



# The Efficacy of Acceptance and Commitment Therapy on Psychological Well-Being and Optimism of Patients with Irritable Bowel Syndrome

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## Quantitative Study

### Abstract

**Background:** Despite the high prevalence and marked symptoms of irritable bowel syndrome (IBS), its cause is still not known. It seems that psychological factors play a significant role in the development and intensification of the symptoms of the disease, but there is still no definitive treatment for this disease. The purpose of the present study was to determine the effectiveness of admission and commitment therapy (ACT) on the psychological well-being and optimism of patients with IBS.

**Methods:** This study was conducted with a quasi-experimental and pretest-posttest design, control group, and follow-up period. The statistical population of this study included people with IBS referring to health centers in Tehran, Iran, in 2018. The study sample consisted of 60 individuals who were selected by through convenience sampling method and were divided into two groups (n = 30 people). The subjects were randomly assigned to the experimental and control groups. The data collection tools were the Ryff Scales of Psychological Well-Being Scale (RSPWB) (Ryff, 1989), and the Life Orientation Test (LOT) (Scheier, Carver, & Bridges, 1994). First, the pretest was performed in both groups. The experimental group was then placed in a test group for 9 sessions (90 minutes). The collected data were analyzed using multivariate covariance analysis (MANCOVA) and one-way analysis of covariance (ANCOVA).

**Results:** The results showed that ACT was effective on the psychological well-being and optimism of patients with IBS.

**Conclusion:** It can be concluded that interventions based on the acceptance and commitment approach help to improve the optimism of people with IBS.

**Keywords:** Acceptance and commitment therapy, Psychological well-being, Optimism, Irritable bowel syndrome

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### Introduction

Irritable bowel syndrome (IBS) is a chronic

functional disorder of the digestive tract. Patients experience abdominal pain and various intestinal symptoms in the absence of any structural or biological abnormalities. Symptoms of this syndrome may be associated with diarrhea, constipation, or the

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combination of both (Lembo et al., 2016). This disorder is common in all socioeconomic groups, causing absenteeism, interpersonal disturbance, avoidance of sexual intercourse, and even prevention of attendance due to fear of the onset of symptoms. The global prevalence of IBS is estimated at 11% (Distrutti, Monaldi, Ricci, & Fiorucci, 2016). The prevalence of this syndrome in Iran, in our review article, was reported to be between 1% and 25%. A recent study has revealed a prevalence of 21.5% for IBS in Iran (Keshteli, Dehestani, Daghighzadeh, & Adibi, 2015). This syndrome affects both genders at different ages, although its prevalence in women is higher due to the potential role of sex hormones in IBS (Tap et al., 2017).

IBS is a distressing state that can damage a person's psychological well-being. Psychological bias refers to the experienced quality of life (QOL) and reflects the desired psychological performance and experience. Initially, this concept was studied in terms of the lack of depression and anxiety. Wellbeing is a state of satisfaction with happiness, health, and success, which refers to the desired psychological experience and practice. Well-being includes dimensions such as self-esteem, individual development, goal of life, positive relationships with others, environmental dominance, ability to effectively manage personal life and the surrounding world, and sense of autonomy (Frühau, Niedermeier, Elliott, Ledochowski, Marksteiner, & Kopp, 2016). The essential part of living well is, from the point of view of scholars, an emotional, inner, and psychological well-being in which every individual loves his/her life. The feeling of well-being has two emotional and cognitive components. People with a high sense of well-being mainly experience positive emotions and are well aware of events and events surrounding themselves, while those with low levels of well-being assess incidents and situations more negatively, and present more negative emotions such as anxiety, depression, and anger (Lombardi et al., 2017).

One of the other components affected by IBS is the individual's optimism. Optimism or positive thinking, which is considered a positive personality trait, is one of the main categories of positive psychology approach that has gained prominence in the field of psychological development, and family and mental health psychology during the last decade (Sweeny & Falkenstein, 2017). Optimism or positive thinking refers to an orientation toward expecting positive outcomes and considering these consequences as fixed, general, and internal factors (Ramirez-Maestre, Esteve, Lopez-Martinez, Serrano-Ibanez, Ruiz-Parraga, & Peters, 2019). In other words, optimism or positive thinking is the most hopeful view of consequences and assessment of the outcomes of life, and a pre-emotional and cognitive prediction that good things are more important than bad things (Ruan, Wilson, & Mihalcea, 2016). Studies show that optimism and generally positive beliefs have a positive and significant relationship with different dimensions of health, and play an important role in the prevention of physical and psychological disorders and increased mental health (Burlison & Lewis, 2016). Taylor, Kemeny, Reed, Bower, and Gruenewald (2000) also argue that the normal perceptions of individuals with a positive concept of self, personal control, and an optimistic, even false, perspective on the future, not only control daily living issues, but also help them cope with extremely stressful and life-threatening events.

Considering the issues raised and the high prevalence of IBS patients who show a low level of psychological well-being and optimism, increasing these variables through different therapy methods seems necessary. One of these treatments is based on admission and commitment. Acceptance and commitment therapy (ACT) is rooted in a philosophical theory called functional context and based on a research program on language and cognition that is thought to be the framework for mental relationships

(Trompetter, Bohlmeijer, Veehof & Schreurs, 2015). The purpose of this therapeutic approach is to help individuals achieve a more valuable and satisfying life through increased psychological flexibility; ACT achieves psychological flexibility through the 6 central processes of acceptance, defusion, being present, self as context, values, and committed action (Crosby & Twohig, 2016). Cognitive defusion means that the individual sees himself and his thoughts as one. Faulting is to accept that our thoughts are separate from us and are nothing more than temporary private events. Admission is the creation of a space for feelings, senses, desires, and other unpleasant private experiences without trying to change them, escape from them, or re-focus on them. Being present is to bring the whole experience into consciousness here and now with openness, interest, acceptance, focus, and full engagement with what is being done (Simister, Tkachuk, Shay, Vincent, Pear, & Skrabek, 2018)). Self-observation is a constant awareness of the self, which does not change and is always present and resistant to damage. From this perspective, the experience of thoughts and feelings, memories, desires, senses, images, roles, or even the physical body is something different from the self. These phenomena are changing, but the individual remains constant. Values and engagement in practice mean that the individual identifies what is most important and deepest to him, sets goals based on them, and acts purposely and effectively to achieve them. Sadeghpour-Moradi, Nasirian, and Chabokinejad (2017) showed that ACT has a significant effect on the level of happiness and optimism of the spouses of men with multiple sclerosis (MS). ACT has an important role in increasing psychological flexibility in the psychological and cognitive structure of individuals and in decreasing many psychological symptoms (Walser, Garvert, Karlin, Trockel, Ryu & Taylor, 2015). Moreover, ACT was effective in improving mental distress, psychological

flexibility, self-esteem in behavior management, and differences between couples with children with acquired brain injury (Brown, Whittingham, Boyd, McKinlay, & Sofronoff, 2015). The goal of the present study was to determine the effectiveness of ACT on the psychological well-being and optimism of patients with IBS.

## Methods

This semi-experimental research was conducted with two groups (test group and control group) and consisted of 3 stages, pretest, posttest, and follow-up. The statistical population of this study included people with IBS referring to health centers in Tehran, Iran, in 2018. The study sample consisted of 60 people who were selected through convenience sampling method and were divided into two groups (30 subjects).

**Ryff Scales of Psychological Well-Being (RSPWB):** This scale was designed by Ryff in 1980 and reviewed in 2002. The questionnaire assesses the 6 factors of autonomy, environmental domination, personal growth, positive relationship with others, purposefulness in life, and admission. The total score of psychological well-being is calculated as the sum of the scores of these 6 subscales. In this form, each factor consists of 14 questions, which are scored on a 6-point scale ranging from completely agree to completely disagree. Higher scores in the RSPWB indicate greater psychological well-being (Shaghghi & Rezaei Kargar, 2010). The validity and reliability of this scale have been reported in numerous studies. The validity coefficients of this questionnaire have been reported to be 0.88 and 0.87, respectively, using Cronbach's alpha and double-summing for the whole scale. Moreover, the coefficient of re-test for the whole scale was reported as 76% and for the sub-components in the range of 0.63-0.75 (Zanjani-Tabassi, 2004). Van Dierendonck (2004) found the internal consistency to be appropriate and Cronbach's alpha to be in the range of 0.77-0.90. The Cronbach's alpha coefficient for the subscales

of positive relation with others, autonomy, environmental domination, personal growth, purposefulness in life, and admission was 0.72, 0.81, 0.82, 0.71, and 0.82 (Shaghaghi & Rezaei Kargar, 2010). In this study, the reliability (using Cronbach's alpha) of the whole questionnaire was 0.79 and that of the subscales of self-acceptance, positive relationships with others, self-determination, purposefulness in life, environmental domination, and personal growth was 0.77, 0.85, 0.85, 0.77, 0.79, and 0.81, respectively.

**Life Orientation Test:** The Life Orientation Test (LOT) was designed and revised by Scheier, Carver, and Bridges (1994) with the aim of assessing optimism. The LOT consists of 10 questions and scored on a 5-point scale ranging from 0 (completely disagree) to 4 (I totally agree). Scheier et al. (1994) reported that the Cronbach's alpha coefficient of the LOT was 0.76 and its test-retest coefficient was 0.79 (for a period of 4 weeks) for a student group. In addition, the optimistic factor analysis and its related structures showed that optimistic nature is an independent and distinct factor, which shows

the differential validity of this structure. This test has been translated into Persian by Khodabakhshi (2004) and has been validated in Iran. The reliability of the LOT using Cronbach's alpha and test-retest were 0.74 and 0.78, respectively. Furthermore, in the present study, the reliability coefficient of the LOT using Cronbach's alpha coefficient was 0.72.

## Results

The null assumption for the equation of variance of the two groups was confirmed in the research variables. In other words, the equation of variance of the scores was confirmed in both experimental and control groups. The null assumption was confirmed for the normal distribution of the scores of the two groups in the research variables. That is, the assumption of the normal distribution of scores in the pretest was confirmed in both test and control groups. The F value of the interaction was not significant for the same slope of the regression line for any of the variables in the research. In other words, the homogeneity of the slope of the regression line is accepted.

**Table 1.** Mean  $\pm$  standard deviation of the study variables in the pretest, posttest, and follow-up

Variables	Group	Pretest	Posttest	Follow-up
		Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Positive relationships with others	Experimental	11.1 $\pm$ 1.1	13.6 $\pm$ 1.1	14 $\pm$ 1
	Control	10.6 $\pm$ 0.97	10.8 $\pm$ 1.1	11 $\pm$ 0.84
Autonomy	Experimental	10.8 $\pm$ 0.67	13 $\pm$ 0.53	13.4 $\pm$ 0.63
	Control	11 $\pm$ 0.84	10.6 $\pm$ 1.1	11.1 $\pm$ 0.96
Environmental domination	Experimental	11.8 $\pm$ 0.74	14.9 $\pm$ 1.1	15.1 $\pm$ 0.88
	Control	12.2 $\pm$ 0.70	12.4 $\pm$ 0.91	12.5 $\pm$ 1.1
Personal growth	Experimental	10.1 $\pm$ 0.70	13.1 $\pm$ 0.74	12.8 $\pm$ 0.91
	Control	10 $\pm$ 0.84	10.1 $\pm$ 1.1	10.4 $\pm$ 0.99
Purposefulness in life	Experimental	10.4 $\pm$ 0.63	13.6 $\pm$ 0.89	13.8 $\pm$ 0.77
	Control	10.5 $\pm$ 0.51	10.6 $\pm$ 1.1	11.1 $\pm$ 1.1
Admission	Experimental	11.4 $\pm$ 1.7	13.2 $\pm$ 1.6	13.9 $\pm$ 1.3
	Control	10.4 $\pm$ 1.3	10.9 $\pm$ 1.3	11.2 $\pm$ 1.1
Psychological well-being	Experimental	65.7 $\pm$ 3.1	81.6 $\pm$ 2.8	82.1 $\pm$ 3.2
	Control	64.9 $\pm$ 2.3	65.6 $\pm$ 2.1	66 $\pm$ 2.1
Optimism	Experimental	7.3 $\pm$ 1.8	11.1 $\pm$ 2.1	11.7 $\pm$ 2.8
	Control	7.2 $\pm$ 1.1	8.2 $\pm$ 1.2	8.11 $\pm$ 1.1
Pessimism	Experimental	11.4 $\pm$ 1.1	8.4 $\pm$ 1.2	8.8 $\pm$ 1.2
	Control	12.2 $\pm$ 0.79	11.8 $\pm$ 0.67	11.4 $\pm$ 1.1

**Table 2.** Results of multivariate covariance analysis on the mean posttest scores of psychological well-being and optimism of the experimental and control groups with pretest control

Test	Value	df hypothesis	df error	F	P	Eta square
Pillai's effect	0.57	11	36	34.36	0.0001	0.57
Wilks' Lambda	0.01	11	36	34.36	0.0001	0.57
Hotteling effect	65.2	11	36	34.36	0.0001	0.57
Roy's Largest Root	65.2	11	36	34.36	0.0001	0.57

df: Degree of freedom

Table 2 indicates that the effect or difference is equal to 57.7, that is, 57% of the individual differences in posttest scores of psychological well-being and optimism is related to the impact of ACT (group membership).

Table 3 indicates differences between the experimental group and control group in terms of positive relationships with others ( $P < 0.0001$ ,  $F = 59.06$ ), independence ( $P < 0.0001$ ,  $F = 84.25$ ), environmental domination ( $P < 0.0001$ ,  $F = 65.13$ ), personal growth ( $P < 0.0001$ ,  $F = 124.25$ ), purposefulness in life ( $P < 0.0001$ ,  $F = 120.41$ ), admission ( $P < 0.0001$ ,  $F = 29.31$ ), psychological well-being ( $P < 0.0001$ ,  $F = 101.26$ ), optimism ( $P < 0.0001$ ,  $F = 85.53$ ), and pessimism ( $P < 0.0001$ ,  $F = 51.07$ ).

## Discussion

The findings of this study showed that ACT has a significant effect on psychological well-being and optimism in patients with IBS. This finding was consistent with the findings of Sadeghpour-Moradi et al. (2017), Walser et al. (2015), and Brown et al. (2015).

Therefore, ACT helps individuals to accept existing conditions and avoid

unnecessary conflicts and fusion with unwanted thoughts associated with it while at the same time it helps them realize other values of life. From the point of view of acceptance-based treatment and commitment-avoidance of experiences, the ACT treatment process creates harm that contributes to the creation and spread of controversy. Hofmann and Asmundson (2008) argue that admission leads to fundamental changes, and opens up space for individuals to think and feel their thoughts without trying to change, and thus, they feel that they have changed..

According to the findings, ACT has an effect on the improvement of optimism in patients with IBS. Cognitive separation is taught in counseling sessions based on admission and commitment, that is, psychological flexibility, psychological awareness, and cognitive separation. Cognitive separation makes people see their problems out of hand and talk about them more easily, and this helps them to clearly identify their personal values, and thus, to alter specific behavioral goals.

**Table 3.** Results of one-way analysis of covariance

Variables	SS	df	MS	F	P	Eta square
Positive relationships with others	49.9	1	49.9	59.1	0.0001	0.68
Autonomy	43.9	1	43.9	82.4	0.0001	0.75
Environmental domination	52.7	1	52.7	65.1	0.0001	0.70
Personal growth	64.9	1	64.9	124.2	0.0001	0.82
Purposefulness in life	73.4	1	73.4	120.4	0.0001	0.81
Admission	15.3	1	15.3	29.3	0.0001	0.52
Psychological well-being	160.3	1	160.3	101.2	0.0001	0.79
Optimism	100.6	1	100.6	85.5	0.0001	0.76
Pessimism	37.9	1	37.9	51.1	0.0001	0.65

SS: Sum of squares; df: Degree of freedom; MS: Mean of squares

In addition, in subsequent sessions that focus on increasing mental awareness, people reevaluate their positive and negative viewpoints and try to form a correct judgment about their problems. The acceptance and commitment approach, instead of focusing on the elimination and removal of harmful factors, helps clients to accept their controlled emotions and self-control. From the treatment perspective, acceptance and commitment to avoid experiences create a process of harm that contributes to the creation and spread of conflicts. ACT makes it possible to change relationships with experiences, reduce empirical avoidance, increase flexibility, and increase action in meaningful paths (Hayes, Strosahl, & Wilson, 2012).

### Conflict of Interests

Authors have no conflict of interests.

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