

Effect of a Targeted Enzyme Supplement on Irritable Bowel Syndrome Symptom Severity and Patient-Reported Outcomes Following a 4-Week Intervention

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Introduction:

Fermentable oligo-, di-, monosaccharides, and polyols (FODMAPs) triggers symptoms in irritable bowel syndrome (IBS). A diet low in FODMAPs (LFD) improves symptoms but is difficult to maintain long-term. We evaluated the effect of an oral targeted FODMAP enzyme blend containing fructan hydrolase, alphasgalactosidase and lactase on IBS symptoms over 4 weeks.

Methods:

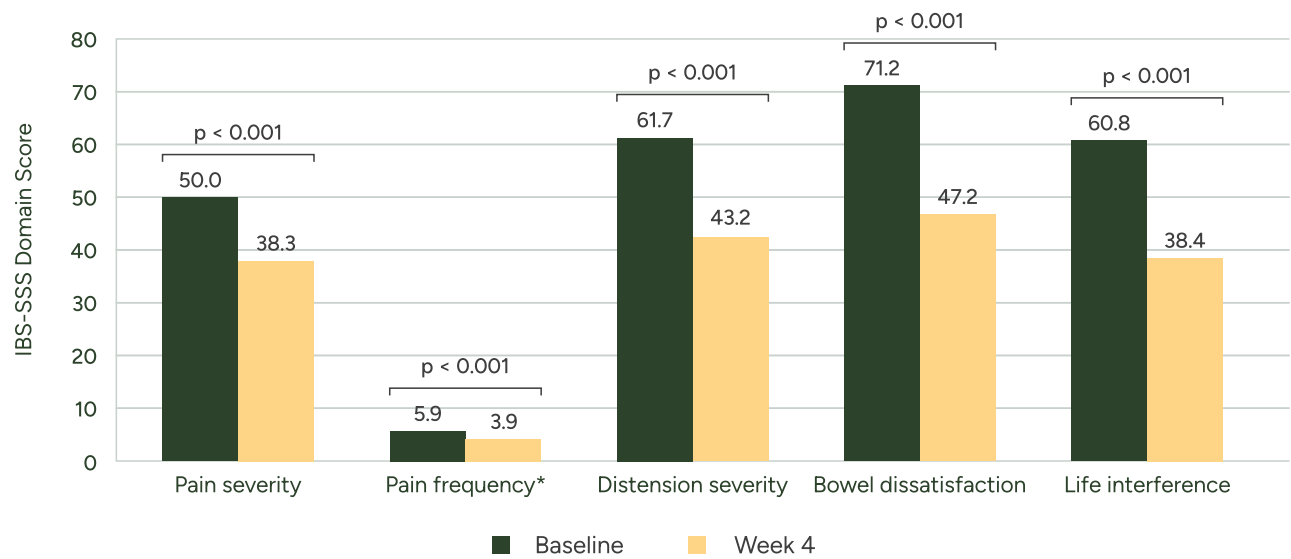
In this prospective single-arm pre-post intervention study, adults with IBS (self-reported physician-diagnosed and/or Rome IV criteria) who completed baseline and 4-week follow-up assessments were included. The primary outcome was a priori defined as change in IBS Symptom Severity Score (IBS-SSS). Secondary outcomes included IBS-SSS responder rates, domain-specific IBS-SSS changes, PROMIS Belly Pain and Bloating T-scores, and diet satisfaction scores. Responders to abdominal pain and bloating were defined as ≥ 5 -point improvement in PROMIS T-score.

Results:

Among 442 participants (50.3 $\pm$ 15.3 years; 86.0% female, Table 1), mean IBS-SSS decreased from 269.7 to 167.3 at 4 weeks ($p < 0.001$). Meaningful improvement (≥ 50 -point IBS-SSS reduction) occurred in 69.2%, while 52.3% achieved a ≥ 100 -point reduction. Magnitude of response was similar across all three IBS subtypes ($p = 0.39$), with significant improvements observed across all IBS-SSS domains (Table 2). At 4 weeks, 43.7% and 41.0% were abdominal pain and bloating responders respectively (Table 2). Over 4 weeks, diet satisfaction scores increased from 2.70 to 2.98 ($p < 0.001$). 46.6% of participants reported following LFD at baseline, with the largest subgroup (97 participants, 21.9%) in personalization phase. Similar findings were observed in sensitivity analyses restricted to participants in the personalization phase of the LFD at baseline ($n = 97$) and those who remained in the same LFD phase between baseline and week 4 ($n = 173$), with mean IBS-SSS reductions of 101.1 and 104.9 points, respectively. Most participants (386/442, 87.3%) reported using the intervention always or often with trigger foods, and IBS-SSS improvement did not differ by frequency of use.

SYMPTOM DOMAINS

Individual IBS-SSS domains improved at 4 weeks



* Pain frequency is measured as days with pain in the prior 10 days. All paired comparisons p < 0.001.

DIET SATISFACTION

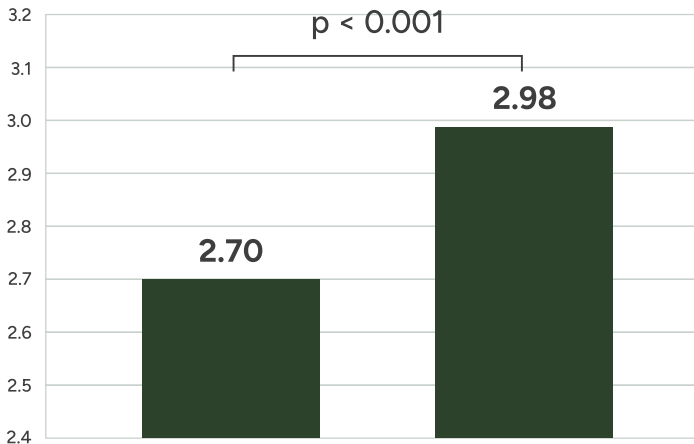
Participants reported greater satisfaction with their diets at 4 weeks

Diet Satisfaction Scale

Mean of 10 survey items



Items assess enjoyment, variety, hunger/cravings, affordability, eating at home or away, meal preparation, physical well-being, IBS impact, and long-term sustainability.



+0.28 mean change

Discussion:

A 4-week targeted enzyme supplement intervention was associated with significant improvement in global IBS symptom severity, abdominal pain, bloating, and diet satisfaction. Benefits were observed consistently across IBS subtypes. These findings support the potential role of targeted FODMAP enzyme blend as a nonrestrictive therapeutic strategy for IBS symptom management