

Effectiveness of mindfulness-based stress reduction training and drug therapy on quality of life in patients with irritable bowel syndrome in Shahrekord

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Abstract: Background: Irritable bowel syndrome is a common gastrointestinal disorder that affects 20-10 percent of the population. The current research is performed to compare the effectiveness of two methods of Mindfulness-based stress reduction training and drug therapy on quality of life in patients with irritable bowel syndrome. **methods used:** In this research, randomized clinical trial had three phases: pre-test, post-test and 4 months after the last intervention (follow up) was performed. The Sample consisted of 30 IBS-D patients were randomly selected according to Rome-II, III criteria and divided into two groups of mindfulness-based stress reduction training and drug therapy. The collected data were analyzed using Ancova test. **Results:** The results showed that there were significant differences between Mindfulness-based stress reduction training and drug therapy group in quality of life in patients with irritable bowel syndrome in post-test and follow up stage ($p < 0.05$). **Conclusion:** The rapists should consider modern psychotherapy techniques such as Mindfulness-based stress reduction training therapy as potential methods for Improve the quality of life in patients with irritable bowel syndrome.

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1. Introduction

Irritable bowel syndrome is a common functional gastrointestinal disorder (Grundmann & Yoon, 2010, Ghadir & Ghanoni, 2010, [Hadley SK, Gaarder, 2005](#)) based on symptoms such as change in bowel habits, abdominal pain and distention in the absence of any organic cause is based (solati Dehkordi & et al, 2012, Moghadaszadeh & et al, 2012, Gaman & et al, 2009). This disease, 10-15% of the United States of America ([Gaarder, 2005](#)) And 11.5% of the population is affected Europe (Cash & et al, 2011) Irritable bowel syndrome affects both sexes, at different ages, Although its prevalence is higher in women and youth (Grundmann & Yoon, 2010, [Lovell & Ford, 2012](#))

Despite the high prevalence of IBS, in terms of its etiology and pathogenesis, there is still little understanding. Research evidence suggests a possible role of gut sensorimotor disorder, central and peripheral nervous system inefficiencies, psychological disorders, the causes of ductal (Kapoor & et al, 1985, Solati Dehkordi & et al, 2009) And disorder the interaction between the brain and the digestive system (Minderhoud & et al, 2004) In the incidence of the disease. One of the factors that affect in the central brain - gut is stress and anxiety (O'Malley & et al, 2011).

Teaching Mindfulness-Based Stress Reduction (MBSR), which formerly was known as a program of stress reduction and relaxation (Kabat-Zin, 1982, 1990) A structured group program that aims to reduce stress and improve mental health and reduce suffering is used (Zare & et al, 2013).

Mindfulness-based stress reduction training period is eight weeks during which numerous training to increase individual awareness of their experience is in various fields. The course consists of three basic exercises that include physical exercise, body conscious (awareness of bodily sensations than a moment without judgment and respond to them) Body conscious elasticity's (percentage changes from moment to moment awareness of bodily sensations during mild and gentle body movements) Meeting is conscious (aware of the thoughts and emotions of the moment than a person without engaging in them or respond to them) Evidence indicates that MBSR had positive effects on physical and psychological symptoms in patients (Syed Ali Naqi & et al, 2009), Reduction, chronic pain (Witkiewits & et al, 2005, Masoumian & et al, 2012, Nasimi far & et al, 2012, Gool Pour Chamarkohi & Mohamad Amini, 2012) And modulation of anxiety and worry (Fjorback & et al, 2011, Kashani & et al, 2012) And improve the quality

of life and enjoyment of life (Syed Ali Naqi & et al, 2009, Fjorback & et al, 2011)

Given the emphasis on the mechanisms Mindfulness is part of IBS treatment the methods used in the study Mindfulness-based stress reduction is selected using MBST mechanism based on self-regulatory process of changing thoughts, feelings, emotions and behaviors associated with IBS, effective change in order to increase the life quality of patients with irritable bowel syndrome is created.

Materials and Methods

Methods this study was a clinical trial to study the pre-test and post-test control group was administered with therapeutic procedures. The study population included all patients with irritable bowel syndrome clinic of Imam Ali (AS), and practices of gastroenterologists at the Shahrekord City the ROME III criteria and clinical gastroenterologist, interruption of their IBS was confirmed, then, 30 patients with irritable bowel syndrome with diarrhea-predominant symptoms as available, based on the inclusion criteria (Having the diagnostic criteria for IBS-D criteria Rome - III, Lack of psychiatric drugs and failure to attend counseling and psychological intervention within the last 6 months, Not receive any additional training before and during the Mindfulness intervention, consent to participate in the Plan) Selected groups of drug therapy and Mindfulness-based stress management groups. A person who is

self-made questionnaire including demographic information age - gender - occupation, education level. Quality of life questionnaire for patients with irritable bowel syndrome (QOL-IBS), which has 36 questions and 8 subscale boredom, intervention activity, body image, concerns about health, avoid eating, social reaction, sexual problems, communication problems each question has a five-point scale is the Likert method. This is much higher than the diagnostic criteria would be more beneficial to the patient (patient's quality of life is lower). The Persian version of this questionnaire was validated in Iran (Ebrahimi, Daryani, 2003) having validity, equal to 0.92 (Haghighyegh & et al, 2008) Reliability tests using Cronbach's alpha coefficient equal to 0.81 is obtained.

The data were analyzed using SPSS software version 19. Statistical methods used included descriptive statistics and analysis of covariance (ANCOVA).

Results:

Based on findings from 30 patients with irritable bowel syndrome participated in the study, 16 women (53.33%) and 14 male (46.67%), respectively. 4 patients (13.33%) of them were single and 26 patients (86.67%) were married. Education, 14 patients (46.67%), BA, 9 patients (30%) diploma and 7 (23.33%) were Associate Degree in (Table 1).

Table (1): Demographic characteristics of respondents to separate treatment groups

| Variable | Groups | Medical treatment group (n = 15) | Mindfulness group (n = 15) |
|----------------|--------------------------------------|-------------------------------------|-------------------------------|
| Gender | Female (Number/Percent) | 6 (40) | 10 (67) |
| | Male (Number/Percent) | 9 (60) | 5 (33) |
| Marital status | Married (Number/Percent) | 3 (20) | 1 (7) |
| | Single (Number/Percent) | 12 (80) | 14 (93) |
| Education | Diploma (Number/Percent) | 6 (40) | 3 (20) |
| | Associate Degree (Number/Percent) | 3 (20) | 4 (26) |
| | Bachelor (Number/Percent) | 6 (40) | 8 (53) |

In this study, the effect of pre-test scores on the post-test and follow-up as variables using analysis of covariance (Ancova) control. The default equality of variances using the Levine test post-test and follow-up phase were studied the results showed no significant differences between dependent variables (quality of life) found. It can be concluded from this study can be used ANCOVA.

Quality of life scores between the two groups at pretest, posttest, and follow-up revealed Quality of life scores in the post-test and follow-up in both groups increased but this increase was more pronounced in mindfulness-based stress management training ($P < 0.05$) (Table 2).

Table (2): Mean and standard deviation of the IBS-QOL scores at pretest, posttest, and follow-up

| Groups | Pretest | | Posttest | | Follow up | |
|----------------------------------------------|---------|-------|----------|------|-----------|------|
| | X | SD | X | SD | X | SD |
| Mindfulness-based stress management training | 97.66 | 11.48 | 117.13 | 2.47 | 116.53 | 9.24 |
| Drug Therapy | 117.66 | 6.37 | 117.4 | 6.84 | 117.4 | 6.78 |

Quality of Life Scale posttest scores between the two groups of mindfulness-based stress management training and medical treatment were recovered, after controlling for pre-test scores were significant. Effect of 0.56 respectively. In other words, 56% change group membership is related quality of life scores. Statistical power is achieved with a representation of the adequacy of the sample size.(Table 3)

Table (3): Results of covariance analysis for the effectiveness of the two treatment methods on quality of life in IBS patients post-test

| Variable | SS | df | MS | F | P | Effect Rate | Statistical power |
|------------------|----------|----|----------|--------|--------|-------------|-------------------|
| Pretest | 491.928 | 1 | 491.928 | 6.239 | 0.019 | 0.188 | 0.673 |
| Membership group | 2776.290 | 1 | 2776.290 | 35.209 | 0.0001 | 0.566 | 1 |

Other findings showed the scale of quality of life between the two groups of mindfulness-based stress management training and medical treatment after controlling for the effects of pre-test scores obtained in Follow up showed a significant difference stage ($P < 0.05$). Efficacy of 60% was achieved, which means that 60% of the group membership is change in quality of life scores. In other words, we obtained adjusted mean QOL scores were significantly different between the two groups at Follow up. Statistical power was achieved with a sample size is sufficient to indicate.(Table 4)

Table (4): Results of covariance analysis for the effectiveness of the two treatment methods on quality of life in IBS patients post-test

| Variable | SS | df | MS | F | P | Effect Rate | Statistical power |
|------------------|----------|----|----------|--------|--------|-------------|-------------------|
| Pretest | 518.743 | 1 | 518.743 | 10.606 | 0.003 | 0.28 | 0.88 |
| Membership group | 2008.706 | 1 | 2008.706 | 41.069 | 0.0001 | 0.603 | 1 |

Discussion:

Including psychosomatic illnesses are irritable bowel syndrome is a gastrointestinal disease. This disease can cause loss of quality of life in people. Given the high prevalence of psychological disorders in patients of effective rehabilitation strategies to reduce these problems can improve and to be improving the quality of life of patients with irritable bowel syndrome. Training programs are effective in treating the disease can be pointed mindfulness. Mindfulness-based stress reduction is a biological approach, which is a branch of cognitive – behavioral and its aim is to promote and stress management skills in patients with IBS. The results show significant improvements in mood and reduce stress perceived by the conscious mind. This study was conducted with the goal of mindfulness-based stress management training and drug therapy on quality of life in patients with IBS and the results of this study showed a significant relationship between MBSR general indicators of mental and physical quality of life. The present findings show a strong correlation between the behavior of structures with quality of life, Previous studies on the positive outcomes of

mindfulness-based stress management intervention emphasized supports. (Zernicke & et al, 2013, Ljótsson & et al, 2010, Ljótsson & et al, 2011, Gaylord & et al, 2011, Kearney & et al, 2011)

IBS research results in the field has shown that mindfulness can reduce stress (Zernicke& et al, 2012), Increased pain tolerance (Kingston & et al, 2007) and enhance the quality of life and enjoy life and have a role in enhancing the quality of life and enjoy life.(Syed Ali Naqi & et al, 2009, Fjorback& et al, 2011) Tracking the effectiveness of mindfulness can be seen in several studies on IBS.

(Zernicke& et al, 2013) Expressed at 6 months significant improvements in the quality of life in patients undergoing treatment for IBS Mindfulness based stress management training have been found.

Gaylord et al (2011) Effectiveness of mindfulness to improve the quality of life in patients with irritable bowel syndrome after treatment and 3 months follow-up were examined. The obtained results showed that changes in the quality of life of these patients after treatment was not significantly different, however, at 3 months follow-scale

significant improvements in quality of life scores were observed in these patients.

Lejeston et al (2011) also concluded a year-long follow-up mindfulness therapy, long-term beneficial effects for patients with irritable bowel syndrome.

Overall, the quality of life, behavioral intervention strategies, including techniques such as relaxation and deep abdominal breathing can help patients it is important to improve the quality of life domains and achieve a sense of self efficacy in social interaction therefore, to improve the quality of life of these patients is not only confined to drug treatment and psychological treatment, Mindfulness Based Stress Reduction Training In particular, according to other studies that used remission of the disease with mental disorders.

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