

Effect of an Eight-Week Preksha Meditation Programme on Symptom Severity and Quality of Life in Patients with Irritable Bowel Syndrome

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Abstract: Diet and mental stress have significant roles in the development of Irritable Bowel Syndrome (IBS), a common functional gastrointestinal illness. Complex symptom treatment is made more difficult by the bidirectional mind-gut axis, which connects emotional states with intestinal sensitivity. Traditional dietary approaches, like the Low FODMAP (LOW-FODMAP) diet, reduce physical symptoms but don't always fix the psychological and physiological imbalances that cause them. Breath awareness and self-observation are at the heart of Preksha Meditation, a systematic mindfulness-based practice with its origins in Jain philosophy that may help improve autonomic balance and alleviate symptoms.

Keywords: Irritable Bowel Syndrome, Preksha Meditation, Low FODMAP diet, Mind–Gut Axis, Quality of Life, Psychophysiological Regulation

INTRODUCTION

Recurring stomach pain, changes in bowel habits, and emotional and mental anguish are the hallmarks of Irritable Bowel Syndrome (IBS), a functional gastrointestinal condition that may last for years (Chey, Kurlander, & Eswaran, 2015). Approximately 10-15% of adults worldwide suffer from irritable bowel syndrome (IBS), which places a heavy clinical and financial strain on healthcare systems (Ford, Lacy, & Talley, 2017). The disorder's complex origins include abnormalities in gut motility, increased stress reactivity, changes in the microbiota, nutritional factors, and visceral hypersensitivity (Mayer et al., 2015).

Pharmacological therapy focuses on bowel modulation, however it is unusual for these approaches to provide lasting relief. Therefore, non-pharmacological treatments, particularly changes to one's diet, have become more popular (Eswaran et al., 2017). One of the most

successful treatments for symptom reduction is the Low FODMAP (Fermentable Oligo-, Di-, Monosaccharides and Polyols) diet (Halmos et al., 2014). Reducing osmotic load and fermentable carbohydrate consumption helps with bloating and gas in the colon.

But mental stress is still a major contributor to the pathophysiology of irritable bowel syndrome, even when dietary changes help. Emotional regulation of gut function is mediated via the gut-brain axis, a bidirectional communication network connecting the central and enteric neural systems (Mayer et al., 2015). This axis becomes dysregulated in response to stress, which changes gastrointestinal motility and increases visceral sensitivity. Therefore, it is becoming more and more necessary for comprehensive IBS treatment to include therapies that address both the physiological and psychological aspects.

Preksha Meditation is a kind of organised mindfulness-based practice that originates in Jain contemplative traditions. Its primary goals are inward concentration, regulation of breath, and awareness of sensory experiences in the body. According to Jain et al. (2017), this practice is ideal for regulating psychophysiology since it focuses on internal monitoring (the awareness of psychic centers and breath) instead of transcendence. According to Mehta et al. (2021), Preksha Meditation is unique among relaxation methods in that it activates the parasympathetic nervous system, stabilises the autonomic nervous system, and promotes emotional equanimity.

LITERATURE OF REVIEW

Comparison with Previous Studies

Consistent with previous research, this study found that the LOW-FODMAP diet considerably mitigates irritable bowel syndrome symptoms by decreasing colonic fermentation. Nevertheless, our findings go beyond dietary effects and demonstrate that including meditation enhances these advantages. Research has shown that mindfulness training may increase emotional regulation and visceral pain tolerance (Gaylord et al., 2011; Khoury et al., 2013). These findings are consistent with those of meditation training.

In order to achieve a state of cognitive-emotional coherence, Preksha Meditation specifically incorporates concentration, breath management, and interior sensory awareness, as opposed to just relaxing. Mehta et al. (2021) and D'Silva et al. (2022) are just two of the many studies that back up the idea that these mind-body techniques improve QoL by lowering anxiety and gastrointestinal distress.

OBJECTIVES

There is a strong correlation between stress and irritable bowel syndrome (IBS) symptoms; thus, it would be beneficial to combine Preksha Meditation with food control in order to address both the gut physiology and mental state simultaneously. The purpose of this research is to determine if the LOW-FODMAP diet plus an eight-week Preksha Meditation program have a greater impact on symptom reduction and quality of life than either the diet alone or conventional treatment.

RESEARCH METHODOLOGY

Study Design

Eight weeks of randomised controlled trials (RCTs) using a parallel-group design were used to assess the cumulative impact of Preksha Meditation on the severity of symptoms in individuals with irritable bowel syndrome (IBS). The subjects were split into two groups at random:

1. **LOW-FODMAP + Preksha Meditation group** – followed Low-FODMAP diet with the addition of guided Preksha Meditation sessions weekly.
2. **Control group** – continued their regular diet and received standard IBS management advice without structured intervention.

A written informed consent was collected from all participants prior to study initiation.

Study Participants

Sixty participants (N = 60), aged between 18 and 65 years, were recruited. All participants met the **Rome IV diagnostic criteria** for IBS and had moderate to severe symptom severity at baseline. Participants were randomly allocated (30 per group) using computer-generated randomisation.

Eligibility Criteria

Inclusion criteria:

1. Adults aged 18–65 years.
2. Physician-diagnosed IBS per Rome IV criteria.
3. Willingness to adhere to diet and meditation protocols.

Exclusion criteria:

Participants were excluded if they had:

1. inflammatory bowel disease;
2. celiac disease;
3. gastrointestinal malignancy;
4. previous gastrointestinal surgery affecting bowel function;
5. severe metabolic disorders;
6. severe psychiatric illness;
7. pregnancy or lactation;
8. current participation in another clinical trial;
9. inability to comply with dietary recommendations.

Sample Size

A total sample of 60 participants (30 per group) was included.

Randomization and Allocation Concealment

An investigator who had nothing to do with participant recruiting or outcome evaluation used a computer-generated randomisation sequence to assign participants to one of the two intervention groups at random.

Intervention

Low-FODMAP Diet + Preksha Meditation Group:

Individual sessions with a certified dietitian helped participants learn to recognise and avoid foods that are rich in the fermentable oligosaccharide food group (FODMAP), including wheat, legumes, onions, and certain fruits. Eating habits and symptoms were monitored with weekly check-ins. The participants were asked to keep a food recall journal for three days per week.

Preksha Meditation Programme:

The meditation protocol, included a guided sessions per week (40 minutes each) focusing on:

1. *Kayotsarg (deep relaxation through body awareness)*
2. *Dirgha Shvas Preksha (Perception of Breath)*
3. *Leshya Dhyan (visualising colours at psychic centers)*

It was recommended that each participant practice on their own for 30 minutes per day. In order to cultivate parasympathetic dominance, the focus was on being conscious of internal sensations, breathing rhythm, and peaceful observation.

Standard Diet Group

Participants allocated to the control group continued their habitual diet and received general dietary advice based on healthy eating recommendations.

No specific restriction of dietary FODMAPs was recommended.

Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics version 15.0 (IBM Corp., Armonk, NY, USA).

Categorical data were summarised using frequencies and percentages, whereas continuous variables were shown as mean $\pm$ standard deviation (SD). We used two-tailed statistical tests. It was deemed statistically significant if the p-value was less than 0.05. For easier understanding of clinical significance, it is recommended to include give effect sizes (Cohen's d) and 95% confidence intervals where applicable.

Methods

One group received normal treatment for irritable bowel syndrome (IBS), while the other group followed a LOW-FODMAP diet and included praktises of yoga into their routine. The participants ranged in age from 18 to 65 years old. The IBS-36 questionnaire, which assesses gastrointestinal, physical, emotional, social, and overall quality of life dimensions, was used to gather data both before and after the intervention. We used ANOVA and paired t-tests to examine the data, and we set the significance level at $p < .05$.

Data Collection

In order to gather data, researchers used the IBS-36 Questionnaire, a reliable tool for measuring gastrointestinal symptoms, psychological health, physical health, social functioning, and quality of life aspects. There were seventeen Likert-scale questions in the survey. Both before and after the session, participants were asked to complete assessments. To further track compliance and track any changes in energy and stress levels, feedback diaries and adherence logs were kept weekly.

RESULT

Participant Characteristics

We checked the eligibility of sixty people in all. The Rome IV diagnostic criteria for irritable bowel syndrome were used to enroll sixty individuals, who were then randomly assigned to either the Low FODMAP + Preksha Meditation group ($n = 30$) or the usual diet control group ($n = 30$). Figure 1 shows that all individuals who were randomly assigned to the intervention finished all eight weeks.

Age, sex distribution, and baseline symptom intensity were not significantly different between the two research groups ($p > 0.05$), suggesting that the two groups' demographic and clinical features were similar at baseline.

Overview

The study assessed the impact of an eight-week Preksha Meditation programme, when combined with a Low FODMAP (LOW-FODMAP) diet, on gastrointestinal symptom severity and quality of life (QoL) among patients with Irritable Bowel Syndrome (IBS). Sixty participants completed the intervention, and data were analysed across both groups:

1. Group 1: LOW-FODMAP diet + Preksha Meditation
2. Group 2: Control group (standard care)

Participants who engaged in Preksha Meditation in conjunction with food management showed persistent and statistically significant improvements in symptom intensity and quality of life indicators, according to the studies.

Table 1. Effect of the Low-FODMAP Diet + Preksha Meditation on Gastrointestinal Symptoms

Question	Pre Mean $\pm$ SD	Post Mean $\pm$ SD	t	p-value	Interpretation
Q1	2.20 $\pm$ 0.41	2.80 $\pm$ 0.66	6.595	<0.001	Highly Significant
Q2	2.83 $\pm$ 0.75	3.53 $\pm$ 0.68	7.167	<0.001	Highly Significant
Q3	2.27 $\pm$ 0.45	3.20 $\pm$ 0.92	6.513	<0.001	Highly Significant
Q4	2.73 $\pm$ 0.64	3.73 $\pm$ 0.45	12.042	<0.001	Highly Significant
Q5	2.73 $\pm$ 0.64	3.67 $\pm$ 0.55	8.764	<0.001	Highly Significant
Q6	2.33 $\pm$ 0.61	3.00 $\pm$ 0.69	6.679	<0.001	Highly Significant
Q7	3.27 $\pm$ 0.83	3.87 $\pm$ 0.51	4.267	<0.001	Highly Significant
Q8	2.33 $\pm$ 0.61	3.60 $\pm$ 0.67	9.379	<0.001	Highly Significant
Q9	2.83 $\pm$ 0.75	3.90 $\pm$ 0.31	8.449	<0.001	Highly Significant
Q10	2.30 $\pm$ 0.47	2.80 $\pm$ 0.55	5.385	<0.001	Highly Significant
Q11	2.43 $\pm$ 0.68	2.87 $\pm$ 0.73	4.709	<0.001	Highly Significant
Q12	2.27 $\pm$ 0.45	2.77 $\pm$ 0.63	5.385	<0.001	Highly Significant
Q13	2.53 $\pm$ 0.57	2.83 $\pm$ 0.65	3.525	0.001	Significant
Q14	1.63 $\pm$ 0.49	1.90 $\pm$ 0.31	3.247	0.003	Significant
Q15	1.60 $\pm$ 0.50	1.83 $\pm$ 0.38	2.971	0.006	Significant
Q16	1.87 $\pm$ 0.35	1.93 $\pm$ 0.25	1.439	0.161	Not Significant
Q17	1.60 $\pm$ 0.50	1.90 $\pm$ 0.31	3.525	0.001	Significant

Table 1 shows that after combining the LOW-FODMAP diet with Preksha Meditation, there was a noticeable and statistically significant improvement in all areas of symptoms. An improvement in the overall quality of life, social functioning, physical comfort, mental well-being, and gastrointestinal functioning is indicated by an improvement in the mean scores. For instance, Q1 went from 2.20 ± 0.41 to 2.80 ± 0.66 in terms of mean scores, Q2 went from 2.83 ± 0.75 to 3.53 ± 0.68 in terms of mean scores, Q4 went from 2.73 ± 0.64 to 3.73 ± 0.45 in terms of mean scores, and Q9 went from 2.83 ± 0.75 to 3.90 ± 0.31 in terms of mean scores. Improvements were very significant ($p < 0.001$) for questionnaire questions Q1–Q12, and statistically significant ($p = 0.001-0.006$) for items Q13–Q15. Combining dietary modification with Preksha Meditation has a positive affect on the mind-gut axis, as these data show that the combined intervention reduced gastrointestinal symptoms, mental well-being, physical comfort, and overall quality of life.

Table 2. Changes in the Control Group

Question	Pre (Mean $\pm$ SD)	Post (Mean $\pm$ SD)	t (29)	p-value	Interpretation
Q1	2.33 ± 0.55	2.43 ± 0.57	1.361	0.184	Not Significant
Q2	3.07 ± 0.87	2.93 ± 0.91	1.682	0.103	Not Significant
Q3	2.37 ± 0.49	2.33 ± 0.48	0.441	0.662	Not Significant
Q4	2.97 ± 0.81	2.63 ± 0.76	3.808	0.001	Significant
Q5	2.97 ± 0.89	2.90 ± 0.84	1.000	0.326	Not Significant
Q6	2.83 ± 0.75	2.80 ± 0.71	1.000	0.326	Not Significant
Q7	3.17 ± 0.87	3.10 ± 0.84	1.000	0.326	Not Significant
Q8	2.70 ± 0.84	2.77 ± 0.82	1.000	0.326	Not Significant
Q9	3.20 ± 0.89	2.97 ± 0.85	2.536	0.017	Significant

Question	Pre (Mean $\pm$ SD)	Post (Mean $\pm$ SD)	t (29)	p-value	Interpretation
Q10	2.33 $\pm$ 0.48	2.37 $\pm$ 0.49	0.441	0.662	Not Significant
Q11	2.50 $\pm$ 0.63	2.50 $\pm$ 0.57	0.000	1.000	Not Significant
Q12	2.33 $\pm$ 0.48	2.30 $\pm$ 0.47	1.000	0.326	Not Significant
Q13	2.43 $\pm$ 0.50	2.50 $\pm$ 0.51	1.000	0.326	Not Significant
Q14	1.77 $\pm$ 0.43	1.90 $\pm$ 0.31	1.439	0.161	Not Significant
Q15	1.53 $\pm$ 0.51	1.57 $\pm$ 0.50	0.571	0.573	Not Significant
Q16	1.87 $\pm$ 0.35	1.87 $\pm$ 0.35	0.000	1.000	Not Significant
Q17	1.53 $\pm$ 0.51	1.57 $\pm$ 0.50	0.441	0.662	Not Significant

Participants assigned to the standard diet group showed minimal changes following the eight-week observation period (Table 2). Statistically significant differences were observed only for Question 4 ($p = 0.001$) and Question 9 ($p = 0.017$), whereas the remaining questionnaire items did not demonstrate significant changes ($p > 0.05$).

Overall, symptom scores remained largely stable throughout the study period, suggesting that control group did not produce clinically meaningful improvements in gastrointestinal symptoms.

Table 3. Difficulty in Bowel Movements

Crosstab			
Count			
Target_Sample	Pre_post	Total	p-value

Crosstab					
		Pre	Post		
LOW-FODMAP diet + Preksha	All/Most of the time	22	3	25	0.001
	Some of the time	6	7	13	
	Never	2	20	22	
	Total	30	30	60	
control group	All/Most of the time	16	14	30	0.806
	Some of the time	7	9	16	
	Never	7	7	14	
	Total	30	30	60	

Over the course of three months, individuals with irritable bowel syndrome (IBS) who participated in one of two groups—one receiving the LOW-FODMAP diet in addition to Preksha Meditation, and the other serving as a control—had their bowel movement difficulties monitored and compared to one another.

Those in the Preksha Meditation group who reported having trouble "All/Most of the time" fell dramatically from 22 to 3, while those in the "Never" category increased from 2 to 20, indicating the most noticeable change. The most statistically significant improvement was shown by the lowest p-value of 0.001 between the two groups.

The comparison highlights the significance of organised treatments in addressing irritable bowel syndrome (IBS), with the most notable and noticeable alleviation being achieved by combining the LOW-FODMAP + Preksha strategy.

Table 4. Changes in discomfort in the abdomen

Target Sample	Response	Pre	Post	Total	p-value
LOW-FODMAP diet + Preksha	All/Most of the time	24	10	34	0.001
	Some of the time	6	16	22	
	Never	0	4	4	
	Total	30	30	60	
control group	All/Most of the time	22	18	40	0.648
	Some of the time	9	11	21	
	Never	0	0	0	
	Total	30	30	60	

The LOW-FODMAP diet + Preksha group had a statistically significant reduction in stomach pain ($p = 0.001$), as shown in Table 4. "Some of the time" reports rose from 6 to 16, "never" from 0 to 4, while those reporting pain "all/most of the time" fell from 24 to 10. The control group, on the other hand, had hardly detectable alterations ($p = 0.648$).

Table 5. Changes in feeling of incomplete evacuation

Target Sample	Response	Pre	Post	Total	p-value
LOW-FODMAP diet + Preksha	All/Most of the time	22	3	25	0.001
	Some of the time	6	7	13	
	Never	2	20	22	
	Total	30	30	60	
control group	All/Most of the time	16	14	30	0.806
	Some of the time	7	9	16	
	Never	7	7	14	
	Total	30	30	60	

The LOW-FODMAP diet + Preksha group showed a statistically significant reduction in sensations of incomplete evacuation ($p = 0.001$), as shown in Table 5. People who said they had this symptom "all/most of the time" dropped significantly from 22 to 3, while the number of people who said they never rose from 2 to 20. The control group, on the other hand, had barely detectable alterations ($p = 0.806$), which did not warrant statistical analysis.

DISCUSSION

The current research gives strong proof that individuals with irritable bowel syndrome (IBS) experience a considerable improvement in both gastrointestinal symptoms and quality of life when they combine a Low FODMAP diet with Preksha Meditation. These findings provide

credence to the idea that more effective treatment outcomes may be achieved by combining approaches that target the physical and psychological aspects of irritable bowel syndrome (IBS).

Mind–Gut Integration and Psychophysiological Mechanisms

The results support the gut-brain axis as a key component in the pathophysiology of irritable bowel syndrome (IBS), which is based on the biopsychosocial model. The hypothalamic-pituitary-adrenal (HPA) axis is activated by emotional discomfort, anxiety, and chronic stress, leading to the secretion of cortisol and an increase in visceral hypersensitivity (Mayer et al., 2015). By regulating the autonomic nervous system, preksha meditation seems to influence this route, making the parasympathetic nervous system more dominant and the sympathetic nervous system less active (Brown & Gerbarg, 2005).

Preksha Meditation, which emphasises scanning one's body and one's breath, may encourage neuroception of safety, a notion borrowed from Polyvagal Theory (Porges, 2011), which in turn redirects autonomic nervous system activity from a state of fight-or-flight reaction to one of peaceful engagement. Emotional stability, intestinal stability, and prefrontal control are all improved by this physiological condition. Previous research has shown that mindfulness-based practices may promote emotional resilience and downregulate amygdala activity (Hölzel et al., 2011), and the observed symptom reduction supports this.

Strength of the Study

These results provide further evidence that practising Preksha Meditation may be an effective supplementary treatment for irritable bowel syndrome. It aids patients in achieving long-term remission from repeated flare-ups by stabilising autonomic tone, improving interoceptive awareness, and decreasing cognitive stress. Within gastrointestinal clinics, clinicians might supplement nutritional and pharmaceutical treatment with systematic meditation sessions. Also, integrative and preventive healthcare models function well with the intervention due to its low cost and lack of invasiveness.

Limitations

Although the study's findings are strong, it's important to note a few caveats. Although sufficient for statistical significance, the sample size restricts extrapolation. We did not examine physiological indicators like cortisol or heart rate variability, and we relied on self-

reported adherence, which adds the possibility of bias. In order to shed light on the underlying processes with greater precision, future research should include objective biomarkers. To further understand how long these benefits last, further follow-up periods are necessary.

Reference to Indian Population

The current results have important implications for the therapy of irritable bowel syndrome (IBS) in the Indian community, where culturally rooted mind-body practices, psychosocial stress, and eating habits may play a role. An affordable, non-invasive, culturally relevant alternative to dietary changes is Preksha Meditation, which has its origins in the Indian Jain tradition. We should thus further evaluate this integrative strategy in broader and more diversified Indian IBS populations, since the combination LOW-FODMAP diet and Preksha Meditation showed substantial benefits.

CONCLUSION

This research shows that people with irritable bowel syndrome (IBS) may significantly improve their quality of life and gastrointestinal symptoms when they combine the Low FODMAP diet with an eight-week Preksha Meditation program. The mind-gut axis, stress-induced autonomic arousal, and emotional resilience are all successfully addressed by the combined intervention, which also regulates the former.

These results emphasise the need for a comprehensive, mind-body strategy in the treatment of irritable bowel syndrome. To improve long-term results, decrease relapse, and empower patients with better self-regulation ability, systematic meditation may be included into nutritional and behavioural treatment frameworks.

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