e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2023; 15(11); 124-128

Original Research Article

# Study of Mindfulness Based Stress Reduction Therapy in Irritable Bowel Syndrome in Maharashtra Population

**Ravindra Bhumanna Narod[1], Rathod Rahul Narayanrao[2], Pankaj Punaram Khobragade[3]**

[1]Assistant Professor, Department of Psychiatry, MI MSR Medical College, Latur, Maharashtra-413531
[2]Assistant Professor, Department of General Medicine, Government Medical College, Aurangabad, Maharashtra-431001
[3]Senior Resident, Department of General Medicine, Yashwantrao Chavan Memorial Hospital, YCM, Pune, Maharashtra-411018

**Received: 25-08-2023 / Revised: 28-09-2023 / Accepted: 30-10-2023**
**Corresponding author: Dr. Rathod Rahul Narayanrao**
**Conflict of interest: Nil**

**Abstract:**

**Background:** Irritable bowel syndrome (IBS) impairs the quality of life, and high costs are incurred in the health care system. IBS focuses on diet and lifestyle management, which includes stress, emotion, and negative interpretations of social relations, which enhance the IBS symptoms.

**Method:** 60 adult patients aged between 25-60 years with IBS symptoms were counselled with IBS-SSS, VSI, FFMQ, and PHQ-12 questionnaires and followed up for three months. The clinical variables FFMQ, VSI, and IBS-SSS were compared after 3 months.

**Results:** Five-facet mindful Questionnaires were compared at baseline studies and after three months of treatment (follow-up). Except for the FEMQ non-react score, all MBSR variables had a significant p value ($p<0.001$).

**Conclusion:** MBSR could be considered a new effective and stable efficient method in psychotherapy for irritable bowel syndrome patients.

**Keywords:** MBSR=mindfulness, based stress reduction, IBS, or irritable bowel syndrome, FFMQ=Five Facet Mindfulness Questionnaires, VSI=visceral sensitivity index; PHQ-12 = personal health questionnaires.



## Introduction

Irritable bowel syndrome (IBS) is a chronic and debilitating functional gastrointestinal disorder that affects 9-23% of the population across the world [1]. The symptoms of IBS include abdominal pain and disturbed bowel movements, which impair quality of life, and high costs are incurred in the health care system [2]. In general, there are no medical or drug regimen options to manage the wide range of IBS symptoms, and attention are shifted to the bio-psychosocial factors due to a lack of effective medication and medical treatment to relieve IBS symptoms.

Cognitive information and external stresses are able to influence the senses, movement, and secretion of the digestive tract through neural connections. As a result, muscle contractions, GI secretions, and pain can increase due to mental stress and the negative interpretation of emotions [3].

Therapeutic approaches for patients who have difficulty in regulating emotions must include treatments that are able to increase internal pressure and emotional awareness and regulate emotional arousal modes through the process of understanding. A deep understanding of the nature of emotional disorders reveals that the commonalities of this disorder distinguish between its aetiology and hidden structure [4].

The psychological treatment of IBS has been taken into consideration due to the increase in the association of the response to stress with events related to the visceral tract. Hence, an attempt is made to study mindfulness-based stress reduction therapy in stressed, depressed, and anxious patients with IBS.

## Material and Method

60 adult patients regularly visited MI MSR Medical College Hospital in Latur, Maharashtra (413351) were studied.

**Inclusive Criteria:** Adult patients aged between 20 to 60 years with symptoms of IBS (irritable bowel syndrome) were selected for study.

**Exclusion Criteria:** Patients who are already under IBS treatment for serious medical conditions and are psychotic with suicidal features were excluded from the study.

**Method:** Clinical and psychological variables were assessed at baseline (pre-treatment) and treated for three months. Primary clinical outcomes were chosen to assess the degree of mindfulness and major domains of IBS severity, including the composite major of GI systems on the IBS-specific measure QOL (quality of life) and measure IBS-specific fear and anxiety (established) as important treatment targets for IBS and other chronic pain targets. Secondary outcomes were included to assess a border array of problem areas often reported by individuals with IBS, including negative effects, pain catastrophizing, widespread bodily pain, and magnetic resonance of the brain. Imaging scans were completed at baseline and after 3 months of treatment separately.

Gastrointestinal symptoms severities were assessed using the severity score from the IBS-SSS, and a validated 5-item instrument was used to measure the severity of abdominal pain, distension, and dissatisfaction with bowel habits. Interference with quality of life (QOL) overpasted fear and anxiety was assessed using the VSI (visceral sensitivity index) related to IBS.

Mindfulness was assessed using the five Facet Mindfulness Questionnaires: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. FFMQ contains 39 items that are related on a 5-point lakert scale. The five-factor structure of the FFMQ has been confirmed in subsequent studies for persons who medicate or have participated in meditation counselling programmes like MBSR through observing scale is less destructive in mediation-naïve persons. Hence, FFMQ scores reflect greater mindfulness.

Symptoms of anxiety and depression were assessed using the Hospital Anxiety and Depression (HAD) scale over the past two weeks in non-psychotic patients. The Personal Health Questionnaire-12 (PHQ-12) is a validated scale assessing the degree to which an individual is bothered by common somatic symptoms, including back pain and headaches, over the course of two weeks.

The pain catastrophing scale (PCS) is a 13-item scale assessing pain-related catastrophing thinking in three dimensions: helpfulness, rumination, and magnification. The total score was used in this analysis.

The duration of the study was from May 2022 to June 2023.

**Statistical analysis:** baseline analysis of FFMQ, IBS-SSS, IBS-QOL, and VSI observe describe, act-ware, non-judge, non-react HAD depression anxiety PCS versus IBS patients were compared with the IBS patients after three months by t test. The statistical analysis was carried out in SPSS software. The ratio of males and females was 2:1.

**Observation and Results**

Table 1: Five Facet Mindfulness questionnaires (Baer. etal) included observe, describe, and act aware, Non-judge Non-react, description and examples in Irritable bowel syndrome patient.

Table 2: Comparison of Mean value in pre and post treatment (follow-up) –

- IBS-SSS – 277.62 (±72.5) in Baseline studies, 125.80 (± 68.8) in after three months (post treatment follow up), t test was 11.7 and $p<0.001$
- IBS-QOL – 54.02 (± 11.8) in baseline, 76.21 (± 12.40) after three months, t test was 10.4 and $p<0.001$
- VSI – 44.30 (± 10.9) in baseline, 21.20 (± 11.60) after three months, t test was 11.2 and $p<0.001$
- FEMQ observe – 22.85 (± 4.30) in baseline, 25.18 (± 5.38) after three months, t test was 2.62 and $p<0.005$
- FEMQ describe – 25.03 (± 4.28) at baseline, 28.30 (± 5.30) after three months, t test was 3.71 and $p<0.004$
- FEMQ Act ware – 23.20 (± 4.70) at baseline, 28.15 (± 5.52) after three months, t test was 5.28 and $p<0.001$
- FEMQ Non-judge – 27.11 (± 6.20) at baseline, 30.32 (± 5.11) after three months, t test was 3.09 and $p<0.002$
- FEMQ Non-react – 20.98 (± 4.32) at baseline, 20.38 (± 5.80) after three months, t test was 0.64 and $p>0.52$ (p value was insignificant)
- HAD depression – 4.30 (± 1.21) at baseline, 3.20 (± 1.30) after three months, t test was 4.79 and $p<0.001$
- HAD anxiety – 7.40 (± 2.40) at baseline, 4.20 (± 2.08) after three months, t test was 7.80 and $p<0.001$
- PCS – 16.20 (± 4.03) at baseline, 8.32 (± 3.08) after three months, t test was 12.03 and $p<0.001$
- PHQ-12 – 6.09 (± 2.03) at baseline, 3.62 (± 1.09) after three months, t test was 3.77 and $p<0.001$

**Table 1: Five Facet Mindfulness Questionnaires (from Baer. et al)**

| FFMW scale | Abbreviation | Description | Example Item |
|---|---|---|---|
| Observing | Observe | Noticing or attending to internal or external experience (E.g. sounds, Emotions though bodily sensation | I notice the smells and aroma of things |
| Describing | Describe | Labelling internal experiences with words | I am good at finding words to describe my feeling |
| Acting with Awareness | Act ware | Attending to ones activities of the moment (in contrast to auto pilot) | I find myself doing things without paying attention (R) |
| Non Judging of inner experience | Non Judge | Accepting one's thought and Emotions without Evaluation (E.g. Good or bad) | I think same of my emotions are bad or in appropriate and I should not feel them (R) |
| Non-reactivity to inner experience | Non React | Detaching from one's thoughts and emotion; allowing them to come and go without becoming overly identified with them | I perceive my feelings and emotions without having to react to them |

R=reverse-scored

**Table 2: Comparison of values of pre and post treatment variables is IRBS patients**

| Variables | Baseline | Treated for three months | t test | p value |
|---|---|---|---|---|
| IBS-SSS | 277.62 (±72.5) | 125.80 (± 68.8) | 11.7 | P<0.001 |
| IBS-QOL | 54.02 (±11.8) | 76.21 (±12.40) | 10.4 | P<0.001 |
| VSI | 44.30 (±10.9) | 21.20 (±11.60) | 11.2 | P<0.001 |
| FEMQ observe | 22.85 (±4.30) | 25.18 (±5.38) | 2.62 | P<0.005 |
| FEMQ Describe | 25.03 (± 4.28) | 28.30(±5.30) | 3.71 | P<0.004 |
| FEMQ Act ware | 23.20 (±4.70) | 28.15 (±5.52) | 5.28 | P<0.001 |
| FEMQ Non-judge | 27.11 (±6.20) | 30.32 (±5.11) | 3.09 | P<0.002 |
| FEMQ Non-react | 20.98 (±4.32) | 20.38 (±5.80) | 0.64 | p>0.52 |
| Had Depression | 4.30 (± 1.21) | 3.20 (±1.30) | 4.79 | P<0.001 |
| HAD Anxiety | 7.40 (±2.40) | 4.20 (±2.08) | 7.80 | P<0.001 |
| PCS | 16.20 (±4.03) | 8.32 (±3.08) | 12.03 | P<0.001 |
| PHQ-12 | 6.09 (± 2.03) | 3.62 (±1.09) | 3.77 | P<0.001 |

Abbreviation: FEMQ – Five Emotional Mindfulness Questionnaires, HAD – Hospital Anxiety and depression scale, IBS-SSS – IBS severity scoring system, PCS – pain catastrophing scale, PHQ-12 – Personal Health questionnaires, VSI – Visceral sensitivity Index

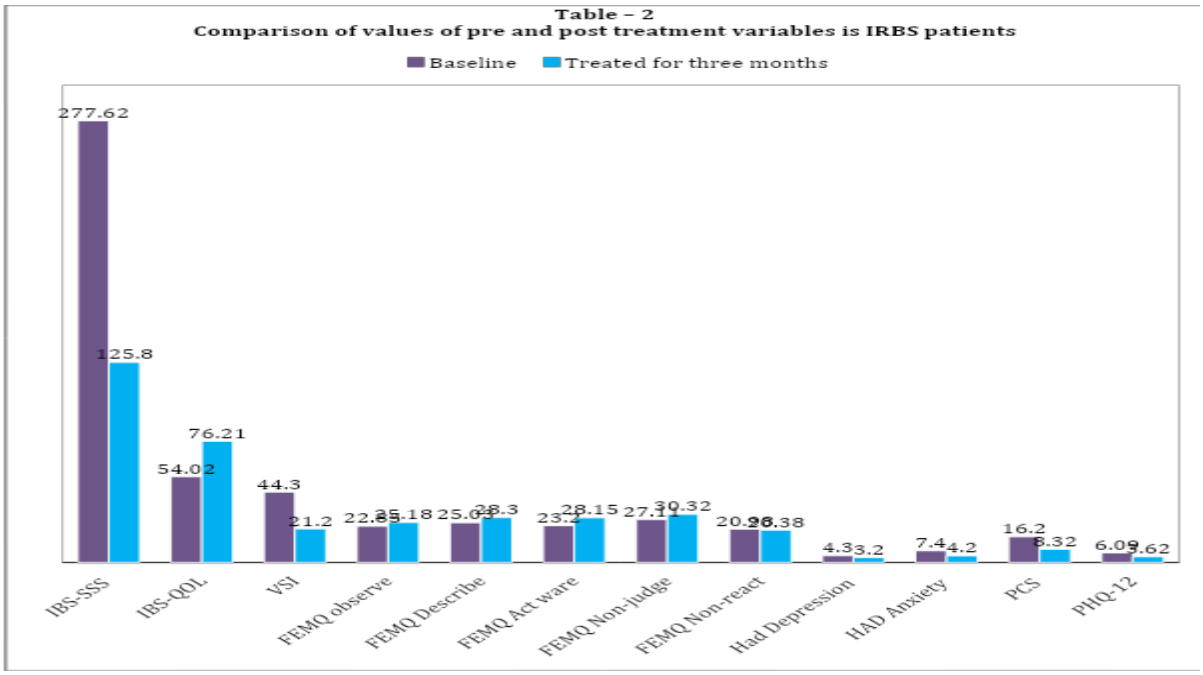


**Figure 1: Comparison of values of pre and post treatment variables is IRBS patients**

## Discussion

Present study of MBSR in the Maharashtra population. Five facet mindfulness questionnaires were included in the present study, which are observations describing acting with awareness. Non-judging of inner experience, non-reactivity to inner experience (Table 1). A comparative study of the mean values of pre- and post-treatment variables of IBS patients was studied: IBS-SSS, IBS-QOL, VSI, FEMQ observe, FEMQ describe, FEMQ non-judge, FEMQ non-react, HAD depression, HAD anxiety, PCS, and PHQ-12 had significant p values ($p<0.001$) except for FEMQ non-react (Table 2). These findings are more or less in agreement with previous studies [6,7,8].

Patients with IBS syndrome have greater activation of brain areas associated with negative emotions, memory retrieval, and attention to sensory stimuli compared to healthy individuals. Quality of life in IBS patients is a multi-complex index, including social relations, job satisfaction, education, sexual activity, and mental conditions. These patients have limited social relationships and suffer from different symptoms of depression, and many have concerns about the nature of their disease [9]. Treatment through emotion regulation can be beneficial for improving the quality of life and reducing other variables in patients with IBS because of its simultaneous emphasis on emotional insight and clear behavioural guidelines.

Establishing psychological distance from aversive emotions may be a part of the reappraisal process, but mindfulness differs from such processes in that it treats the labelling or monitoring of the experience as an end in itself rather than a means by which to control the emotion [10]. The treatment of MBSR includes a focus on all emotions instead of suppressing them or avoiding emotional events. It is reported that, in the comparison of MBSR and emotion regulation in reducing experimental avoidance, MBSR is related to understanding and accepting problems and emotion regulation [11].

MBSR is linked to increased meta-cognitive awareness. The capability to experience thoughts and emotions through a focused approach in which thought and emotions are experienced as mental events and not as an exact reflection of reality. As a result, increased counselling on attention and meta-cognitive awareness leads to changes in tactics employed against internal negative experiences through increased acceptance of thoughts, emotions, and facts of reality.

## Summary and Conclusion

In the present study, the counselling of IBS patients with MBSR showed significant improvement. Degrees of improvement are solely dependent on emotional control, acceptance of thoughts and reality, and patience. It will modify the behaviour, and GIT-related neurological factors will gradually turn to normal, and there will be remarkable improvement in IBS. The present study demands further genetic, neurological, nutritional, and environmental studies because the exact pathophysiology of IBS is not clear.

**Limitation of study:** Owing to the tertiary location of the research centre, the small number of patients, and the lack of the latest techniques, we have limited findings and results.

The present study was approved by the Ethical Committee of MI MSR Medical College Hospital in Latur, Maharashtra (413331).

## References


1. Sorouri M, Pourhoseingholi MA – Functional bowel disorders in the Iranian population using Rome III criteria Saud, J. of Gastroenterol. 2010; 16: 154–160
2. White head WE, Levy R – The usual medical care for irritable bowel syndrome Ailment pharmcol. Their 2004; 20: 1305–1315.
3. Zemicke KA, Compbell TS – Mindfulness-based stress reduction for the treatment of irritable bowel syndrome symptoms Int. J. Behave Med. 2013; 20: 385–390.
4. Maxaheri M, Mohammedi N – The effectiveness of emotion regulation interventions on emotional problems and quality of life among patients with functional gastrointestinal disorders Goveresh Journal 2014; 19: 109–117.
5. Baer RA, Smith GT, Lykins E – Construct the validity of the five-facet mindfulness questionnaires in mediating and non-mediating samples. Assessment. 2008; 15: 329–342.
6. Gwee KA, Ghoshal UC – Irritable Bowel Syndrome in Asia; Pathogenesis, Natural History, Epidemiology, and Management J. Gastroenterol. Hepatol. 2018; 33: 99–110.
7. Makharia GK, Verma AK – Prevalence of irritable bowel syndrome: a common-based study of north India J. Neurogastroenterol. Motil. 2001; 17: 82–7.
8. Goyal O, Nohria S – Prevalence overlap and risk factors for Rome IV functional gastroenterol disorders among college students in northern India J. Gastroenterol. 2021; 40: 144-53.
9. Carlson LE, Speca M – Mindfulness-based Cancer Recovery: A Step-by-Step MBSR Approach to Help You Cope with Treatment and Reclaim Your Life, Oakland, New Harbinger Publication, 2011.
10. Grossman P, Neimann L – Mindfulness-based stress reduction and health benefits: a meta-analysis J. Psychosam. Res. 2004; 57: 33–43.

11. Gaylord SA, Palsson OS – Mindfulness training reduces the severity of irritable bowel syndrome in women, Am. J. Gastroenterol. 2011; 106: 1678–88.