sessions. Analysis of the findings by using covariance test showed that there is a significant difference between test and control groups in the pain experience at a significant level of 0.05 ($P < 0.05$). The chronic course of the disease is associated with significant psychological discomfort, social and occupational dysfunction and extreme behavior in seeking medical assistance. Training or therapy programs based on the improvement of pain experience can reduce the pain of these patients and prevent imposing the extra expenses for treatment.

Key words: pain experience, functional gastrointestinal syndrome, therapy based on acceptance and commitment

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Introduction

The interplay of mind and soul has been evident from the past for humanity. An examination of the historical course of diseases in the last century indicates the change in the type of disease from infectious and contagious diseases to chronic and non-infectious diseases. However, in the last few decades, a newer type of disease has been emerged as "Somatization Disorder or Psychosocial Disorders", with emotional and psychological factors contributing to them. The main feature of this change in the type of illness is to emphasize the role of social and cultural factors and the importance of the impact of social structures and behaviors on the emergence, distribution and treatment of the aforementioned diseases. One of the somatization disorders is functional gastrointestinal disorders (FGID). Functional gastrointestinal disorders are the most common gastrointestinal disorders (Forman, 2008). These disorders include a large part of the clinical practice of general practitioners and gastroenterologists, often referred to as medical failures. The underlying cause of this problem is due to the fact that these disorders have a recurring or chronic nature that is not known and cannot be explained by known biochemical or structural abnormalities. Psychosocial disturbances are present in most people with functional gastrointestinal disorders, especially in those who go for treatment. Cognitive theories and social learning have provided significant explanations for this disorder. In cognitive theories, it is assumed that there is a disorder and imbalance between the cognitive and emotional centers of the central nervous system, the nerve system and the hormonal nerve system, in which patients with cognitive distortions and unhealthy patterns of thinking about the world around them and their illness, create extreme emotional reactions followed by gastrointestinal symptoms. In the social learning theory of individuals in a family environment, the symptoms and behaviors of patients with irritable bowel syndrome of one of the family members and the response and feedback of others towards him are observed, and in response to symptoms that they experience, they take the pattern (Lackner, 2005). The topic of pain in humans is known as an inherent phenomenon that is presented in its behavioral, emotional and personality dimensions, and sensory perception of pain is expressed differently based on the characteristics of each person (Ibrahimi Nejad, 1997). The process of pain is not only triggered by nerve receptors or affected by specific disease and physical harm, but the initial signs of pain are associated with a set of neuropsychological phenomena (anxiety and depression) and cultural characteristics. The events that come into mind as sensory

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data and information, and psychological factors play a major role in choosing and summarizing these perceptions. In the pain researches that have been done in the last century, the concept of pain is considered merely as a sensory and neurological phenomenon, while in newer studies preferably the topic of feeling pain has been mentioned in relation to the unpleasant psychological stimuli that exacerbate it. Diseases known as "somatization disorders", represent the two sides of the three sides of the biosphere-psychosocial form (Gitlin et al., 2004). One of the important problems in pain experience is that the severity of pain has a significant relationship with general health status and because it is associated with a chronic physical illness, it reduces the physical activity of individuals (Olson et al., 2014; Leoff et al., 2016).) In addition, there are barriers to pain management, such as patient beliefs and attitudes toward pain, communication deficits and cognitive impairments, so many patients with chronic pain, despite drug interventions, continuously experience pain. And if they are not able to adapt to their pain, their quality of life will be significantly affected. (Steven & Gibson, 2015). Many treatments have focused on the pain experience so far (Gharayi Ardakani et al., 2012; Sajjadian et al., 2011; Wright et al., 2011). One of the new therapies is ACT. In these treatments, instead of changing the cognition, one tries to increase the psychological relationship of the individual with his thoughts and feelings. The main goal is to create mental flexibility that is, to create the ability to make practical choices among the various options that are more appropriate, rather than to impose disturbing feelings, memories or desires on the individual solely to avoid thoughts (Forman, 2008). There is promising evidence that ACT therapy is effective in reducing pain (Scott and McCracken, 2014; Hughes et al., 2017), and after treatment, there is a significant change in pain in basic psychological well-being (Trompetter et al., 2016). However, in the treatment of pain, elderly patients respond more to ACT and younger respond to cognitive-behavioral therapy, and this effect is immediately addressed after treatment and in the 6-months follow-up (Wetherell et al., 2015). However, the treatment based on acceptance and commitment provides significant pain relief (McCracken et al., 2015). In addition, it is observed that ACT in the treatment of irritable bowel syndrome has a significant increase in the acceptance of the disease and in improving the outcome variables (Ferreira et al., 2017). In general, people with irritable bowel syndrome have a lower level of psychological flexibility than their normal counterparts, and this can be effective in initiating or exacerbating their symptoms, including pain (Jahangiri et al., 2017). In addition, the ACT therapy method

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significantly reduces depression scores (Jones et al., 2015; Davison et al., 2016). And this kind of intervention has also had an effect on anxiety (Brown et al., 2016; Wersebe 2017). The ACT therapy method includes exposure-based exercises, linguistic metaphors, and methods such as mental care (Vallis et al., 2003). In this treatment, the stages of therapy are such that first one attempts to increase the psychological adherence of the individual toward mental experiences (thoughts, feelings) and to reduce the ineffective control actions mutually. The patient learns that any action to avoid or control these unwanted mental experiences is ineffective or inappropriate and exacerbates them, and they should be fully adhered to without any internal or external reaction to their elimination. In the second step, the psychic consciousness of the person is added at the moment, that is, the individual becomes aware of all mental states, thoughts and behaviors in the moment. In the third stage, one learns to separate himself from these mental experiences (cognitive separation) in such a way that he can act independently of these experiences. The fourth is the attempt to reduce the focus on self-portrait or personal story (such as being a victim) that a person has for himself. Fifth, helping a person to clearly identify his or her own personal values and turn them into specific behavioral goals (clarifying values). Finally, creating the motivation to act committedly, that is, the activity is directed towards the stated goals and values, along with the acceptance of the mental experiences (Loma et al., Translated by Haj Rasouli ha et al., 2016). Regarding previous studies, and the lack of psychological studies and considering the treatment of ACT on pain, this study aims to examine the hypothesis that therapy based on acceptance and commitment is effective in reducing the severity of pain experience in patients with functional gastrointestinal syndrome.

Research method

The research method is semi experimental with pretest-posttest and control group design. The statistical population of the study included all patients with functional gastrointestinal syndrome referring to Isfahan health centers in the first six months of the year 2013. For this purpose, based on available sampling, 30 patients with functional gastrointestinal syndrome referring to Isfahan health center, who were examined by a specialist physician during the first six months of the year and based on the diagnosis received treatments, were admitted to this study and divided into control and experimental groups. The instrument used in the study was McGill's questionnaire revised by Dorkin et al in 2009, which was modified in order to develop and complete McGill's Old

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Questionnaire by adding signs of both neuropathic and non-neuropathic pain in 22 substances. The response frame and its convert with a range from 0 to 10 in relation to pain intensity was provided. Dimensions of this questionnaire include sensory, emotional, neuropathic pain and total score of pain. The validity of this questionnaire was 0.95. The findings indicated that the questionnaire was valid and reliable (Clinge, 2011). For scoring, the easiest method for pain measurement is that people are asked to rate their pain based on a scale of 0 to 10 or 1 to 100. In this questionnaire, individuals were asked to rate their pain in a scale of 0 to 10, indicating their score on this scale. Tanhayee et al. (2012) examined the validity and reliability of this questionnaire on patients with irritable bowel syndrome. In this study, all dimensions were acceptable with a reliability of 0.89 and validity of 0.83.

Findings

In this study, in the experimental group, 2 (20%) patients were in the age group of up to 30 years old, 3 (30%) were in the age group of 31-40 and 5 (50%) were in the age group of 41 years and higher. In the control group, 5 (31%) patients were in the age group up to 30 years old, 4 (25%) were in the age group of 31-40 and 7 (44%) were in the age group of 41 years and above. In the experimental group, 2 (20%) were in the study group up to the diploma and 8 were in the group (80%) above the diploma. In the control group, 6 (37.5%) were in the study group up to the diploma and 10 (62.5%) were in the study group above the diploma.

Table 1. Mean and standard deviation of severity of pain experience in experimental and control groups in pre-test and post-test

Post-test		Pre-test		group	variable
Standard deviation	mean	Standard deviation	mean		
13/35	**123/47**	**12/67**	**99/03**	Control group	The severity of pain experience
9/07	**49/35**	**12/68**	**93/15**	Experimental group	

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According to Table 1, the mean of pain intensity in the experimental group in the pre-test and post-test was 93.15 and 49.35 and in the control group was 99.03 and 123.47, respectively.

Table 2. The results of covariance analysis on pain intensity in post-test with pre-test control

Test power	Share square of ETA	meaningfulness	F coefficient	Average of squares	Degree of freedom	Sum of squares	Variable
0/88	0/49	0/005	11/63	24766/52	1	24766/52	Severity of pain experience

According to Table 2, there is a significant difference in pain intensity between the experimental and control groups (P <0.01). The Eta share square is 0.49, indicating that 44% of the difference between the test and control group was in the severity of the pain experienced with the Acceptance and Commitment of Therapy (ACT). The test power is equal to 0.88, which shows that the covariance analysis performed with 88% of the power can detect the difference between the two experimental and control groups in the severity of the pain experience.

Discussion and conclusion

According to the findings of this study, the pain experience severity of individuals in the experimental group compared with the control group showed a significant decrease from the pre-test to the post-test (p<0/05 , f=11/6)Accordingly, admission and commitment treatment sessions are effective in reducing the severity of pain experienced in patients with functional gastrointestinal syndrome. Post-test scores of the amount of pain experience confirms the first hypothesis of adherence-based therapy research to reduce the amount of pain experience. Therefore, this research is consistent with the research of Gharayi Ardakani et al. (2012), Sajjadian et al., 2011, Wright et al., 2011, Scott and McCarran, 2014, Hughes et al., 2017, and Trumpeter et al., 2016. In explaining the hypothesis of the effect of treatment based on admission and commitment in reducing the severity of pain in patients with functional gastrointestinal syndrome, it can be said that in treatment based on admission and commitment, empirical avoidance is the

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attempt to escape or avoid the form and the frequency of personal events, especially when these efforts cause psychological harm. ACT encourages clients to change their relationship with thoughts and other internal experiences, and see them as mental events that come and go one after the other. Pupils learn to see their thoughts only as thoughts, feelings only as feelings and memories only as memories. In areas where experience avoidance occurs, clustering processes and admission to the individual helps breaking the avoidance patterns and the rules that regulate them. Considering that this research has only done on the patient's female society, it is recommended to review the effect of this treatment on the male gender, with irritable bowel syndrome in order to generalize the results on gender impact. Therefore, considering the role of this treatment in reducing pain, it is recommended to include it in the field of psychological and positive psychology. Also, given the results of numerous studies on the role of psychological agents in various physical diseases, the existence of psychological treatments along with other medical treatments is necessary and it is suggested that these patients simultaneously receive medical services and psychotherapy. Additionally, admission and commitment therapy for other psychiatric disorders is recommended.

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