



## Efficacy and dose response of in diarrhea-predominant irritable bowel syndrome.

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Reviewed by  With Expert Review from Chloe Steele

Probiotics are microorganisms that have been shown in previous research to improve symptoms of diarrhoea-predominant irritable bowel syndrome (IBS-D).

This randomised control trial of 307 individuals with IBS-D aimed to determine the tolerability and efficacy of varying doses of the microbiota *Lactiplantibacillus plantarum*.

The results showed that the severity of symptoms improved with *L. plantarum* regardless of whether individuals were given a high or low dose. Improvements were seen as soon as 28 days following supplementation.

Abdominal pain severity, duration, bloating, bowel movements, and quality of life were all improved. Individuals in the study largely tolerated the supplement, with only a few occurrences of nausea and vomiting.

It was concluded that *L. plantarum* is effective and safe for improving symptoms associated with IBS-D.

This study could be used by healthcare professionals to recommend *L. plantarum* supplementation to individuals with hard to treat or persistent IBS-D. ■

## *Collinsella aerofaciens* as a predictive marker of response to probiotic treatment in non-constipated irritable bowel syndrome.

GIORGIO GARGARI, GIACOMO MANTEGAZZA, CESARE CREMON, ET AL.  
JOURNAL: GUT MICROBES 2024;16(1):2298246

Irritable bowel syndrome (IBS) is a common disorder of gut-brain interaction in which recurrent abdominal pain is associated with defecation or a change in bowel habits. Various therapeutic options for IBS target the underlying pathophysiological aspects of the condition. Unfortunately, no single approach can effectively address this disorder's diverse manifestations simultaneously.

The aim of this study was to identify markers for recognising non-constipated (NC) IBS patients that may show significant clinical improvements upon treatment with the probiotic strain *Lactiacaseibacillus paracasei* DG (LDG). This study is based on a multicentre, randomised, double-blind, parallel-group, placebo-controlled clinical trial. A total of 63 patients were included in this study who were randomised to receive a probiotic treatment or placebo capsules for 12 weeks.

Results showed that the probiotic bacterium LDG can be clinically effective in a subgroup of non-constipated IBS patients characterised by an altered faecal microbiota which resembles that observed in metabolic syndrome-associated pathologic or pre-pathologic conditions. Furthermore, a bacterium reported to contribute to pro-inflammatory immune states, was positively associated with markers of increased endothelial permeability and liver functionality.

Authors concluded that an analysis of the faecal microbiota focused on particular bacteria could permit the identification of NC-IBS patients who can obtain a significant clinical benefit from the probiotic treatment. ■



## Outcome-Specific Efficacy of Different Probiotic Strains and Mixtures in Irritable Bowel Syndrome: A Systematic Review and Network Meta-Analysis.

PEIWEI XIE, MEI LUO, XUEHONG DENG, ET AL.  
JOURNAL: NUTRIENTS 2023;15(17):3856

Irritable bowel syndrome (IBS) is a common functional bowel disease that is induced by disorders of gut–brain interactions. Typical symptoms of IBS include recurrent abdominal pain associated with changes in stool form or frequency. The aim of this study was to evaluate the comparative efficacy of different probiotic strains and mixtures based on global conditions, mental health levels, and specific gastrointestinal symptoms. This study was a systematic review and network meta-analysis (NMA) of eighty-one randomised controlled trials. Results showed that only some probiotic strains and combinations were more effective than the placebo for each specific outcome of IBS. Authors concluded that probiotics should be selected according to the specific symptoms of IBS patients. ■

## Probiotics for the management of irritable bowel syndrome: a systematic review and three-level meta-analysis

MIN CHEN, LU YUAN, CHAO-RONG XIE, ET AL.  
JOURNAL: INTERNATIONAL JOURNAL OF SURGERY (LONDON, ENGLAND) 2023;109(11):3631-3647

Irritable bowel syndrome (IBS) is a disorder of the brain–gut axis characterised by frequent abdominal pain, bloating, flatulence, and change of bowel habits – constipation or diarrhoea.

This study's aim was to assess the overall effect of probiotics on improving IBS symptoms and find out the important effect moderators. This study was a systematic review and meta-analysis of seventy-two articles with 8581 participants.

Results showed general medium effect size of probiotics on the improvement of IBS symptoms compared with placebo, and a large effect size of probiotics on the abdominal pain and the scores of quality-of-life assessments. Furthermore, the treatment duration and study duration were the most important moderators of effect, and a longer study duration or treatment duration was associated with a smaller effect size. Authors concluded that their study suggested a short-term effect of probiotics on the improvement of global IBS symptoms and abdominal pain. Furthermore, treatment duration, study regions, the types of outcomes, and the types of probiotics might be major effect moderators. ■